THE BRITISH TECHNOLOGICAL CRUSADE TO POST-CRIMEAN TURKEY: ELECTRIC TELEGRAPHY, RAILWAYS, NAVAL SHIPBUILDING AND ARMAMENT TECHNOLOGIES

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ABSTRACT

In this thesis I examine the introduction of technological systems -telegraphy, railways, naval shipbuilding and armaments- from Britain to post-Crimean Ottoman-Turkey, which had constituted a largely closed environment to European culture and technologies until the nineteenth century. I illustrate how the process was contingent upon the historical, cultural and geographical contexts of Britain and Turkey within the wider European power structure in the nineteenth century. Through its industrial enterprises, presented as a politically "peaceful solution" to the Eastern Question, Britain hoped to control the declining Ottoman Empire and to further its cultural and economic expansion.

In Chapter One I characterise the flow of technologies to Turkey as the British technological crusade with reference to its range and cultural implications. I further examine how a traditional Islamic culture could develop an intellectual framework to accommodate and justify a technology which was originally thought to be of an "infidel" character. I argue that the military channel was the nucleus of Ottoman Europeanisation and its opening to the West. The military institutions, together with the Sultan's authority and sanction, formed the main agency for the legitimation of Western technology. Chapters Two, Three and Four examine the introduction by British engineers and enterprises of communication technologies, telegraphy and railways, to Asia Minor, which provided a junction and the shortest route to India and Central Asia.

Chapters Five, Six and Seven present the efforts of the British government and entrepreneurs to introduce European naval shipbuilding and armament technologies to the Ottoman Empire. The British naval mission to Turkey began in the early nineteenth century originally as an important measure against Russian expansion to the Bosphorus and the Mediterranean to strengthen Ottoman naval defences by offering skilled officers and machinery. The mission, which continued until WWI, became an essential part of the wider British imperial policy in the East and industrial expansion overseas. British companies, including Napiers, Armstrongs and Vickers, expanding their enterprises overseas as a part of British imperial expansion, introduced to the Ottoman navy both naval machinery and its complementary features, technical instruction and infrastructure for their operation and maintenance. Finally, Chapter Eight emphasizes the close connection between Western technological systems and their wider Western cultural environments, such as industrial, educational, financial and legislative institutions.

PASHA and PADISHAH

East and West a hob-a-nobbing,
Giaour and Moslem hand-in-hand,
Fez and Chimney-pot a-bobbing,
Side by side, along the Strand!
Who says 'tis an age prosaic,
Common-place, in dulness drowned,
When, dovetailed in strange mosaic,
Contrasts such as these are found?

In the days of great AL-RASHID,
What would Moslem Sheiks have thought,
Had the CALIPH thus this rash head
To the British Lions brought!
Think of crews of red-cross Galleys,
Rhodian warriors, or Maltese,
Changing their crusading sallies
For civilities like these!

Lo, the stagnant East upheaving,
Stirs with feverish unrest,
Impulse 'gainst its will receiving
From the forces of the West.
Pasha, Padishah saluting,
Through the Railway's rush and scream,
See Kent's pleasant fields go shooting
Past them, like a hachich-dream:

See a country all of gardens,
See a realm of steam and spade;
Labour, Law, and Peace its wardens,
None to make its sons afraid:
See its fair face at the fairest,
Not the nakedness below:
Who art thou thy sores that barest?
Pauper?-Hence, nor spoil the show!

We've a Padishah to dazzle,
We've a Pasha to amaze;
We've to teach them England has all
That makes prosper, all the pays.
Keep the paupers in the Union,
Lock the vagrants in the ward;
From such frowsy, foul, communion
Needs our Eastern Guests we guard.

Show our millions of toilers,
Mete their work and count their pay:
How the engines burst their boilers,
Here and there, no need to say.
If Trades-Unions threaten, picket,
Ratten, murder, now and then-
On such dark facts close the wicket-
Blue Beard's closet o'er again.

Don't present our guests to Bumble;
Keep him from our village schools:
There are things at which we fumble,
Or come down between two stools.
Union sick-wards smell unpleasant;
Workhouse nurs'ries breed foul air:
Don't show how we house the peasant,
Or the Padishah might stare.

If your House he deigns to visit,
M.P.'s, let your hands be clean:
Though that's scarce the feature (is it?),
By observers soonest seen.
Would he learn how you can cobble?
The Reform Bill let him see:
Would he watch a party-hobble?
Of the Carlton make him free.

Generally, keep the platter,
On the outside very clean....
Let sensation-writers chatter-
Things are judged by what is seen.
Eastern princes, stolid, stunted,
Must be taught to know the West-
So let ugly truths be stunted-
Those that can't, make look their best.

[On the occasion of the Sultan's visit to Britain in July, 1867, *The PUNCH,* vol. LIII, 20th July, 1867, p. 21.]

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Chapter One

INTRODUCTION: THE BRITISH TECHNOLOGICAL CRUSADE

Only by bringing the decayed Ottoman civilisation into closer contact with the life and science and commerce of the West can we reasonably hope to avert its final fall.[1]

> The railway and telegraph are not only of incalculable value as political instruments, but they are the pioneers of enlightenment and advancement: it is theirs to span the gulf which separates barbarism from civilisation; and this is an enviable lot, by whose exertions, the arts and industry, the capital and enterprise, the knowledge and humanity of Western Europe shall be familiarised and brought home to the dwellers in the East.[2]

1.1 The British Technological Crusade

I use the term the *technological crusade* primarily to emphasise the technological aspect of the British attempt to increase its general influence in the Ottoman Empire significantly after the Crimean War (1853-56). The term *crusade* particularly expresses the scope and importance of new technologies as a means of imperial expansion. Through the introduction of large technological systems, Britain hoped to control the declining Ottoman Empire, both physically and culturally, for a more powerful and larger British Empire. In other words, the technological crusade was a part of the long term British objective for a "peaceful conquest" of a degenerated oriental empire.[3]

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[1] *The Times*, 26th May, 1856.

[2] W. P. Andrew, *Memoir on the Euphrates Valley Route to India with Official Correspondence*, H. Allen & Co.: London, 1857, pp. 161-162.

[3] For a valuable account on "peaceful conquest" through the industrial expansion, see Sidney Pollard, *Peaceful Conquest: The Industrialisation of Europe 1760-1970*, Oxford: Oxford Universi-

I also use the term technological crusade to point up the historical and cultural dimensions bonded to this technologically supported Western expansion. After the relatively unsuccessful Crusades by the European Christian alliance, not only the Middle East and most of the Islamic world remained outside the sphere of Western domination but also the establishment of the Ottoman Empire as a four-century-long strong imperial power formed a constant threat and even "terror" for Europe. As a result, Christianity and Islam became rival religions, and their cultural contacts were minimised as "closed" societies.[4]

The Christian West, however, never gave up its romantic and religious idea of dominating or "civilising" this part of the world and beyond. The industrialisation and new technological innovations in Europe in the nineteenth century opened ways of expanding their powers to distances that had never been controlled before. Within the framework of the nineteenth century, I call this new European movement, particularly towards the Ottoman Empire and the rest of the non-Western world, the technological crusade, since railways, electric telegraphy, steam ships and large guns were the main means to this geographical and cultural expansion. Headrick rightly defines these technological systems, particularly telegraphy, railways and steamships, as the "tools of empire".[5] In 1857, imperial railway and telegraph promoter W. P. Andrew

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ty Press, 1981. Cain and Hopkins emphasise the the British financial control as means British imperialism in the Ottoman Empire. See P. J. Cain and A. G. Hopkins, *British Imperialism: Innovation and Expansion, 1688-1914,* London & New York: Longman, 1993, particularly Chapter Twelve, pp. 397-411; S. Pamuk, *The Ottoman Empire and European Capitalism, 1820-1913: Trade, Investment and Production,* Cambridge: Cambridge University Press, 1987.

[4] Bernard Lewis presents an authoritative account on the development of a new relationship between the Islamic world and Europe, particularly in the nineteenth century, in *The Muslim Discovery of Europe,* London: Weidenfeld and Nicholson, 1982.

[5] Daniel R. Headrick, *The Tools of Empire: Technology and European Imperialism in the Nineteenth century,* New York: Oxford University Press, 1981.

declared that:

> It is our manifest destiny to secure the perfection of a direct railway system between England and India, and the establishment of an unbroken chain of electric communication, going straight from the head-quarters of Queen Victoria's government to every extremity of her eastern empire.[6]

The term "the technological crusade" is more appropriate than "technological transfer" in the context of the non-Western world in the nineteenth and early twentieth centuries, simply because the "transfer" of a technological system from one context to another one involves a different process. "Transfer" usually begins as a result of the recipient country's planned demand and exchange of knowledge between the two contexts. In the Western world, especially among culturally related countries, this process has been more effective.[7] However, technology transfer from the Western world to the non-Western world in the nineteenth and early twentieth century presented rather different pictures: it was generally an one way process. For the exporting countries, mainly the European imperial powers, it was a means of power and imposing their orders in other countries. Non-Western nations were usually reluctant to adopt new technologies from Europe, partly because they were aware of their imperialist objectives, and partly because of the conservative structure of local culture and religion. Western technology inevitably would result in the creation of a new power relationship within traditional and well established power structures. Examples are the nineteenth century Ottoman Empire, Egypt, China and Japan.

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[6] W. P. Andrew, *Memoir on the Euphrates Valley Route,* pp. 142-143.

[7] David J. Jeremy and Darwin H. Stapleton, "Transfers Between Culturally-Related Nations: The Movement of Textile and Railroad Technologies Between Britain and the United States, 1780-1840", in David J. Jeremy(ed.), *International Technology Transfer: Europe, Japan and the USA, 1700-1914,* Brookfield, Vt.: E. Elgar Pub. Co., 1991, pp. 31-48.

The technological crusade can be a useful analytical tool to understand the importance and place of technology and industry in European imperialism in the nineteenth century. European imperialism was not solely commercially and economically oriented, but it was also missionary. In this respect, the term crusade attributes a new dimension to European expansion. In this thesis, I will confine myself to a much smaller picture, or pictures: an examination of the British technological crusade to the Ottoman Empire, Turkey, in the cases of electric telegraphy, railways, naval missions and shipbuilding. Though it was and has been presented as pre-dominantly a commercial and political concern, the technological crusade did not exclude long term religious and cultural objectives. From a Westerner's point of view, the introduction of every Western technological system and innovation to a non-Western world implicitly meant *civilising,* which meant *Christianising.* This was thought to be "the natural result" of the expansion of Western science and technology to the new environment in question. John Wright, the Chairman of Southern Railways, in his article, "Christianity and Commerce, the Natural Results of the Geographical Progression of Railway", 1849, advocated the construction of the Euphrates Railway from a missionary perspective.[8] To General Chesney, a most influential promoter of the Euphrates route to steam communication, the opening of the Euphrates Railway, the Suez Canal and telegraphic communication were the "the greatest blessings to his Eastern brethren", and would serve:

> the gradual introduction of Western Christianity with its humanising and civilising influences to the vast populations of Mesopotamia and Arabia.[9]

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[8] See J. Wright, *Hints on the Times,* London: M. S. Myers, 1847; *Ireland the Restorer of Israel,* ..., London: M. S. Myers, 1853; *Project for Constructing Railways in Algeria,* London: M. S. Myers, 1852.

[9] Stanley Lane-Poole (ed.), *The Life of General F. R. Chesney, by Wife and Daughter,* London,

The introduction of railways and telegraphy to Turkey were seen as a move towards its integration with the West. From a Westerner's point of view, the integration meant adoption of the whole Western culture, together with its science and technology. On the occasion of the laying of the foundation stone of the Smyrna railway station in November 1858, Lord Stratford de Redcliffe, the most influential British Ambassador in the Ottoman Empire, who won the title "Great Elchi", declared that:

> *Western civilisation is knocking hard at the gates of the Levant,* and if it be not allowed to win its way into the regions where it has hitherto been admitted so partially, it is but *too capable of forcing the passage* and asserting its pretensions with little regard for anything but their satisfaction.[10]

Western technologies, such as iron networks of railways and telegraphic communication systems, he believed, were the basic means of implanting Western civilisation in the Ottoman Empire. They were the tools of opening and expanding *the passage* to this "old oriental empire". He further believed that these western technologies would lead to dramatic changes, and would also bring a "peaceable solution" to what was styled as the "Eastern Question", that is, what to do with the declining Ottoman Empire for the sake of the balance of power in Europe.[11] In the eyes of many European intellectuals, the Ottoman Empire, being dominated by *oriental culture* and *mind* was incapable of progress. Edwin Pears wrote in *The Nineteenth Century:*

1885, p. 429.

[10] See the extracts from his speech on the occasion of the laying of the foundation stone of Smyrna Station and opening of the first section of the line, *The Times,* 16th November, 1858; see also the appendix B in Sir MacDonald Stephenson, *Railways in Turkey: Remarks upon the Practicability and Advantage of Railway Communication in European and Asiatic Turkey,* London: John Weale, 1859, pp. 37-46, (My italics).

[11] Ibid.

> The Turkish population has given no sign whatever that it possesses the capability of advancement in civilisation, while Christian populations have given many such signs.[12]

Such similar arguments seems to have been common in Europe at the time. In short, it was seen that *"Every element that is progressive in Turkey is Christian".*[13] European interest in the Ottoman Empire was followed by the formation of a large Western missionary movement, primarily through the educational system and religious circles. Western missionaries and diplomats encouraged the flow of British technology to the Ottoman Empire with the hope it will "soon be a Christian" country. Visiting Istanbul in 1856, the engineer Lewis Gordon wrote:

> My impression is, that an exodus of the Turks and an entrance of any northern nation into the Bosphorus and its towns and villages would be a glorious move. I partly guess, and partly hear from others, that the lower classes of Turks would become Christians and Northmen in everything but their worship.[14]

The term crusade also expresses the general outlook and attitude of the indigenous men towards the introduction of Western inventions. As a result of increasing contacts, particularly from the mid-nineteenth century onwards, Ottoman society began to come under greater European influence both physically and culturally. In the local context, this brought about the question for the Ottomans to what extent European ways should be adopted or avoided. Inalcik and Quataert call this the "Western Question" in the Ottoman Empire, with reference to the Eastern Question in Europe.[15]

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[12] Edwin Pears, "A Programme of Reforms For Turkey", *The Nineteenth Century,* vol. 7, (1880), pp. 1020-1040, 1020.

[13] *op. cit.*

[14] *Thomas Constable, Memoir of Lewis D. B. Gordon, F.R.S.E,* Edinburgh, 1877, p. 60.

[15] H. Inalcik & D. Quataert, *An Economic and Social History of the Ottoman Empire, 1300-1914,* Cambridge: Cambridge University Press, 1994, p. 6.

From a local or an Islamic perspective, Western technological systems were part of an "infidel crusade", aimed at destroying the traditional Islamic power structure, and hence Islam as a whole. The introduction of the steamship, telegraph, and railway created an enormous impact on the public image of the West and its science and technology as they were visual, practical and obviously influenced daily life. They threatened the authority of the Ulema, the muslim clergy class, educated in the traditional Islamic creed. The technological systems were seen as "infidel inventions" and as a source of sins and wickedness and a denial of religion. Some Ottoman intellectuals distinguished between Christianity and Western science and technology. An early twentieth century Ottoman scholar stated:

> The decline in religion is no longer confined to Europe because of the advancement of civilisation. Through the various means of civilisation, such as telegraph, post, railways, and steamships, it is contaminating every corner of the world. The Ottoman lands, being geographically closer as a result of the new means of communication and transportation, are not left untouched by the spread of atheism brought by science...[16]

Nevertheless, Western science and technology, "wondrous and strange things", were still a Christian creation, and designed to deceive them and destroy God's Divine Law.[17]

The British technological crusade to the Ottoman Empire was, to a great extent, a result of new European industrial, economic and political power structures in the nineteenth century. Major European nations were in fierce competition for

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[16] Quoted in N. Berkes, *The Development of Secularism in Turkey,* McGill, 1964, pp. 362-363, from Babazade Mustafa, "Muslimanlik Ilmi ve Fenni Bir Dindir", *Sebil-ur Resad,* No. 207, 1912.

[17] Rudolph Peters, "Religious Attitudes Towards Modernisation in the Ottoman Empire: A Nineteenth Century Pious Text on Steamships, Factories and the Telegraphy", *Die Welt des Islams,* vol. 26, (1986), pp. 75-105.

commercial, military and political interests inside and outside Europe. The Ottoman Empire, due to its geographical location, was one of the earliest non-Western countries to be exposed to European expansion eastwards. The British were particularly keen on the Ottoman Empire, since it meant control of the route to India, an essential part of the British Empire. Besides, it would serve British commercial interests and markets in the East. Turkey also formed a strong barrier against Russian expansion, which would otherwise threaten British and other European interests in the region. The Anglo-Turkish Convention of 1838 and the Alliance in the Crimean War won Britain very important political, commercial and military privileges in the Ottoman Empire, which she effectively exercised thereafter.

The British were fully aware of the role and position of the Ottoman Sultan as the *Caliph* in the Islamic world. In particular, his influence was essential to check Russian expansion in Central Asia. In the words of Henry Trotter, the British Military Attaché in Istanbul, "the alliance of the Caliph" was meant "to raise the populations of the Central Asian Khanates against their Russian masters".[18] The Sultan was the "absolute" ruler and the highest religious head. His authority was important for centralised imperial powers in Europe. Through the new technological systems, such as telegraphy, railways and steamships, and administrative reforms on European models during the nineteenth century, the Ottoman state mechanism became more centralised and thus more capable of imposing its will on society. This was in part a common goal of the Ottoman elite and the Great Powers. Britain utilised its influence on the

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[18] A Secret "Memorandum by Henry Trotter", 3rd January, 1888, Inclosure No. 3 in FO424/2032, "Papers Respecting the Construction of Turkish Railways in Asia Minor", Printed for the Use of the Foreign Office, February, 1888.

Sultan to its advantage, and remained a keen supporter of the preservation of the Sultanate until it was abolished after the First World War.

1.2 Technological Transfer

No single theory or model can alone adequately explain the complex process of the transmission of knowledge and technology from one context to another. Put simply, the pattern of the transfer is closely linked to the different cultural and physico-geographical or spatial characteristics of the different environments. The "style" is an important aspect of adaptation or transfer of technology from one environment to another one.[19] That is, the style and pattern of transfer of a technological system is unique due to the ways of transmission and new environment.

The transmission of knowledge and technology to a new environment is a process in which the new environment acquires the knowledge and skills of a specific matter or technology and becomes able to reproduce and develop it. Often a distinction has been made between the transmission of scientific knowledge and technology; or pure and applied sciences, even though in practice this would be almost impossible to do. According to this perspective, the transmission at the level of scientific knowledge requires a change in the intellectual culture of the receptor country to accommodate the new ideas, such as the theory of evolution, theories of geological formations and

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[19] Thomas P. Hughes, "The Evolution of Large Technological Systems", in W. E. Bijker, T. P. Hughes, & T. J. Pinch (eds.), *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology,* London: MIT Press, 1987, pp. 51-82, 68-70.

so on. That means pure science is at least seemingly "more" culturally bonded than applied science. The adoption of technologies, on the other hand, often may not entail a significant change in the intellectual culture of the importer, such as building sophisticated nuclear power stations, electronic communication systems and so on.[20] Today most non-Western countries, even those most hostile to the West, have been adopting Western technologies without a major intellectual difficulty. Thus, it has been possible theoretically to separate Western technological systems from their wider cultural context and implications. As I will explain later, this formed a basic tenet of the Ottoman Westernisation paradigm: to adopt European technology without accepting its intellectual and cultural environment.

Technology transfer involves two main processes: first, the relocation of hardware and methods from one area to another, with experts to operate them; and secondly, the transmission of knowledge, skills, and attitudes related to a particular hardware or device.[21] Without the latter the technology transfer can be only a matter of moving some machinery from one place to another. This is the case with many developing countries, which have remained dependent on the exporter countries for the continuation of technological innovations, creating a *vicious circle* between industrial and developing countries in the twentieth century.

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[20] Dolby points out a contrast between the nature of the adoption phase in the transmission of science and technology. In the former adoption is the judgement that the new scientific idea is "true", while in the adoption of the latter the innovation must be proven to be "useful". However, "truth" and "usefulness" are also socially constructed and culturally-laden concepts. For instance, the usefulness of the Ottoman telegraph was different for the Sultan and his officials, ordinary people, the clergy class and the British. See R. G. A. Dolby, "The Transmission of Science", *History of Science,* vol. 15, (1977), pp. 1-43, 16.

[21] Daniel R. Headrick, *The Tentacles of Progress: Technology Transfer in the Age of Imperialism, 1850-1940,* Oxford: Oxford U.P., 1988, pp. 3-17.

Beside socially, economically and geographically defined unique contexts, the transmission involves a process in which tacit rules and skills play an important role.[22] These tacit rules or skills may be impossible to formulate in principle, especially when the different cultural contexts are dealt with. Written texts cannot be supplemented by tacit knowledge or skills. These are best communicated by direct contact of scientists, engineers, students, experts and so on. Within Western culture the most effective means of the transmission of science and especially technology has been through the movement of skilled men. The tacit feature of know-how creates even greater difficulties for its transmission to, particularly, a "culturally unrelated" environment, e.g, to non-Western culture. In addition to a common industrial and religious background, there had existed many networks in the form of the societies, universities, research schools and written books and journals in Europe and the USA for transmission of ideas, technology and art since the seventeenth century. As a result, the transfer among these culturally related countries has been faster and more "efficient".[23] Conversely, the transfer of Western technology to the non-Western world in the nineteenth and early twentieth centuries, with the exception of a few countries, significantly Japan, did not prove to be so rapid and complete.

The introduction of Western technology to the non-Western world began primarily as

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[22] H. M. Collins, "Tacit Knowledge and Scientific Networks", in Barry Barnes and David Edge(eds.), *Science in Context: Readings in the Sociology of Science,* Milton Keynes: Open U. P., 1982, pp. 44-64; H. M. Collins, "Expert Systems and the Science of Knowledge", W. E. Bijker, T. P. Hughes, & T. J. Pinch (eds.), *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology,* London: MIT Press, 1987, pp. 329-348; On tacit knowledge, also see M. Polanyi, *The Tacit Dimension,* New York: Anchor, 1967.

[23] D. J. Jeremy (ed.), *International Technology Transfer: Europe, Japan and the USA, 1700-1914,* see, particularly the article by Jeremy and Stapleton, "Transfers Between Culturally-Related Nations: The Movement of Textile and Railroad Technologies Between Britain and the United States, 1780-1840", pp. 31-48.

an integral part of European imperialist and economic expansion in the nineteenth century. The private and quasi-private European trade companies of textiles, shipping, railways, engineering, post and telegraphy, and armaments, which established their enterprises world-wide, became agents for Western technology and science. British engineering overseas proved to be highly effective, and provided an influential tool for British imperial expansion in the nineteenth century.[24] Most industrial establishments were built by imperial engineers and skilled men, or agents and skilled men of the European companies, which provided a center for the training of the indigenous men for their services. Furthermore, trade and commercial companies were often accompanied by missionaries, and the establishment of Western model institutions, such as schools and churches. In the late nineteenth and early twentieth centuries Europe, Britain, France and Germany, and the USA established various schools and institutions around the world to teach their languages and their brand of culture.[25]

As I will explain later, military and naval institutions formed the main channel of European technology transfer to the Ottoman Empire. In addition to a large number of European renegades, independent and professional experts, who served in various Ottoman institutions, from the early nineteenth century Britain and France, and later Germany, the USA and other European powers, including Italy, sent official and

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[24] See R. A. Buchanan, *The Engineers: A History of the Engineering Profession in Britain 1750-1914,* London: Jessica Kingsley, 1989.

[25] Lewis Pyenson suggests that particularly French and German authorities undertook a programme, (German's Culture Minister, systematically from the last decade of the nineteenth century onwards), to establish and staff physical science-oriented and technical schools and institutions to achieve her imperial goals. See L. Pyenson, *Cultural Imperialism and Exact Sciences: German Expansion Overseas, 1900-1930,* New York, 1985; L. Pyenson, *Civilizing Mission: Exact Sciences and French Overseas Expansion, 1830-1940,* Baltimore & London: Johns Hopkins University Press, 1993.

semi-official missions to the Ottoman Empire. The British naval and German military missions were the largest ones, including hundreds of officers, engineers and many high ranking advisers. Their task not only consisted of training officers and indigenous experts and helping with the establishment of Western model institutions and industries, but they also functioned as an effective medium between the Ottoman officials and European military, naval and other industrial and commercial companies.

Major British military and naval companies, including shipbuilders (Napier & Sons Co., the Thames Iron Works and Samudas & Sons Co.) became the main suppliers of hardware, steam engines, naval ships, guns and other equipment to the Ottoman Empire. Particularly in the late nineteenth century, Armstrong and Vickers monopolised most of the Ottoman Empire's naval shipbuilding, construction works, arsenals and guns. They provided engineers, instruction texts and plans to teach the indigenous men how to operate the systems and machinery. They allowed a number of local engineers to be trained in their naval yards and factories in Britain. British experts and skilled men were involved in other large technological systems, such as railway companies run by the British, and telegraphic communication networks, where they supplied most of the expertise, skills and hardware. Through these technological systems came most European expertise and knowledge, which led to a whole Westernisation programme.

1.3 Technological Systems

The idea of a *technological system,* particularly the one developed by Thomas Hughes, provides us with an analytical framework for studying the sociology and history of technology.[26] Hughes understands technology in terms of a "systems" metaphor, in which technical, social, economic and political structures are incorporated. Thus, his technological systems approach treats a large technological system in a much wider "environment" or as a large system of related and interacted components, which are "socially constructed and society shaping".[27] Technological systems not only consist of physical artifacts or hardware, but they also include legislative systems, manufacturing firms, banks, utilities, written texts, teaching and research programmes.

Hughes applied his framework for large technological systems exclusively in Western society, particularly to the case of electrification between 1880-1930.[28] However, his approach, especially some of his concepts, such as technological style and environment and their control, can be applied to the technology transfer and formation of Western technological systems in the non-Western world. Western technological systems in the non-Western world were built by Western engineers and companies at the

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[26] Hughes' technological systems approach is best described in Thomas P. Hughes, "The Evolution of Large Technological Systems", in W. E. Bijker, T. P. Hughes, & T. J. Pinch (eds.), *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology,* London: MIT Press, 1987, pp. 51-82; Also see T. P. Hughes, *Networks of Power: Electrification in Western Society, 1880-1930,* Baltimore: John Hopkins, 1983; T. P. Hughes, "The Order of Technological World", *History of Technology,* 1980, pp. 1-16; Also see Jon Agar & Crosbie Smith, "Introductory Essay" to Jon Agar & Crosbie Smith (eds.), *Making Space: Territorial Themes in the History of Science,* (forthcoming, 1995), pp. 3-58, 43-47.

[27] Hughes, "The Evolution of Large Technological Systems", p. 51.

[28] T. P. Hughes, *Networks of Power: Electrification in Western Society, 1880-1930.*

outset. The construction of the Ottoman telegraphic system serves as an illustrative example, particularly for the control of the environment. As Hughes puts it, over time technological systems increasingly incorporate environment into the system. A "closed system" is an ideal system, in which all environment is a part of the system itself.[29] The Ottoman telegraphic network was built by British and French telegraph engineers and skilled men, who also instructed and trained the local engineers to operate the system (Chapter 2). Most telegraphic artifacts, such as cables and telegraph machines, were bought from British firms.

The Ottoman cultural and physical contexts presented an alien and often hostile environment for the establishment of the new system, which required a new concept of geographical space and distance. In the West, telegraphic communication originated primarily as a part of the railway system, whereas the Ottoman telegraph was entirely an independent system, particularly favoured by the geographical environment, which being mostly mountainous, was too costly and hard for roads and railways. The telegraph was also an ideal system for the political structure of Turkey, in which the Sultan and his officials at the centre would find it easy to convey their orders all over the empire in a short time and more safely. The cultural and geographical environments played a significant role in making the regional style of the Ottoman telegraphic system.

The builders of the Ottoman telegraphic system did not behave merely as the technical builders. They also had to deal with institutional and social environments where the telegraph was to be built. Indigenous people were ignorant of telegraphy and

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[29] Hughes, "The Evolution of Large Technological Systems", pp. 52-53.

unable to understand its nature at first. For instance, believing that the telegraph was of a satanic nature, some Ottomans even tried to determine how near to a mosque a telegraph line could pass. To prevent the destruction of the telegraph lines the Ottoman government introduced a new legislative system, which introduced heavy fines and imprisonment for those who harmed the telegraph and its institutions. Furthermore, to justify the system within the wider cultural and intellectual environment, the telegraph was presented as a military device, since the Ottoman society had a long tradition of accommodating European military innovations.

Hoping to make it a safer system, British telegraph engineers and agents presented it as the messenger of the Sultan, the absolute ruler and lawgiver.[30] They were aware of the position and authority of the Sultanate as the most effective system of legitimacy. However, this alone could not stop serious hostility towards the telegraph lines and institutions in the distant parts of the Empire where the Sultan's control was weak, for example from the Bedouin and Arab tribes between Diyarbakir and Basra. During the construction of the Istanbul to Basra line as a part of the Europe-India overland telegraph, the British telegraph engineers, agents and geographers approved a plan to subsidise some of the chief men of the involved tribes to protect the telegraphic lines.[31] This enlisted the tribes' interests in favour of the telegraph. As a result, they became an interacting part of the Ottoman telegraphic system. In less than a decade, the Ottoman telegraph was extended all over the empire and formed a large technological system, which incorporated telegraph houses and stations, repair works, a

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[30] Y. Bektas, "La Telegraphie au Service du Sultan: Ou le Messager Imperial", *Reseaux,* No. 67, 1994, pp. 143-152.

[31] *FO78-1420: 1856-1858 European and Indian Junction Telegraph,* vol. 1, Public Record Office, London.

large number of telegraphers and officers, a telegraph school and education, a telegraph factory, a translation office and foreign language education, particularly French, an inspection system, a legislative system, international agreements and commissions, telegraph news papers and many other institutions.

The British naval shipbuilding and construction works in Turkey present another example, especially for expansion of a large technological system within military, political and economic contexts of the time (Chapters 5-6). British involvement in Ottoman naval matters began as a mission, mainly for helping the navy against Russian expansion. However, soon the British companies were providing the Ottoman navy with naval vessels and machinery. Armstrong and later Vickers expanded their shipbuilding, guns and expertise to monopolise the whole Ottoman naval works (Chapter 7). When German firms, especially Krupp, became threatening rivals, they initiated new institutional, technical and political problem solving measures, an extensive alliance with other British firms being one. By the time they established a British industrial alliance in Turkey in the early twentieth century, Armstrong and Vickers had acquired a mass of technical and organisational components: administrative and technical commissions, legislative and financial bodies, agent and communication networks, shipbuilding, repair works, dockyard development, arsenals, technical training centers.

The growth and expansion of a technological system is not only subject to the interaction or dynamics of the system components, but also it is an interaction with the society at large. That is, the society and social institutions undergo transformation and become redefined within the technological environment. In the late nineteenth

century, telegraphy, railways, steamships became a part of the Ottoman political system. Not only did they consolidate the central power but also ironically they made disintegration of the empire easier. In creating a new political, economic and intellectual environment within the traditional Ottoman society, the expansion and growth of these technological systems, which embodied numerous technical, social, military and economic institutions, derived from the European models, proved to be most effective. Not only were Western technological systems socially reconstructed within the wider Ottoman context, but also the new technological environment transformed Ottoman society.

1.4 The Ottoman Westernisation Paradigm: Military Defence as the Prime Mover for Western Technology

"Westernisation" and "modernisation" are words of protean meaning. I use the word "Westernisation" rather than "modernisation" in the Ottoman-Turkish context to mean the process of adaptation and transformation of traditional institutions to accommodate Western science and technology. Ottoman-Turks often referred to it as Europeanisation, since almost all early Western influence came from or through Europe exclusively. The term "modernisation" in the Ottoman and Turkish context always meant Westernisation.[32]

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[32] For a detailed analysis of the term, see C. E. Black, *The Dynamics of Modernization : A Study in Comparative History,* New York: Harper & Row, 1966, especially first chapter; M. J. Levy, *Modernization and the Structure of Societies: A Setting for International Affairs,* Princeton: Princeton U. P., 1966; John Brode, *The Process of Modernization: An Annotated Bibliography on the Sociocultural Aspects of Development,* Harvard: Harvard U. P., 1969.

The place of Western science and technology in the process of Turkey's Westernisation has only recently attracted scholarly studies. Contemporary Ottoman studies have concentrated mostly on the traditional political, social and economic histories of both the Ottoman and Republican periods. Yet they have dealt with processes of transmission of Western science and technology only in a piecemeal way. However, European industrial and military technologies were prior to social and political Westernisation. In this thesis I am dealing with the establishments of major Western technological systems by the British. I argue that military defence was the main channel and environment where a programme of Westernisation could be formed. In the early stage it was purely a military reconstruction programme but was subsequently expanded to other areas: social, economic and political institutions. New legal, governmental and other institutional rearrangements on European models became keystones for the adoption of Western technology.

Though the Ottoman Empire had always been physically in touch with Europe, the core of the Ottoman Empire was generally closed to Western culture, primarily because of the strong religious barrier, which traditionally regarded almost everything Western as "infidel" and "inflictive" with the exception of military ones.[33] Thus until the nineteenth century Ottoman muslim society in particular knew very little about Europe, and their image of Europe was mostly based on false accounts and legendary stories. For instance, not many Ottoman-Turks travelled beyond the Ottoman lands to Western Europe. What forced the Ottoman Empire to increase its contact

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[33] The Islamic jihad principle that "fighting the infidel with his own weapons and devices" was justifiable was used to adopt military innovations. See U. Heyd, "The Ottoman Ulema and Westernisation in the Time of Selim III and Mahmud II", in U. Heyd (ed.), *Scripta Hierosolymitana,* vol. IX: *Studies in Islamic History and Civilization,* Jerusalem, 1961, pp. 74-77.

with Europe was its successive military defeats and loss of territories to essentially Western powers from the early eighteenth century onwards. The first important Ottoman military retreat occasioned by the Christian West came in the early eighteenth century after the unsuccessful siege of Vienna, where it faced the Holy Alliance of Austria, Poland, Venice and the Pope, as well as Russia. This was followed by other defeats at the hands of Europeans and Russia, especially in the late eighteenth and throughout the nineteenth centuries. In every case the victorious powers were Europeans, or at least armies trained and equipped upon European ways. As a result, the military science and technology of Europeans became the best example for Ottoman Sultans to review their defence system. To remain as a powerful empire, Ottomans had to adopt military and naval technologies from Europe. All early reforms and innovations in the Ottoman Empire were in the military fields, such as in the late eighteenth century the establishment of the military and naval engineering schools with the help of Western instructors. There muslim students were instructed by teachers and experts whom they considered "infidel".

The military Westernisation led to a wider programme of Westernisation, beginning with technical education, science teaching, diplomacy, translation, language learning and so on. This pattern of Westernisation has often been called *defensive modernisation.*[34] Though each was unique, Chinese and Japanese cases present the same pattern of "modernisation", in which Western military technologies were viewed as a desirable innovation for building an effective defence system. Western firearms and guns were followed by steam ships, iron foundries, electric

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[34] Cyril E. Black, *The Dynamics of Modernization*, pp. 119-123.

communication, railways and coal mines, expanding into larger industrial and Westernised systems. Western military technology could not be disentangled from its complex interrelationships with an evolving industrial and military order.[35]

An "advanced" military technology was the primary objective of the Ottoman reformist elite. This was the origin and core of Ottoman Westernisation. Western technology was transferred primarily through military channels. Even major technological systems, telegraphy, railways, and steamships, which began to change the image of the West, were first introduced as military systems. The *military* was not only an established institutional channel or medium of technological transfer but also it functioned as the most significant etiquette to justify European innovations in a non-European technological environment. Beginning with the early nineteenth century, a number of Ottoman students and engineers were sent to major military and naval schools in Europe, such as Woolwich in England. In addition, the Ottoman government increased the number of European engineers, advisers and officers in the navy and army, especially to operate more complicated and technical tasks.

The European (Britain and France) and Ottoman alliance against Russia during the Crimean War in the mid-nineteenth century opened a new phase in the Ottoman relationship with and attitude towards Europe. In the words of W. P. Andrew:

> The relationship between the Porte and Western Powers has assumed a totally new aspect since the Allies interposed to save the "sick man" from the designs of the Czar. The Turks have now abandoned their jealousy, and forgotten their bigoted contempt of Frankish [European] visitors; while we, on our part, as we became better acquainted with the government and the inhabitants of the Ottoman Empire, have learnt to respect them more

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[35] See Barton C. Hacker, "The Weapons of the West: Military Technology and Modernization in 19th Century China and Japan". *Technology and Culture*, vol. 18 (1977), pp. 43-55.

highly, and value them more, whether as allies or as customers.[36]

The cooperation with two major Western European armies helped to develop Ottoman confidence and friendly political, military and cultural relations with the West. Secondly, western technological systems, such as electric telegraphy, railways and naval steamships were introduced to Turkey during the war. It thus also demonstrated on a large scale the utility and power of Western technology. Furthermore, Britain and France gained important commercial and political privileges in the Ottoman Empire, which they began to exercise during and after the war. These included industrial enterprises and opportunities for Western entrepreneurs to exploit the resources of the country. The Ottoman reformist elite, on the other hand, used the war and defence as justification for the introduction of Western technological systems. The post-Crimean political and military context of the Ottoman Empire provided a more suitable environment and medium for the introduction of Western ideas and technology.

What kind of Westernisation or Europeanisation paradigm dominated the minds of the Ottoman Westernising elite? What explanations or ideologies were produced within the indigenous intellectual and folk cultures to accommodate European systems? Until the nineteenth century most Ottoman-Turks were generally alien to the conception of "natural philosophy" or "modern science", developed in Western Europe.[37]

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[36] W. P. Andrew, *Memoir on the Euphrates Valley Route*, p. 143.

[37] Here I will not deal with the question, why "modern science" did not develop in Islam or the East but only in the West. For such a recent study see T. E. Huff, *The Rise of Early Modern Science: Islam, China and the West*, Cambridge: Cambridge University Press, 1993.

A new friendship with Europe after the Crimean War: The Sultan at the Fancy-Dress Ball given by the Viscountess De Redcliffe, at the British Embassy in Istanbul, March 1856. [From the Illustrated London News.]

The West and Islamic world produced two distinct concepts of knowledge -different ways of thinking about and mapping nature- due to different cultural and geographical environments. A major difference between the two was on the question of "power": the Western conception of knowledge has been closely linked with "power". Natural philosophy meant an empirical and "experimental" approach to the understanding and control of nature. This new attitude towards the problem of knowledge was best expressed, for instance, in the works of Francis Bacon (1561-1626), who stated that knowledge was power: "Human knowledge and human power meet in one".[38] This understanding also constituted the foundation of *The Royal Society of London, for Improving of Natural Knowledge.*[39] During the Industrial Revolution an ideology of "progress", "power" and utilitarian philosophy became part of the Western conception of knowledge.[40]

The Islamic world, on the other hand, presented a very different picture. The representation of nature and knowledge in Islam greatly lacked a conception of power similar to the Western one.[41] The cultural environment plays an essential role in

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38 Francis Bacon, *The Works of Francis Bacon,* collected and edited by J. Spedding, R. L. Ellis and D. D. Heath, London, 1860, vol. IV, p. 47.

39 See Michael Hunter, *Establishing the New Science: The Experience of the Royal Society,* Woodbridge: The Boydell Press, 1989, pp. 6, 157, and especially chapter six.

40 A. Q. Morton shows that in the mid-eighteenth century the way machines and human labour were described and perceived underwent significant changes, for example the comparisons of machines and human labour in natural philosophy. See A. Q. Morton, "Concepts of Power: Natural Philosophy and the Uses of Machines in Mid-Eighteenth Century London", *BJHS,* vol. 28, (1995), 63-78.

41 An illustrative example is that Muslim scholars, unlike Western ones, who studied other religion to expand their powers, mostly disdained any thorough study of other religions. To the Islamic view, Islam was the perfect and last religion, and all other religions contained erroneous ideas. The Muslims would not gain wisdom by studying them. On the contrary, the scholars who studied foreign religions might well become inflicted by erroneous ideas. See W. Montgomery Watt, *Islamic Revelation in the Modern World,* Edinburgh: Edinburgh U.P., 1969, pp. 61-64; *Muslim-Christian Encounters: Perceptions and Misperceptions,* London: Routledge, 1991, pp. 42-53, 72.

shaping and expressing knowledge. The Islamic conception of nature and knowledge was closely linked to the general Islamic world-view and political structure. Indeed, the construction of knowledge is a process which is interrelated with politics, particularly with reference to a social order. Shapin and Schaffer suggest:

> The problem of generating and protecting knowledge is a problem in politics, and, conversely, the problem of political order always involves solutions to the problem of knowledge.[42]

The Islamic conception of knowledge was the basis of the Islamic political order. Traditionally knowledge had no connections with a practical value, but its true value was in its abstractness and divine secrecy. Nature was perceived as God-made but an ordinary person had no access to the true knowledge of it. The material world was transitory and its knowledge was unreliable and deceitful.[43] Primarily an *essentialist* approach towards nature and its knowledge emerged as a predominant view in Islamic thought. In Islam, the "Book of Nature" was of no great importance to compare with the "Book of Word". The former was perceived as symbolic and secondary. The latter was the actual Word of God without the admixture of anything human apart from the language, and it was of "universal validity". Thus, the "natural theology" which became an important part of empirical interpretation of "Book of Nature" in the West, such as in Paley's works in England, had no Islamic counterpart.[44] In Islam true knowledge could be obtained only by meditation, and preaching. The

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[42] Steven Shapin and Simon Schaffer, *Leviathan and the Air Pump: Hobbes, Boyle, and the Experimental Life*, Princeton: Princeton U.P., 1985, p. 21.

[43] See W. M. Watt, *The Formative Period of Islamic Thought*, Edinburgh: Edinburgh U.P., 1973.

[44] For the relevance of natural theology to science, see J. H. Brooke, *Science and Religion: Some Historical Perspectives*, New York & Cambridge: Cambridge University Press, 1991, especially chapter 6, pp. 192-225.

preaching about God was entirely centered on its affirmations of Oneness and unity, of transcendence and subsistence, of absolute perfections. The forbidding inaccessibility of a divine nature was absolutely maintained. The description of God has always been in abstract forms. His nature was unique and could not be described in human terms. This was partly a result of Islamic monotheism.

The same principle was at work in Islamic art. God was unique and could not be represented in human arts. Furthermore, creativity only belonged to God. Art then imitated God's creation and therefore had to be avoided. Thus, the figurative art, which was crucially important for Christian and Western culture, was excluded from the core of Islamic culture. Islamic art mainly included two dimensional decorations, and calligraphy. It lacked perspective. In particular, the absence of visual culture in Islam resulted in the formation of a rather different understanding of the nature and the problem of knowledge. In her recent study, Alpers has suggested that different theories of picturing expressed different conceptions of knowledge.[45] The seventeenth century descriptive Dutch painter referred to the image cast by a *camera obscura* as a "truly natural painting". That is, the world described is the same as the world perfectly seen. The same conception of representation was at work in the experimental programme in knowledge, such as the British experimental natural philosophy.[46] Both the experiment and "picture" or "representation" function for the same ends. Thus the fact that in Islamic culture representational art, or "visual culture", was absent established a primary obstacle for the development of an experimental or

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[45] Svetlana Alpers, *The Art of Describing: Dutch Art in the Seventeenth Century,* London: J. Murray, 1983, especially chapter 3.

[46] See M. Lynch and S. Woolgar, *Representation in Scientific Practice,* London: MIT Press, 1990, pp. 29-31.

descriptive approach towards the understanding of nature. There human experiences could not be dealt with in terms of visual art or pictorial experiments. Instead this was expressed in symbolic and abstract forms. Islamic mysticism or sufism was partly the consequences of this understanding, together with the political structure.

Knowledge was a corpus of eternal verities, which was conceived as a "timeless framework".[47] This meant knowledge was static, unchanging and therefore could not be modified. The structure and pursuit of knowledge was well suited to the traditional political and social orders. Partly as a result of this understanding of knowledge a critical mind and openness to change and innovations became much harder within the Islamic cultural environment. "Science" or knowledge was perceived as mainly "wisdom" concerning the general conduct of human life. The clergy or learned class promoted such a conception of knowledge to increase and maintain their power structures. However, the introduction of Western learning and technologies would entail a new power structure. In the Ottoman Empire the "high theology" or "Islamic sciences" were in the domain of the clergy. The establishment of Western science would not only mean the falsification of the local "high theology", but it also meant the humiliation of the clergy and its authority, and therefore, the destruction of their power structure.[48]

To maintain traditional power order and avoid the conflict, when Western learning and knowledge began to influence Ottoman society, it was called *"fen"* or art rather than *"ilim"*, the word for science in the Ottoman-Turkish language.[49] The meanings

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[47] B. Lewis, *The Muslim Discovery of Europe*, p. 229.

[48] See E. Gelner, *Plough, Sword and Book: The Structure of Human History*, London: Collins Harvill, 1988, pp. 216-219.

[49] A. A. Adivar, *Osmanli Turklerinde Ilim*, Istanbul, 1982, 4th edition, p. 222: First published in French as *La Science chez les Turcs Ottomans*, Paris, 1939.

of "ilim" and "fen" were reconstructed to make a new adjustment in language to reduce the external threat to the traditional social order and power structure. The "fen" was not only discredited as simply a practical skill in contrast to *high theology,* but also described the skill of deception and attributed it to Satan, often in pejorative language. The wider public ascribed Western technical inventions or innovations to satan or other evil superstitions.[50] Accordingly, the men of new learning or Western sciences were never called "alim" (man of science) or learned man but "mutefennin" (man of "fen") or "jack-of-all-trades".[51]

To an ordinary Ottoman-Muslim, Western science and technology were of an infidel character, and harmful to religion. The creation of a new ideology was necessary to justify Western technological systems in the long term in the local environment, in addition to the external justifications, such as a military defence system. As a part of such an ideology, an important number of Ottoman-Muslim intellectuals since the late nineteenth century have introduced a rigid division between "material civilisation" or material culture including technology, and "non-material civilisation" or culture. An important representative of this intellectual movement was Ziya Gokalp (1876-1924), who believed that culture belonged to the nation, whereas, material civilisation had no national boundaries.[52] Ziya Gokalp and other intellectuals favoured the adoption of Western systems and technology without abandoning

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[50] C. Hamlin, an American congregational missionary, the director of American Robert College, who was highly skillful in mechanical matters was introduced as "the most *Satanic* man in the Empire". See Cyrus Hamlin, *Among the Turks,* New York, 1878, p. 58.

[51] A. A. Adivar, *Osmanli Turklerinde Ilim,* p. 222.

[52] For his collections of essays, see Ziya Gokalp, *Turklesmek, Islamlasmak and Muasirlasmak,* Istanbul, 1918; U. Heyd, *Foundation of Turkish Nationalism,* London, 1950; N. Berkes, (translated and ed.) *Turkish Nationalism and Western Civilisation: Selected Essays of Ziya Gokalp,* London & New York, 1959.

national culture and identity. They treated Western technology as free of Western cultural values, such as religion and ethics. It was international and therefore could be adopted in the Islamic world. This understanding was naturally extended to an artificial division between science and technology. Atatürk, the founder of the new Turkish Republic in 1923, and other Republican reformists pursued the same ideology. However, this dilemma has prevented Islamic intellectuals seeing the very close links between Western technology and the Western cultural environment in which it was shaped and produced. Nevertheless, such an understanding justified the flow of Western technology among the Ottoman-Turkish intellectual and reformist elites. The Ottoman Westernisation was a small administrative elite initiated programme, was imposed from the top down, and was protected by the state.

Chapter Two

ELECTRIC TELEGRAPHY: THE MESSENGER OF THE SULTAN

Nothing will tend to bring Turkey into the European system and into the family of nations more than to make her the great highway between the enterprising West and the teeming lands of China, India, and Australia which the Anglo-Saxon race has marked out as its heritage.[1]

They [Turks] do not know what to make of the telegraph, and stand staring at the thin wire which is suspended above them as if it were the work of enchantment, and possessed of mystic powers which were not given to man comprehend.[2]

There is every reason to believe that the simple statement, that the Electric Telegraph was used to convey the messages of the Sultan, would protect it from all accidents.[3]

2.1 Introduction

In this chapter I will discuss the early stages of the introduction of electric telegraphy to the Ottoman Empire, with particular reference to the construction of the first telegraph lines during the Crimean War by the British and French, and the establishment of overland telegraphic communication to India, in which mostly British expertise and materials were employed. Britain and France were involved in the establishment of telegraphic communication in the Ottoman Empire from the mid-1850s. I will focus mainly on the British connections, with regard to the transfer of skills and knowledge of electric telegraphy. I will also discuss how electric telegraphy was

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1 *The Times,* 16th April, 1855, (Leading Article on Ottoman Telegraphy).

2 *The Times,* 12th May, 1855, (Leading Article on Ottoman Telegraphy).

3 William Ainsworth to W. P. Andrew, 13th August, 1856, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

accommodated in the Ottoman cultural context, and its role in the formation of a new conception of geographical space and distance, while the meaning of electric communication itself was reconstructed in the new environment.

The electric telegraph, "the most beautiful and surprising invention of the age with rapid and wonderful results",[4] was a technology that influenced the Ottoman world view and society at large. The visual impact of telegraph houses, poles and telegraphic wires extending from town to town, and village to village was one of great wonder, mystery and suspicion for the ordinary Ottoman, the country peasants and nomads. For many they symbolised the Sultan's authority and power. It was a device well suited to the image and position of the Sultan, the shadow of God on earth. The invisibility of electric communication was an inspiration for idealistic, mystical and religious thoughts. For people who were suspicious of Western technology, the telegraph was a satanic messenger, and an infidel tool of atheism. Nevertheless, telegraphy became an agent of new ideas, and provided a new spatial framework in Ottoman culture.

In the West, the electric telegraph and the railways generally expanded together. Electric communication was originated primarily to regulate railway transport whereas the development of the Ottoman telegraph was entirely independent of the railway service. Telegraphic lines were extended into towns and places where railways were unknown. The geographical and political structures of the Empire favoured the telegraph as an ideal communication system. Turkey, especially eastern Anatolia, is a very mountainous country and in the winters communication was

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[4] W. P. Andrew, *Memoir on the Euphrates Valley Route to India*, London: Wm. H. Allen & Co., 1857, pp. 232.

hardly possible. Unlike railways and roads, telegraphic wires could be easily and cheaply built, and maintained throughout the year. Huge mountains, rivers and hostile climate were not very important barriers for the telegraph. In other words, telegraphy, to a great extent, "freed communication from the constraints of geography" by separating communication from transportation.[5] It eliminated an important aspect of space, the distance.

2.2 Orientation with a Mysterious Instrument

I will begin by examining how the Ottoman Sultan and elite began to favour the establishment of electric telegraphy in the Empire, which represented a degenerate and non-progressive oriental environment for new learning and technology in the eyes of many Europeans in the nineteenth century. The early encounter of the Ottoman elite with electric telegraphy began with the demonstration of telegraph apparatus by Western agents and diplomats to the Sultan and other high officials during the late 1830s, when electric communication had just become a reality in the West.[6] Samuel Morse in America succeeded in making a working model of his reading electric telegraph only by the mid-1830's. In Britain, William Cooke and Charles Wheatstone almost simultaneously built the first telegraph in 1837 primarily for

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[5] J. W. Carey, *Communication as Culture: Essays on Media and Society,* Boston: Unwin Hyman, 1988, pp. 201-229.

[6] Earlier, the Ottomans had tried semaphore telegraph for the rapid military communication during their war with Russians in the late 1820s. See R. H. Davison, "The Advent of the Electric Telegraph in the Ottoman Empire" in R. H. Davison, *Essays in Ottoman and Turkish History, 1774-1923; The Impact of the West,* Texas: McGill, 1990, pp. 133-165, (135).

railway services.[7]

In 1839, shortly after Morse's code was patented, one of his associates, Chamberlain, came to Istanbul with a set of the newly invented telegraphic instruments to demonstrate to the Sultan and his ruling elite. Our knowledge about this early attempt to introduce electric telegraphy to the Empire comes from Cyrus Hamlin, an American congregational missionary, who was able to follow such developments during his residence in Istanbul for thirty-five years.[8] Hamlin helped Chamberlain with the experiments on electric telegraphy in Istanbul. The experimental trial at the American Robert College produced no positive result. Hamlin acknowledged that the telegraph instrument had many faults of construction, and therefore did not work well.[9]

About a decade later, J. Lawrence Smith, a distinguished American professor, while in the service of the Sultan as a geologist, 1846-1851, was able to demonstrate telegraphic communication in Istanbul. He was originally appointed by President Buchanan as a "missionary of science to the old oriental Empire", particularly on a mission to teach Ottoman agriculturists the methods of cotton growing in 1846, upon a request of the Sultan for American "men of practical sciences".[10] But on his arrival in Turkey he was employed as a mining engineer to investigate the mineral resources of the Empire. During his employment for the Ottoman government for four years he

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[7] See Charles Singer (ed.), *A History of Technology,* Oxford, 1958, vol. IV, pp. 644-662.

[8] Cyrus Hamlin, *Among the Turks,* New York: Carter and Brothers, 1878. For telegraphy see especially chapter 12, pp. 185-194.

[9] *Ibid.,* pp. 185-186; In order to get the necessary repairs done, Chamberlain set out for Vienna, but he was drowned when his Danube steamer capsized. See R. H. Davison, "The Advent of the Electric Telegraph in the Ottoman Empire", p. 135.

[10] See John R. Sampey, " J. Lawrence Smith ", *Journal of Chemical Education,* Vol. 5, (1928), pp. 123-128; see also "Sketch of Dr. J. Lawrence Smith", *The Popular Science Monthly,* (December, 1874), pp. 233-235. J. Lawrence Smith became the president of the American Association For the Advancement of Science in 1874.

discovered important deposits of emery, chrome, ore, and coal, which brought great wealth to the Empire.[11]

Professor Smith noticed that the Sultan and his officials knew nothing about telegraphic communication. Upon his request a complete telegraph apparatus with conductors sufficient to connect the Sultan's palace with the Bosphorus was sent to Professor Smith from America by his friend Benjamin Silliman, a key figure for popular electricity.[12] Professor Smith demonstrated the operation before the Sultan at the Beylerbeyi Palace, and later at the Sublime Porte before the government and high officials. Cyrus Hamlin, J. P. Brown, Secretary of the American Legation and many other foreign officials were also present at the demonstrations.[13] Delighted by the invention, the Sultan sent Morse an imperial decoration made of diamonds, with an Imperial Certificate in recognition of his useful invention. Morse later sent to the Sultan a complete telegraphic instrument.[14]

However, though the Sultan was interested, no attempt was made, at least in practice, to construct a telegraphic line in the Ottoman Empire until the Crimean War. No obvious reasons have been recorded for this delay.[15] An explanation, which may not alone be fully satisfactory, comes again from Cyrus Hamlin. The pashas, he believed, had united against its establishment: "They wanted no such tell-tale to report their

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[11] Benjamin Silliman, "Sketch of the Life and Scientific Work of Dr. J. Lawrence", in J. B. Marvin (ed), *John Smith Lawrence, Original Researches in Mineralogy and Chemistry,* Louisville, Ky, 1884, pp. xxix-xxxi.

[12] *Ibid.;* J. R. Sampey, "J. Lawrence Smith", *Journal of Chemical Education,*

[13] Benjamin Silliman, "Sketch of the Life and Scientific Work of Dr. J. Lawrence", in J. B. Marvin (ed), *John Smith Lawrence,* pp. xxix-xxxi; also, Cyrus Hamlin, *Among the Turks,* pp. 187-192.

[14] R. H. Davison, "The Advent of the Electric Telegraph in the Ottoman Empire", pp. 133-165.

[15] See Asaf Tanrikut, *Turkiye Posta ve Telegraf ve Telefon Teskilat ve Mevzuat,* Ankara, 1984, p. 550

doings everyday, while in the distant interior".[16] Most pashas were aware of the spatial implications of the telegraph. In the distant interior and faraway provinces they could rule like despots. The Sultan and his government were hardly able to check their doings. However, making geography and distance less relevant, the telegraph would diminish their powers and independence that they had enjoyed. It would provide the Sultan and central government with an effective control mechanism. The Sultan's orders could be conveyed to the governors and officials in a brief amount of time, instead of weeks or months. Furthermore, public complaints and petitions about pashas and other matters could be communicated to the Sultan effectively. These were certainly not things that the pashas would desire.

One would also expect strong objections from the Ulema, the clergy. However, on the contrary, in the early period there were influential supporters of the reforms among the members of the Ulema, especially official Ulema, over whom the Sultan and his government had greater power. The official clergy saw no threat to their immediate authority, since the telegraph was primarily a mechanism for military and official correspondence.[17] The clergy became the main centre of the oppositional forces against the reforms and Westernisation as a whole, particularly after the mid nineteenth century. However, only later in the century, partly as a result of an increasing general anti-western feeling, did Islamic reactions become more active and hostile. I will deal with religious reaction towards the telegraph in a later section in this

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16 Hamlin, *Among Turks*, p. 194.

17 See E. Ihsanoglu, "Some Critical Notes on the Introduction of Modern Sciences to the Ottoman State and the Relation Between Science and Religion up to the end of the Nineteenth Century", in J. L. Bacque-Grammont and E. von Donzel, *The Proceedings of the Comite International D'Etudes Pre-Ottomanes et Ottomanes, VIth Symposium, Cambridge, 1st-4th July 1984*, pp. 235-251.

chapter (see Section 2.6).

2.3 Telegraphy in the Crimean War

The Crimean War (1853-1856) created an environment where the introduction of electric telegraphy to the Ottoman Empire was possible. From a military point of view it was deemed a necessity for rapid communication. The two Ottoman European allies, Britain and France were ready to build the system, largely for their own service. Ottoman society accepted and adopted the system primarily on the basis of being a military device in the first place. In military matters, the opposition from either religious or others grounds were largely muted. Anything useful to winning the war was justifiable.[18] In other words, military defence legitimised the introduction of Western telegraphic system, which brought together the other components of Western culture related to this technological system, such as industrial, educational and legislative institutions. This resulted in a large telegraphic environment in the Ottoman Empire.

At the beginning of the war, the fastest message from the Crimea could reach London in five days: that is, two days from Crimea to Varna, and sixty hours from Varna to Bucharest, the nearest point that had been connected to the European telegraph lines through the Austrian lines.[19] The messages were carried by the Tartar Messengers

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[18] Bernard Lewis, *The Muslim Discovery of Europe,* London: Weidenfeld and Nicolson, 1982, pp. 221-238.

[19] Fredrick Cadogan to Edmond Hammond, 2nd January, 1855, *FO97-414 1854-1856 Telegraph: Service in the East - Crimea, Varna, Bucharest, Sulmanie.*

until the telegraph line was established. Shortly after joining the Ottoman armies at the Crimea against Russia, the British government was urged to construct a telegraphic communication between Bucharest and Varna, and Varna and Crimea by a cable in the Black Sea.[20] They agreed on a convention to connect the headquarters of the allied armies and their governments in Paris, London and Istanbul, by telegraphic lines. In February 1855 the Queen of Britain and the French Emperor signed a convention regarding the establishment of an electric telegraph between Bucharest and Varna.[21] According to the agreement, a line of electric telegraph between these two stations, in continuance of Austrian lines, was to be laid down by the French government at the expense of both governments, and it would pass through Schumla, Silistra, and Rustschuk. The French government was also responsible for the superintendence and the working of the line. The British government, on the other hand, undertook to lay down a submarine line between Varna and Crimea, which would remain in the hands of the British, together with all stations to be established at Istanbul and Varna.[22] The telegraph from Bucharest to the Crimea was proposed to be, essentially, a government line, which would only transmit private messages that had been signed by the ministers of war in London and Paris, and in the Crimea by the principal staff officers of the Allied Armies.[23]

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[20] "Memorandum: Conversation with Mr Cadogan respected his proposal to carry out telegraphic communication between Crimea and London, 4th December, 1854", by Earl of Clarendon, 9th December, 1854; F. Cadogan to E. Hammond, 13th December, and 22nd December, 1854; and see the letter dated 28th January, 1855 for the proposed submarine telegraph between Varna and Crimea, *FO97-414 1854-1856 Telegraph: Service in the East - Crimea, Varna, Bucharest, Sulmanie.*

[21] Convention between Her Majesty and the Emperor of the French, relative to the Establishment of a Line of Electric Telegraph between Bucharest and Varna. Signed at London, 1st February, 1855, (Ratification exchanged at London, 28th February, 1855), *FO97-414 1854-1856 Telegraph: Service in the East - Crimea, Varna, Bucharest, Sulmanie.*

[22] See "Regulations for the Use of the Crimean Telegraphy", (28th February, 1855), *Ibid.*

[23] *Ibid.*

To lay down the Black Sea Submarine Telegraph, the British government made a contract with Newall and Co., which was at the time a prestigious company in the construction of submarine telegraphs, as it had manufactured cables and had already built several submarine lines, including Dover-Calais, the Haughe, the Great and Little Belt and the Mississippi. By the end of January, 1855, the steamer *Black Sea* was ready to leave with the Balaklava and Varna submarine telegraph cable of 400 miles, which weighed 400 tons, on board and the Newall and Co.'s staff of 60 persons, who were to lay down the cable and complete the necessary works.[24] C. E. Liddell, an experienced civil engineer, who had laid cables in the Mediterranean and other seas, was appointed by the company for the task.[25] He was accompanied by Royal Engineers, such as Captain Du Cane, with Captain Charles Robinson of the Royal Navy as superintendent of the expedition, and Major M. A. Biddulph of the Royal Artillery, the director of the telegraph in the Crimea and the East.

The system which the cable line adopted was Morse's, but with some important modifications by Carl Frischen, of Hannover, which had been patented by Newall and Co. Morse's apparatus printed messages on long slips of paper as they were received, and thus avoided the slow process of copying by pencil on to slips. The modifications introduced by Carl Frischen increased further the efficiency of the system, which made it possible for messages to be sent along one wire from both ends at the same instant of time. That meant the single wire between Varna and Balaklava could convey several messages simultaneously; and a clerk at Varna could be engaged telegraphing Balaklava at the same time he would be receiving a message from there.[26]

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[24] *The Times,* 22nd January, 1855, (Leading Article on the Black Sea Telegraph).

[25] *Ibid,* 8th January, 1855.

[26] *The Times,* 22nd January, 1855, (The leading article on the Black Sea Telegraph).

The operation took about two months. According to Biddulph's *Report,* great difficulties were at first encountered in adapting the instruments furnished by the Newall & Co. to the cable, as well as in the manipulation of the telegraphists to overcome the disturbing influence of the strong *return current,* or induced charge.[27] Nevertheless, the cable communication was established in relatively short time because of its military importance. By the end of April, 1855, Balaklava was in communication with Varna by electric telegraph; messages in cipher were received at Varna, and transmitted to Paris and London. The whole operation took about five hours at that time. At least two hours of delay was caused by the fact that the cable under the river Danube had not yet been built, and therefore messages had to be carried to the other side manually.[28] A cable, manufactured by Newall & Co., was laid across the Danube by the French administration at the time when the Crimean cable was laid, but, it very soon failed to operate as a result of damage from passing vessels. According to Biddulph, the cable was not sufficiently strong for the purpose, as the smallest pattern of wire-covered cable was used.[29] The cable in the Black Sea connecting the Crimean peninsula with Varna was 340 miles long, the longest operating submarine cable so far laid in one length between any two points.[30] A temporary unarmoured cable, it remained in operation for about a year.

In August the same year Newall & Co. contracted with the British government to establish telegraphic communication between Istanbul and Varna, so as to complete

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[27] Major M. E Biddulph, *Report to the War Department on the Telegraphic Communication from Constantinople through Vienna to England, and Generally on the Submarine Telegraph Service in the East,* (The War Department, April, 1856), pp. 1-26.

[28] *The Times,* 12th May, 1655, (Leading Article).

[29] See Biddulph, *Report,* 1856, p. 5.

[30] *op. cit.*, p. 3.

the telegraphic circuit to the seat of the Ottoman government. 150 miles of submarine cable between Istanbul and Varna was laid down by the British engineers in a short time, and by early October Istanbul was connected by electric telegraph to Europe via Varna and Bucharest.[31] The cable consisted of one copper wire, thickly insulated, and covered with iron wires to protect it from injury. The line was soon opened to business.[32] The telegraph from Varna to the Crimea, being essentially a government line, only transmitted private messages that had been signed by the ministers of war in London and Paris, and in the Crimea by the principal staff officers of the Allied Armies. After the war all surviving lines were commercialised.

As no indigenous Ottoman technical community with sufficient know-how to build and operate electric telegraphy existed at the time, the Ottoman role in the construction of these lines was simply to grant necessary permission, and to provide poles, labour and guards to protect the lines. However, the Ottoman engineers were learning about telegraphy from British and French engineers directly in the field working with them. In the meantime, the Ottoman government initiated the construction of its own telegraphic network. A line between Istanbul and Adrianople had been projected for some years, but had not been built. In late 1854, the Grand Vizier Kibrisli Mehmet Pasha applied to the French government for telegraph experts.

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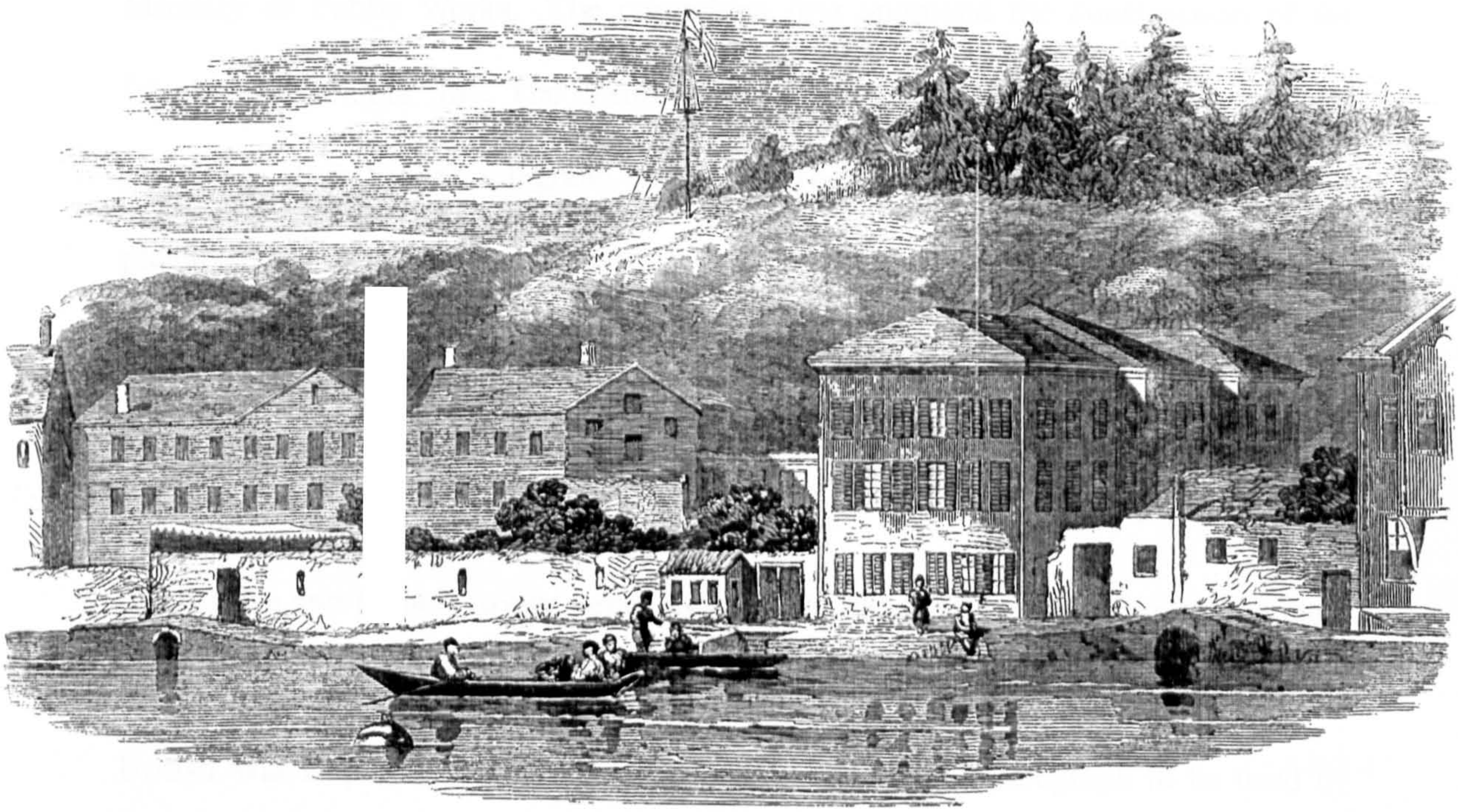
[31] *The Illustrated London News,* 17th November, 1855, (On the Submarine Telegraph Between Constantinople and Varna).

[32] Biddulph, *Report,* 1856, p. 4.

TEXT BOUND INTO

THE SPINE



THE SUBMARINE ELECTRIC TELEGRAPH STATION, ON THE BOSPHORUS.

Electric telegraphy in Turkey

As soon as De la Rue, the first telegraph engineer sent by the French government, arrived in Istanbul, he was asked by the Ottoman government to prepare a general project for establishment of telegraphic communication in the Empire.[33] The Porte appointed a commission of some high officials and military men, including the Chief Translator of the Porte, to supervise the same task. The committee formed the nucleus of the the General Directorate of the Ottoman Telegraph, which was established in early 1855. This later developed into the Department of Telegraphy in the Ministry of Public Works. The committee first approved the construction of the Istanbul-Adrianople line. The contract was made with De la Rue, who was later joined by other French telegraph engineers. The project began in 1854, and completed by the end of Summer 1855, being the first line built by the Ottoman government.[34] The Porte's contract with De la Rue included training the local men in telegraphy. This task helped the creation of the Ottoman indigenous telegraphic infrastructure.

The British and French governments allowed the Turkish government to use the electric telegraph established by them between Varna and Bucharest.[35] In addition, the British War Department allowed the Black Sea Submarine telegraph to be used by the Turkish authorities of corresponding rank to British, upon payment and subject to future regulations.[36] This was extended to other official correspondence. The Turkish

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[33] A. Baha Gokoglu, *Batida ve Doguda Telegrafcilik Nasil Dogdu: Yurdumuzda Telegrafcilik, Ilk Hatlar, Ilk Telegraf Tarifesi, Ilk Telegraf Turesi,* Istanbul, 1935, pp. 48-57.

[34] S. Eyice, "Istanbul'da Ilk Telegrafhane-i Amire'nin Projesi, 1855", *Istanbul Universitesi Edebiyat Fakultesi Dergisi,* vol. 34, (1983-1984), pp. 61-66.

[35] Stratford de Redcliffe to the Earl Clarendon, 11th October, 1855, *FO97-414 1854-1856 Telegraph: Service in the East - Crimea, Varna, Bucharest, Sulmanie.*

[36] The War Department to Lord Wodehouse, 25th October, 1855, (Telegraphic Dispatch), *FO97-414 1854-1856 Telegraph: Service in the East - Crimea, Varna, Bucharest, Sulmanie.*

government was soon admitted as a party to the telegraph convention concluded between the British and French governments.[37] In return, the Turkish government agreed to do its best to protect the lines from injury and interruption.[38]

Telegraphic communication across the Bosphorus presented some problems. The first cable, constructed by Newall & Co, was laid down under the direction of Biddulph at the request of General Storks of the British army during the war.[39] However, it was very often damaged by ships' anchors. Later, another cable was laid by the Ottoman Administration but it was interrupted by the same causes. Finally, an ambitious plan was proposed by C. Liddell of Newall & Co. for suspending a wire cord from two iron columns, one of which was to be erected on the top of the Tower of Roumelihisar on the European side, and the other on a hill on the Asiatic side.[40] However, in the available records there is no mention that such a plan was ever tried.

2.4 European and Indian Junction Telegraph: Uniting Continents

After the war, European interest in telegraphic communication in the Ottoman Empire, in particular, as an junction between Europe and India, dramatically increased.[41] British, French and Austrian governments intensified their efforts for new concessions to build the telegraph in the interior and periphery of the Ottoman

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[37] *op. cit.*, Lord Cowley to the Earl Clarendon, 17th November, 1855, Paris; Office of Committee of Privy Council for Trade to the Lord Wodehouse, 24th November, 1855,

[38] *op. cit.*, War Department to Lord Wodehouse, 5th December, 1855,

[39] Biddulph, *Report,* 1856, p. 5.

[40] Biddulph, *Report,* 1860, p. 13.

[41] See D. R. Headrick, *The Invisible Weapon: Telecommunications and International Politics, 1851-1945,* New York & Oxford: Oxford University Press, 1991, pp. 19-21.

Empire. European involvement in the Ottoman telegraphs largely originated from the reason that the Ottoman territories were on the paths of their imperialist expansion. Aware of the commercial and political prospects of the telegraph enterprises, British private companies, which often monopolised the production of telegraph materials, widened their initiatives. There was an urgent need in Britain to establish a telegraphic communication with India to unite the Empire. In addition, early British involvement was also to a considerable extent provoked by her competition with France.[42] As at the time ocean telegraphy was not easily applicable to long distances, an overland telegraph via Turkey to India attracted the most serious attention, though the British were keen on submarine lines, which would give them priority over the messages, whereas, in the land lines, the local governments would have priority. Asia Minor provided the shortest overland road, and was also geographically the most suitable junction for the telegraph to India. Furthermore, such a line would politically form an important measure against Russian expansion.[43]

When both British and Ottoman governments began negotiations for building a telegraph line through the Ottoman territories to India, there were several different routes to be followed, especially for the submarine telegraph. The Red Sea, the Euphrates via a Mediterranean submarine cable, and the overland telegraph through Asia Minor were the major routes to be considered. Prestigious British telegraph entrepreneurs, such as the Brett Brothers, and Lionel and Francis Gisborne, obtained exclusive concessions from the Ottoman government during the Crimean War to construct and operate a network of telegraphy in the Mediterranean towards India via the Red Sea.

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[42] *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

[43] W. P. Andrew, *Memoir on the Euphrates Valley Route to India,* pp. 229-249.

The Brett Mediterranean Telegraph Company had been involved in the establishment of electric communication in the region since the beginning of 1850.[44] In 1853 the company secured the concessions from the French and Sardinian governments, and also obtained an exclusive privilege for fifty years from the two governments, for transmission of all electric telegraph dispatches through these countries.[45]

William Brooke O'Shaughnessy,[46] the superintendant of the Electric Telegraph in India, pointed out the difficulties with the Red Sea Route, which he believed could "only be accomplished by enormous outlay" in not less than six to eight years.[47] He instead proposed a line from Karachi, on the coast of Scinde, to Basra, at the head of the Persian Gulf, and thence in the bed of the Tigris, with its terminus in the grounds of the British residency in Baghdad. From Baghdad, the line could extend either to Aleppo and Seleucia or Scanderoon (Iskenderun) on the Mediterranean, or Scutari, to meet lines then open to Constantinople.[48] He proposed to construct the whole line and complete it in three years from the date of commencement, either as the employee of the government, or the representative of a private company ready to undertake the task. He urged that the British government should warn the Ottoman

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[44] As early as 1845, John W. Brett proposed to Sir Robert Peel to carry out telegraphic communication to India via France, Sardinia, Malta, and Alexandria. Submarine telegraphy was at the time unknown to the public, and looked upon as impracticable. See John Brett to the Chairman, Deputy Chairman, and Court of Directors of the East India Company, 1st April, 1856, (copy), *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1*

[45] *Ibid.*

[46] While a physician in India, W. B. O'Shaughnessy (1809-1889) carried out experiments on submarine telegraphy, and invented an electric motor. Later, he played a leading role in the establishment of electric telegraphy in India. See Mel Gorman, "An Early Electric Motor in India", *Technology and Culture,* 1968, vol. 9, pp. 185-; Mel Gorman, "Sir William O'Shaughnessy, Lord Dalhousie, and the Establishment of the Telegraph System in India", *Technology and Culture,* 1971, vol. 12, pp. 581-601.

[47] W. B. O'Shaughnessy to Sir James C. Melvill, 28th April, 1856, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1*

[48] *Ibid.*

government to give no monopoly to any company, individual, or government for the construction of the whole line.[49]

After investigating the plans of Gisborne and Brett for telegraphic communication by the Red Sea, O'Shaughnessy concluded that their route was impracticable, because it required a huge expenditure to build and maintain. For instance, with respect to the proposed line by Francis Gisborne, the length of the Red Sea route was 3,430 miles and would require 6,860 tons of cables, given that a mile required a minimum two tons of cable. The Persian Gulf route was only 1,270 miles and needed 2,540 tons of cable, which would save 4,320 tons over the former route.[50] O'Shaughnessy preferred a submarine line from Karachi to Basra, by the Persian Gulf, and then the overland route to Istanbul -from Baghdad via Mosul, Diyarbekir, Sivas, Tokat, Amasia, to Scutari, completing the line to Europe by a cable across the Bosphorus to Istanbul. The road from Scutari to Mosul was geographically practicable and relatively safe.[51]

In June the same year, under the leadership of W. P. Andrew, the chairman of the Scinde and the proposed Euphrates Railway, *The European and Indian Junction Telegraph Company* was established in London originally with the view to connect the Mediterranean with the Persian Gulf by electric communication by the Euphrates route, thus completing the only remaining link between India and Britain.[52]

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[49] ibid.

[50] W. B. O'Shaughnessy to J. C. Melvill, the Secretary of the East India Company, 9th June, 1856, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1*

[51] *Ibid.*

[52] W. P. Andrew, *Memoir on the Euphrates Valley Route to India,* pp. 229-249.

THE

EUROPEAN AND INDIAN JUNCTION
TELEGRAPH COMPANY LIMITED.
(FROM SELEUCIA TO THE PERSIAN GULF.)

(Uniting the Lines of the English and Continental Telegraph Companies with the electric cable of the Honourable East India Company, from Kurrachee to the head of the Persian Gulf.)

Offices, Gresham House, Old Broad Street.

TO BE INCORPORATED BY ACT OF PARLIAMENT.

CAPITAL £200,000, IN 20,000 SHARES OF £10 EACH.

(*Deposit*, 10*s. per Share.*)

(WITH POWER TO INCREASE.)

The Directors feel assured of obtaining a Concession from the Ottoman Government, with the necessary powers and privileges. From the arrangements now in progress, a settled income may be expected on the Capital of the Company.

Chairman.

W. P. ANDREW, Esq. F.R.G.S.,
Chairman of the Euphrates Valley Railway and Scinde Railway Companies.

Directors.

WILLIAM AINSWORTH, Esq., F.G.S., & F.R.G.S., late Geologist and Mineralogist to the Euphrates Expedition.
PHILIP ANSTRUTHER, Esq., late Secretary to Government, Ceylon, and Deputy Chairman Ceylon Railway Company.
SIR FREDERICK L. ARTHUR, BART., Director of the Euphrates Valley Railway Company.
HARRY BORRADAILE, Esq., late Bombay Civil Service, and Director of the Euphrates Valley Railway Company.
SIR JAMES CARMICHAEL, BART., Chairman of the Submarine and Member of Council of the Mediterranean Telegraph Company.
GEORGE B. CARR, Esq., 5, Lawrence Pountney Place.
COLONEL A. COTTON, late Chief Engineer, Madras.
THE HONOURABLE J. CADWALLADER ERSKINE, Chairman of the London and Eastern Banking Corporation.
CAPT. H. B. LYNCH, C.B., I.N., late commanding on Euphrates and Tigris.
SIR JOHN MACNEILL, LL.D., F.R.S., Engineer-in-chief of the Euphrates Valley Railway Company.
SIR T. HERBERT MADDOCK, M.P., late Deputy Governor of Bengal, and Director of the Scinde Railway Company.
MAJOR J. A. MOORE, F.R.S., Ex-Director of the Honourable East India Company, and Director of the National Provincial Bank of England.
THOMAS WILLIAMS, Esq., Director of the Scinde, Euphrates Valley, and other Railway Companies.

Auditors.

LIEUT.-COL. H. B. HENDERSON, late Officiating Military Auditor-General, Bengal.
J. EDMUND ANDERDON, Esq., Director of the Bank of London.

Bankers.

MESSRS. GLYN, MILLS, & CO. | THE OTTOMAN BANK.

Solicitor. | Secretary.

J. A. M. PINNIGER, Esq. | L. W. RAEBURN, Esq.

[From W.P. Andrew, Memoir on the Euphrates Valley Route, 1857]

The other founding members included William Ainsworth, F.G.S and F.R.G.S, geologist and mineralogist, Sir James Carmichael, chairman of the Submarine and member of Council of the Mediterranean Telegraph Company, Sir John MacNeill, LLD, F.R.S, the celebrated railway engineer, and Major J. A Moore, F.R.S, Ex-Director of the East India Company.[53]

The company applied to the East India Company and British government "in concert with the Brett and other European telegraph companies" and submitted a proposal to "complete the telegraph communication between England and India", by forming a connection at Seleucia or Iskenderun with the Brett's submarine cable, which was then advanced to Cagliari in the Island of Sardinia, and carrying the electric wire via Aleppo and the Euphrates, to the head of the Persian Gulf, and thence by submarine cable to Karachi in Scinde.[54] The company also requested the court of the East India Company to allow O'Shaughnessy to be the Consulting Engineer to the company for laying down the wires which would unite the English and Indian systems. To this the East India Company raised no objections, and left O'Shaughnessy at liberty to enter into any engagement with private companies. Furthermore, it reported its readiness to undertake the construction of a telegraphic line between Karachi and the Turkish territory, provided that the communication between this country and Kurnah had been established.[55]

William Ainsworth, a British geographer who had extensive knowledge of Asia

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[53] For the details, see *Ibid.*

[54] W. P. Andrew to Sir James C. Melvill, 17th June, 1856, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1;* W. P. Andrew to the Earl Clarendon, 23rd June, 1856, *Ibid.*

[55] Sir James C. Melvill to W. P. Andrew, 10th July, 1856, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1;* W. P. Andrew to the Earl Clarendon, 23rd June, 1856, *Ibid.*

Minor, and other provinces of the Empire, reported that there existed no physical obstacles whatsoever to conveying an electric communication between the two points proposed. In January 1857 the British officials reported their willingness to enter into contract with the European and Indian Junction Company, and to obtain from the Ottoman government the authority for the execution of the line and whatever aid and protection may be necessary on the part of the Ottoman government.[56] The British officials then began negotiations with the Porte through its influential ambassador Stratford de Redcliffe and other agents in the Levant.[57] The East India Company had further sanctioned the project by allowing another two of its engineers, Captain Charles Douglas and Arthur Hawes, to be employed in the construction of the line.[58] O'Shaughnessy proposed a "flying line", (a quickly-built temporary line), from Seleucia to Kurnah, which could be strengthened and rendered permanent at leisure. This was a cheap and rapid way of constructing the lines. It was by this method that 4000 miles of telegraph lines were built in less than 18 months in India, first as "flying lines", and then converted into permanent ones.[59] The company was ready to start construction. By late July 1857 it had already dispatched a large quantity of telegraph stores to Baghdad.[60] However, primarily due to the active involvement of the French, some Ottoman officials opposed the British led-project. France feared that

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[56] Copy of Treasury Minute dated 19th January, 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

[57] The Treasury Chambers to Foreign Office, 21st March, 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

[58] J. C. Melvill to W. P. Andrew, 25th March, 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

[59] W. P. Andrew to Edmond Hammond, 2nd July 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

[60] W. P. Andrew to Edmond Hammond, 23rd July, 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

the British would monopolise the telegraph and use it to extend its sphere of influence in the Ottoman Empire. The Grand Vizier Ali Pasha, being one of the original promoters, was in favour of the British plan. The British company had also persuaded Resid Pasha, who was the head of the Tanzimat Council, which was responsible for reforms. As a result, the project had been recommended by the Tanzimat, and the concession had been granted for the term of 99 years from the date of the Imperial Firman.[61] However, when it was finally brought before the Council of Ministers, Fuad Pasha, "the most active of the French party", opposed the whole project. This induced the Ministers to reject the whole proposal.[62]

Apart from the involvement of the French, an important part of the objection was that the Porte was most anxious that terminus of the line should be Istanbul. Therefore, O'Shaughnessy urged the Board of the Directors to start the line from Istanbul to Baghdad, which he had originally proposed to the East India Company.[63] Hoping to gain the consent of the Porte, the company made another attempt by proposing to build the line from Istanbul to the Persian Gulf overland.[64] However, the subsequent applications to the Ottoman government for a new concession produced no result. The Ottoman government was becoming aware of the economic and political implications of such a project in the long run. Besides, French involvement proved the

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[61] Stratford de Redcliffe to the Earl Clarendon, 28th July and 12th August 1857; and also Staniforth to S. de Redcliffe, 11th August, 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

[62] S. de Redcliffe to the Earl Clarendon, Therapia, 22nd August, 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

[63] W. B. O'Shaughnessy to W. P. Andrew, 20th August, 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

[64] W. P. Andrew to the Secretary to the Treasury, 22nd August, 1857; W. P. Andrew to E. Hammond, 27th August, 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

importance of the line, which stimulated the Ottoman government to undertake the project by itself. As a result, they were becoming more and more "persistent in keeping the telegraphic communication towards India in their own hands".[65] The line from Constantinople overland passing through Asia Minor and Mesopotamia to Basra would link important Ottoman towns and provinces to the capital.

However, anxious of the technical and financial difficulties of the undertaking, the Ottoman government was desirous of British cooperation. Therefore, the Porte soon reported its readiness to initiate a convention with the British government for a co-operative effort to construct and operate the line.[66] Though reluctant to grant a concession to the company, the Porte agreed to employ British engineers, and whatever stock of materials and whatever workmen the company had engaged for the service. In addition, they proposed that the line should be worked by two wires; one to be retained by the Porte for its own communication, the other should be appropriated to the Anglo-Indian communication, as the financial benefits of such a line to Turkey was obvious.[67] It further proposed to extend the telegraph to Basra if the East India Company would bring the Indian line to meet it there.[68] Explaining the advantages of the new line, Ali Pasha especially pointed to its fulfilling the object of facilitating Britain's communications with her Asiatic possessions, and at the same time rendering an immense service to the province of the Empire through which it would pass.

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[65] S. de Redcliffe to Lord Clarendon, Therapia, 1st September, 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

[66] *Ibid.*

[67] Stratford de Redcliffe to the Earl Clarendon, 10th September, 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

[68] Stratford de Redcliffe to the Earl Clarendon, (Telegram), 10th September, 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

Besides, he believed the new project was more economical and technically easier to build and protect.[69] However, W. P. Andrew was disappointed by the Porte's decision, and stated that the construction of the telegraph by the Ottoman government would be:

> A work in which they would inevitably fail, as the Arabs to the eastward of the Euphrates are badly disposed towards the Turkish government.[70]

He further believed that:

> The condition of the resources of the Ottoman government is such as would preclude them from undertaking the construction of a line of telegraphy which can be comparatively of little service to that government either in a political or monetary point of view.[71]

Nevertheless, the British government sanctioned the Porte's undertaking the construction of the line. In addition, it proposed to unite it to a submarine line at Basra, and agreed in principle to pay the Ottoman government from the completion of the Turkish portion of the line an annual subsidy on account of British messages.[72] Following the British government, the East India Company also reported its willingness to take immediate steps for laying down the cable from Basra to Karachi.[73]

In the late autumn O'Shaughnessy visited Istanbul and met with Ali and Fuad Pashas on the subject of the telegraphic communication. His communications were in favour

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[69] Ali Pasha to Musurus Bey, the Ottoman Ambassador at London, 30th September, 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1;* "Correspondence respecting the Establishment of Line of Telegraph between Constantinople and Basra", *Parliamentary Papers,* 15th April, 1858, vol. LX, p. 180.

[70] W. P. Andrew to E. Hammond, 18th September, 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

[71] *Ibid.*

[72] Foreign Office to Stratford de Redcliffe, 14th September, 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

[73] James Melvill of the India House to the Secretary to the Indian Board, 24th September, 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

of British support for the Turkish overland line. This was followed by the Privy Council's suggestion that every facility should be afforded by the government to the line.[74] However, the British government were also at the time involved with the projects of Brett and Gisborne to connect India with Europe mostly by a submarine line. A concession for a line from Alexandria to India had been originally granted to Lionel Gisborne by the Ottoman government. However, it was made contingent upon the execution of the Istanbul to Alexandria line via the Dardanelles in April 1855, and it was amended in December, 1856.[75] Gisborne later transferred this concession to the Austrian government. In November, 1857, the British government informed the Porte that it had already made arrangements with the Austrian government for its Indian telegraphic communication by a line to Alexandria, and therefore it did not enter into any engagements with the Porte in regard to the proposed line from Constantinople to Basra.[76]

2.5 Constantinople to Basra: The Overland Telegraph to India

Though undertaking the project on its own account would certainly have benefited

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[74] Stratford de Redcliffe to Lord Clarendon, 28th October, 1857; the Office of Committee of Privy Council for Trade to the Earl of Shelburne, 26th November, 1857, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

[75] Lionel Gisborne to Lord Clarendon, (private and confidential), 28th January, 1858, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1;* also see R. S. Newall, *Observations on the Present Condition of Telegraphs in the Levant; with Special Reference to the Concession of the Line Between the Dardanelles and Alexandria, and to the Convention Between Austria and England with Regard to the Line Between Ragusa and Egypt,* London, 1860, pp. 1-30.

[76] "Memorandum on the Establishment of a Line of Telegraph to India via Basra" by I. Irwing, 3rd September, 1859, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

the Porte in the long run, they lacked technical knowledge of telegraphy, cables and a sufficient number of trained engineers to construct them. They had to rely on Western assistance. Britain was the best country to import such technical expertise and materials, since one of the most important objectives of the project was to serve the British and Indian telegraphic communication. The Ottoman authorities had also seen the operations of British engineers during the late war. The Ottoman government invited the agents and engineers of the former European and Indian Junction Telegraph Company to build the line. The British government was most keen on the Red Sea project for Indian communication. However, at the time marine telegraphic engineering was not yet in a state to allow a long distance cable communication. Technical problems needed to be solved.[77] In addition, the Indian mutiny of 1857 proved the importance of telegraphic communication with India, and the British were anxious to see the completion of the Ottoman line as an alternative for Indian communication.

After proposing its own line, the Ottoman government sent Mr. Stanniforth, the agent of the Indian Junction Telegraph Co., to London with instructions to purchase "the wire, instruments, and other necessary articles."[78] At the same time, M. Musurus, the Ottoman Ambassador in London, was instructed to select a distinguished British engineer to lay down the wire and also direct the works for the entire length of the proposed line. After his consultations with Clarendon, Musurus chose for the task

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[77] On the technical adaptation of submarine telegraphy, see Crosbie Smith and M. Norton Wise, *Energy and Empire: A Biographical Study of Lord Kelvin,* Cambridge & New York: Cambridge University Press, 1989, especially chapters 13 and 19.

[78] M. Musurus to the Earl of Clarendon, 27th January, 1858, in "Correspondence respecting the Establishment of Line of Telegraph between Constantinople and Basra", *Parliamentary Papers,* 15th April, 1858, vol. LX, p. 206.

Colonel Biddulph, the head of the Crimean Telegraphy during the war. In early 1858, the British government officially allowed Colonel Biddulph to be employed by the Ottoman government to assist in the construction of the telegraph.[79] As soon as Biddulph arrived in Istanbul, he was appointed as the Chief Engineer to the whole line by the Porte, and was put under the direction of Mehmet Efendi, the first General Director of the Ottoman Telegraph.[80] He was left free to employ whatever staff and men he needed for the construction of the line. The Ottoman government also obtained British permission for more telegraph officers and engineers, most of whom worked under Biddulph's direction during the construction of the Crimean telegraph, to enter the Ottoman telegraph service. The party included the engineers J. K. Holdsworth, C. Carthew, E. H. McCullum and J. Welsh from the Royal Artillery.[81] All were soon employed by the Ottoman government under the direction of Biddulph. When the work began in August, 1858, the number the British engineers, staff, and workmen working under Biddulph's instructions increased. Thus by October the same year, it reached about 16 construction engineers, linemen and surveyors. In addition there was a medical officer and an interpreter to the construction staff.[82]

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[78] *Ibid.*

[79] War Office to Foreign Office, 3rd February, 1858; Foreign Office to Colonel Biddulph, 8th February, 1858; Also, "Memorandum on the Establishment of a Line of Telegraph to India via Basra" by I. Irwing, 3rd September, 1859, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

[80] Mehmet Efendi, the General Director of the Ottoman Telegraphs, to Colonel Biddulph, Constantinople, 11th August, 1858, (in French): it contains the Sublime Porte's instructions concerning Colonel Biddulph's mission, in M. A. Lieut-Colonel Biddulph, *Report, Explanatory of a Map of the Telegraph Lines of the Ottoman Empire ... with an Appendix, Containing Correspondence and Papers Relating to the Line of Telegraph Between Constantinople and Basra,* London; Edward Stanford, 1860, p. 17; also for the Imperial Firman see Irade Hariciye Tasnifi, no. 8297/1, *The Ottoman Archives.*

[81] Colonel Biddulph to C. Alison, Chargé d'affaires, Constantinople, 25th May, 1858, Biddulph, *Report,* 1860.

[82] His team included J. K. Holdsworth as an Assistant Engineer, C. Carthew, J. Welsh and H. E. McCullum, two former telegraphists, and C. Dukes, as Superintendents of Construction, J. Irving, Chatfield, Lawrence, Colvin, Nial, Thomas Humbly and W. Carr, two civilian, as linemen, and A.

The construction of the line was divided into several sections. Most of the labourers were Ottoman subjects. But soon Biddulph's troubles with the local authorities over the project began. Biddulph had been accustomed to telegraph services in Europe, and knew very little about Ottoman society and power structure. He wanted to act independently of the local authorities and did not like their interference. The situation was agitated especially by the appointment of local telegraphists, the founder of Turkish code of the Morse system, Mustafa Efendi, as Chief of the Staff of Construction for the Izmit Section, and Remzi Efendi for the section from Sivas to the boundary of Baghdad province. This limited Biddulph's power over the construction of the line, where he wanted to exercise full control over the enterprise.[83] In his letter of complaint to the Grand Vizier, Ali Pasha, Biddulph wrote that:

> It is my firm belief that a good permanent line of Telegraph will never be constructed in connexion with the Telegraph Department of the Porte.[84]

The whole line was divided into three main sections: Istanbul to Sivas, Sivas to Baghdad, Baghdad to Basra. The necessary poles were arranged by the local authorities. About 75 miles of the line of the first section were completed before the winter of 1858-1859.[85] In winter most of the work on the line would stop because of bad weather. Ottoman telegraph authorities were critical of Biddulph particularly for his frequent leaves. By the following spring, the Ottoman government's dissatisfaction with the services of Biddulph increased to an intolerable level, as Biddulph was

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Ross and W. Turnbull as Surveyors. See *op. cit.*, Appendix no: 10.

[83] Colonel Biddulph to Mehmet Efendi, Constantinople, 14th August, 1858, *Ibid.*

[84] Colonel Biddulph to Ali Pasha, Constantinople, 14th August, 1858, *Ibid.*

[85] Sir H. C. Rawlinson, *Notes on the Direct Overland Telegraph from Constantinople to Karachi,* London: John Murray, 1861, A paper read at the meeting of the Royal Geographical Society at Burlington House, 10th June, 1861.

mostly absent from his work. Biddulph claimed this was due to his being "constantly and seriously ill".[86] However, nobody had seen that this was the case with him. In fact, the *Memoirs* of Lewis Gordon reveals that Biddulph had a love affair with a lady in Crimea, and very often travelled there during his employment by the Ottoman government.[87] When his one year contract ended, the Ottoman government was not disposed to continue Biddulph's services beyond the time specified.[88] By the time Biddulph was obliged to abandon his employment in the late spring of 1859, only a line of about 150 miles from Scutari, by Izmit to Terekli, had been completed.

Upon the recommendation of Henry Bulwer, the British ambassador at Constantinople, the Porte offered the Chief Engineer position for the line to Assistant Engineer, Lieutenant Holdsworth. Being an officer under Biddulph, he rejected the position.[89] He and some of other Biddulph's staff retired at the same time. But most British employees remained in the service of the Ottoman government to carry out the work. The engineers, C. Carthew and the brothers E. H. McCullum and H. E. McCullum, who were retired non-commissioned officers of the Royal Artillery, became the leading superintendents to the whole remaining line to Basra. C. Carthew was entrusted with construction of line between Mosul and Basra. He and his four assistants arrived at Baghdad in the summer of 1859 to construct the line.[90] The McCullum brothers,

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[86] Biddulph, *Report,* 1860, p. 9; Henry Bulwer to Lord John Russell, 30th May, 1860, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[87] Thomas Constable, *Memoir of Lewis D. B. Gordon, F.R.S.E,* Edinburgh, 1877, especially chapters V, VI, VII, VIII are full of letters and correspondence about Biddulph's love affairs with the Lady Karani.

[88] Henry Bulwer to Lord John Russell, 30th May, 1860, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[89] Sir Henry Bulwer to Lieut. Holdsworth, 13th March, 1859; Lieut. Holdsworth to Sir Henry Bulwer, 14th March, 1859, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[90] Major Kemball to the Secretary of State for Foreign Affairs, 20th July, 1859, Baghdad, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

on the other hand, engaged in the continuation of the line already commenced from Scutari.

The British government had capitulated and signed a fifty year contract with the Red Sea and India Telegraph Company to unite Britain with India. Between May 1859 and early 1860, R. S. Newall, the contractor, laid the cable. However, it could not operate for telegraphic communication, as by March 1860 five of the six sections of the whole cable had failed, primarily because cables were not thick and insulators were not strong enough to enable telegraphic communication. This failure, in addition to the failures of the Atlantic and Franco-Algerian lines, led the British to concentrate their efforts on the land lines, which proved to be more reliable. Thus in early 1860, the British government directed their attention to the Turkish line, not simply as "an alternative line", but as "the only immediately practicable means of telegraphic communication with India".[91] Sir H. C. Rawlinson in his speech at the Royal Geographical Society in the summer of 1861 stated that the overland route in "the present state of oceanic telegraphy" was the "only practicable direction", and urged the society to encourage the line by introducing it to the more general notice of the British public as one of the instances of the application of geographical science to the "practical wants of the age".[92] In addition, the Secretary of State for India urged the government to make arrangements with the Porte for financial assistance towards the completion of the line.[93] As a result, the British government signed with the

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[91] India Office to Foreign Office, 30th March, 1860, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[92] Sir H. C. Rawlinson, *Notes on the Direct Overland Telegraph from Constantinople to Karachi,* pp. 2, 17.

[93] India Office to Foreign Office, 3rd April, 1860, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

Ottoman government a draft convention, with a demand that Britain would have a separate wire for its Indian messages from the commencement of the Turkish telegraphic system on the Austrian frontier to Basra. The Porte was promised financial and technical assistance on the conditions that the whole line through Turkey would be properly constructed and permanently maintained as an integral part of a line to India.[94]

The line between Istanbul and Baghdad was largely complete and working order by the end of 1860.[95] About a month later Baghdad was in telegraphic communication with London. This was the nearest to India so far reached by international telegraphy. In the meantime, under the sanction of the Porte, Colonel A. B. Kemball, Consul General and Political Agent at Baghdad, was appointed by the British Secretary for India to inspect lines that were built and in progress in Turkey towards India.[96] Mr Greener, a professional telegraphic engineer, accompanied the mission.[97] The reports of their inspections on the lines, which were sent to the British Embassy at Constantinople and the India and Foreign Offices, helped the Ottoman Telegraph Department improve the conditions of the lines, and also to give a permanent working order to the already constructed ones.

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[94] Foreign Office to Sir Henry Bulwer, 5th April, 1860, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[95] British Consul General to Lord John Russell, 19th December, 1860, Baghdad, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[96] Foreign Office to Henry Bulwer, 5th December, 1860, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[97] F. J. Goldsmid, *Telegraph and Travel: A Narrative of the Formation and Development of Telegraphic Communication Between England and India, Under the Orders of Her Majesty's Government, with Incidental Notices of the Countries Traversed by the Lines,* London; Macmillan and Co., 1874, pp. 79-84.

Upon his arrival in Istanbul, Kemball at once began to inspect and obtain information on the condition of the telegraphic lines under construction between Constantinople and Baghdad.[98] In Istanbul he found the cable which connected Pera on the European side and Scutari on the Asian side as "much too small as well as not being in a good state".[99] This short submarine cable, laid down by Newall and Co., was frequently damaged by the anchors of vessels travelling in and out of the Golden Horn. After many repairs, it was abandoned for sometime, and during this period the telegrams from Europe to Asia and vice versa could only be passed across the Bosphorus by boat.[100] Kemball and his Assistant Engineer, Greener, proposed the Ottoman telegraph authorities the use of sufficiently strong cables for the purpose, which could be tried at the narrowest part of the straits.[101] Greener recommended that each station alongside the line to Baghdad should be fitted with Morse's instruments complete with machine, relay, galvanometer, and key; and with batteries suitable for hot climates.[102]

Kemball and Greener inspected the whole telegraph line and every station, mainly, Scutari, Izmit, Bolu, Angora(Ankara), Yozgat, Sivas, Kharpoot and Diyarbekir, as far as Mosul by early April, 1861. Though they found a number of faults in construction, the line between Scutari and Diyarbekir, about 800 miles long, was generally in a

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[98] Colonel Kemball's "Report on the Condition of Telegraphic Line Now Under Construction between Constantinople and Baghdad" to H. Bulwer, 22nd December, 1860, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[99] *Ibid.*

[100] F. J. Goldsmid, *Telegraph and Travel,* p. 80.

[101] See Colonel Kemball's "Report ..." to H. Bulwer, 22nd December, 1860.

[102] "Memoranda on Manipulation of Telegraph Between Constantinople and Baghdad" by Greener to Colonel Kemball, 24th December, 1860, Constantinople; Colonel Kemball to Henry Bulwer, 4th January, 1861, Constantinople, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

satisfactory state for telegraphic communication.[103] However, in the line between Diyarbekir and Mosul, they found, greater signs of haste and carelessness in construction, as well the employment of unsuitable material, including the use of poplar poles too thin for the purpose. All these, they believed, were due to the absence from the outset of a qualified and responsible superintendent.[104] Kemball's reports and suggestions on the improvement of the line were communicated to the Porte and the Telegraph Department by the British government, which urged the Ottoman government to adopt Kemball's recommendations.[105] The Director of the Ottoman Telegraph Department, Davud Efendi, was ready to cooperate with the British authorities for the improvement of the line. The Ottoman government proposed to secure the service of an efficient staff of British engineers for the remaining line, as soon as there was any prospect of communication being established with India by this route.[106]

The line between Mosul and the Persian Gulf at Fao was confronted with three main problems; the first was the question how to protect the section of line between Mosul and Baghdad, which was subject to possible attacks from the Bedouin tribes or "dwellers in tents". The second was on the problem of whether to lay down an aerial wire or subfluvial cable in the bed of the river Tigris between Baghdad and Basra. This was also partly related to the first question. The third was the dispute with the

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[103] See for a lengthy report by Kemball to Lord John Russell, 5th April, 1861, Mosul, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[104] *Ibid.*

[105] Foreign Office to India Office, 4th May, 1861; Henry Bulwer to Lord John Russell, 24th May, 1861, Constantinople, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[106] Davud Efendi to Ali Pasha, the Grand Vizier, 7th June, 1861; Henry Bulwer to Lord John Russell, 18th June, 1861, Constantinople, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

Persian government over the section of the line which would pass through Persian territory. The problem of how to protect the overland telegraph was one of the major concerns of the projectors. The Ottoman authorities possessed only little control over the Bedouin and Arab tribes living alongside the projected line from the east of Diyarbekir to Basra. Most of the attacks did not appear to be inspired by any religious factions or ideologies, but simply for economic reasons, and hostility of some of these tribes to the Ottoman rulers, as well the antagonism towards the telegraph.[107] For instance, there were reports that the "wire would be stripped of the telegraph to make heel-ropes for their horses."[108] The poles would be taken away for domestic use, such as fuel in the winter. They also made a mark of the porcelain insulators to fire at.[109] O'Shaughnessy, confronted with similar difficulties in India, and Ainsworth, had earlier suggested that some of the chief men of the involved tribes should be subsidised to protect the line of the telegraph.[110]

In these areas the British government was prepared to share with the Porte any additional expenses which might be requisite to maintain the security of the line.[111] The Porte intented to construct a subfluvial cable on the bed of the Tigris, primarily with the idea that this would make it less liable to interruption by the tribes along the line. De la More, a French telegraph engineer, was appointed to build the cable between

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[107] For detailed information on these tribes see F. J. Goldsmid, *Telegraph and Travel.*

[108] "Correspondence respecting the Establishment of Line of Telegraph between Constantinople and Basra", *Parliamentary Papers,* 15th April, 1858, vol. LX, p. 180.

[109] F. J. Goldsmid, *Telegraph and Travel,* p. 418.

[110] William Ainsworth to W. P. Andrew, 13th August, 1856, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

[111] H. Bulwer to Foreign Office, 28th February, 1861; India Office to E. Hammond, 4th March, 1861; H. Bulwer to Lord John Russell, 24th May, 1861, Constantinople, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

Baghdad and Basra.[112] Most British authorities, however, saw such a plan as more expensive in terms of construction and repair as well as not necessarily reducing the external dangers.[113] Patric Stewart, a talented British engineer in Bengal, who was at the time Assistant Superintendent of Indian Telegraphs, urged the authorities to prefer an overland line.[114] Finally, subfluvial line was abandoned, not only because of high cost but important technical problems, such as the need for stronger insulator than the ones were available.[115]

The failures of the submarine cables in the early 1860s, primarily due to the difficulty of maintaining insulation, made an overland from Baghdad through Persia towards India a principal option.[116] Some British engineers and officials were already involved in projects for the Persian section of such an overland telegraph, and the representations at the Persian governments by the British were increased by the end of 1861.[117] The following year Patric Stewart was sent to Persia on special duty in connection with the Persian portion of the proposed telegraph.[118] After his inspections, he reported against the practicability of the present line which might be

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[112] India Office to E. Hammond, 31st August, 1860, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[113] India Office to E. Hammond, 2nd June, 1860, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[114] See a copy of Patric Stewart's "on the comparative merits of an overland and subfluvial lines of telegraph between Baghdad and Basra", India Office to Foreign Office, 23rd August, 1860; Patric Stewart to the Under Secretary of State for India, 18th August, 1860, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[115] A. B. Kemball to H. J. Anderson (Chief Secretary of the Government of Bombay), 7th May, 1861, Baghdad, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[116] Sir H. C. Rawlinson, *Notes on the Direct Overland Telegraph from Constantinople to Karachi,* p. 9.

[117] India Office to E. Hammond, 26th September, 1861; Foreign Office to India Office, 28th September, 1861, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[118] Colonel P. Stewart to C. Alison, 17th June, 1862, Tehran, *FO78-1900: 1862-1865 European and Indian Junction Telegraph, vol. 3.*

continued through Persia to India overland. He instead suggested the Ottoman line should extended to the Persian Gulf, where it would meet the Indian submarine line. A separate line through Persia could be built later on.

It was only by late 1862 that the prospect of the Scutari-Basra line becoming a part of Indian telegraphic communication was certain. The British government made attempts to construct the remaining section of the line between Baghdad and Persian Gulf on its own account. However, the Ottoman government decided to undertake the project by itself as soon as it should be assured of a point of junction where the Indian cable was to be established.[119] Meantime, the government of Bombay formed the Indo-European Telegraph Department to construct a telegraph for the Indian government from Karachi, the country's most westernly town, to join the Turkish telegraph at Fao on the Persian Gulf. The British government assured the completion of the submarine cable by 1864.[120] This encouraged the Porte to speed up construction of the line. Ahmet Efendi, a Turkish engineer, and Carthew, were appointed as assistants to Colonel Kemball in the inspection of the country through which the telegraph was to pass between Baghdad and Basra.[121] By 1864 all arrangements requisite in Britain for extending the electric telegraph from Baghdad to India were complete, and the British government was ready to bind itself with the Porte with a temporary agreement for working of the line.[122]

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[119] Foreign Office to H. Bulwer, 18th November, 1862, *FO78-1900: 1862-1865 European and Indian Junction Telegraph, vol. 3.*

[120] *Ibid.*

[121] Ali Pasha to Mr. Erksine, 27th December, 1862, Constantinople, *FO78-1900: 1862-1865 European and Indian Junction Telegraph, vol. 3.*

[122] Erskine to the Earl Russell, 6th January, 1864, Constantinople; India Office to Foreign Office, 22nd April, 1864, *FO78-1900: 1862-1865 European and Indian Junction Telegraph, vol. 3.*

A draft convention had already been signed by Erskine, the British Chargé d'affaires at Istanbul, and Ali Pasha, the Ottoman Foreign Minister.[123] But it went through several changes. The British government attached great importance to the number of the British officers to work at Fao, and the employment of British clerks, or clerks acquainted with English in the telegraph stations between Istanbul and Baghdad.[124] In anticipation of the opening of the line, an official convention was signed by the Queen and Sultan in September, 1864.[125] The Ottoman government agreed to ensure that one wire of the main line from Istanbul to Fao should be exclusively devoted to Indo-European messages, and to employ at major stations along this line telegraphers who knew English. By late 1864, Patric Stuart reported that there was only one obstacle to the completion of telegraphic communication: the dispute between Turkey and Persia over about eighteen miles of their frontiers through which the line was to pass.[126] The British government made several attempts on behalf of both governments to reach an agreement. The dispute had caused a delay for nine months of the construction of the line in this area. Kemball suggested the area in dispute should be neutralised for the telegraph if the two governments were unable to come to an understanding for carrying the wire across their frontiers.[127]

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[123] See "A Draft Convention Signed by Mr. Erskine and Ali Pasha", no: 8709-71, 9th December, 1863; Foreign Office to India Office, 22nd March, 1864, *FO78-1900: 1862-1865 European and Indian Junction Telegraph, vol. 3.*

[124] India Office to Foreign Office, 2nd June, 1864; India Office to Foreign Office, 3rd June, 1864, *FO78-1900: 1862-1865 European and Indian Junction Telegraph, vol. 3.*

[125] See "Convention Between Her Majesty and the Sultan for the Establishment of Telegraphic Communication Between India and the Ottoman Territory, 3rd September, 1864, (ratifications exchanged at Constantinople, 31st October, 1864)", *Parliamentary Papers,* 1865, vol. LVII, p. 487-495.

[126] P. Stuart to Lord John Russell, 25th October, 1864,Therapia, *FO78-1900: 1862-1865 European and Indian Junction Telegraph, vol. 3.*

[127] Kemball to P. Stuart, 21st September, 1864, *FO78-1900: 1862-1865 European and Indian Junction Telegraph, vol. 3.*

In Istanbul Colonel Stuart met with Ottoman officials, and warned them that if the dispute continued, the British government might make use of the Russo-Persian line. That meant the Ottoman telegraph would lose its political and financial prospects.[128] By then the Russian line had been already completed by Tiflis, Tehran and Bushire. Indeed, this was politically very important to the Porte to keep the Russians out. The possibility of a Russian line extented to the Persian Gulf was a considerable impetus to the Porte's desire to complete the line as soon as possible. The British threat that the whole Indo-European traffic might be diverted from the Turkish to Russian line yielded the desired result over the dispute.[129] An agreement was signed between Ali Pasha and Mirza Khan, the Persian Minister.[130] Ali Pasha suggested the neutralisation of the intermediate ground by the erection of alternate iron and wooden posts, with the work to be done under the direction of Colonel Kemball at the joint expense of the Ottoman and Persian governments.[131] The remaining line was completed in less than a month. Finally, the Ottoman land line met with the Indo-European submarine lines in January, 1865, which marked the first telegraphic communication between India and Europe. Though the line was from time to time interrupted by storms, snow, avalanches, technical faults and misuse, it nevertheless functioned on the whole as a permanent line. The line provided both a model for future projects and stimulated the rapid expansion of a telegraphic network throughout the Ottoman

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[128] A General Memorandum delivered by P. Stuart to Ali Pasha, 19th October, 1864, Therapia, *FO78-1900: 1862-1865 European and Indian Junction Telegraph, vol. 3.*

[129] A Memorandum on the Cost of Indo-European Telegraph delivered by P. Stuart to Ali Pasha, 25th October, 1864, Therapia, *FO78-1900: 1862-1865 European and Indian Junction Telegraph, vol. 3.*

[130] W. Stuart to Foreign Office, 10th November, 1864, *FO78-1900: 1862-1865 European and Indian Junction Telegraph, vol. 3.*

[131] Colonel Stuart to John Russell, 1st November, 1864, Therapia, *FO78-1900: 1862-1865 European and Indian Junction Telegraph, vol. 3.*

Empire. Most importantly, it created a technological culture where Ottoman Turks learned about telegraphical engineering in the field, working with British and other engineers and telegraphers.

The construction of the line had lasted more than seven years. During this period, many British engineers, linemen, inspectors, and geologists worked on the line. The list included Biddulph and his team of around eighteen before his resignation, McCullum Brothers, Carthew, W. B. O'Shaughnessy, Colonel Kemball, Stuart Patric and many others. The section of the line between Baghdad and Persian Gulf was constructed with engineering and financial assistance from the British and Indian colonial government. Most workmen were Ottomans. After the completion of the line a number of British telegraph specialists were employed by the Ottoman government. In addition, the British were allowed to build an office at Fao, where as many as fifty British officers were to be employed.[132] Although an alternative Indo-European land line through Russia and Persia was also soon opened to telegraphic communication, the Istanbul and Fao line remained of great importance to the British at least until 1870's, when Britain was linked to India and her other possessions by more reliable submarine lines.

By the completion of the line in 1864, a local technical community with at least a fairly sufficient practical knowledge and skills of telegraphy was already established within the Telegraph Department of Ottoman Public Works, who extended the lines country wide. They included local specialists who learned mechanical skills at work from foreign experts, and a small number of individuals who had studied formerly in

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[132] See "Convention ...", *Parliamentary Papers,* vol. LVII, (1865), p. 487-495.

France. At the outset, Ottoman telegraph engineers and skilled men had been almost exclusively Europeans, mainly British and French. However, by 1870s there were a considerable number of indigenous technical men in telegraphy. The number of foreign employees gradually decreased. They were replaced by natives, who were educated in telegraphy. In 1861 the first state school, the Funun-i Telgrafiye Mektebi, the School of Telegraphic Science, was established with a two-year programme for technical education in telegraphy. A second such school was established six years later.[133] When more telegraphers were needed, Galatasaray Lycée, a lycée established on the French model after the Sultan's visit to Europe in 1867, and Darussafaka, an important secondary school for the orphan and poor, offered courses in telegraphy. Some Western experts, mostly French, taught practical and theoretical electrical telegraphy at these schools. Emile Lacoine, the French instructor, was the head of telegraphic science in the Foreign Ministry.[134]

Telegraphic materials, with exception of poles, were also exclusively imported from Europe, mostly from Britain and France for two decades of the first telegraphic system. Even the repair and maintenance of telegraphs were carried out by the foreign specialist in this early stage. However, by 1861, two Ottoman employees of the telegraph office in Varna, Mikael Efendi and Besim Efendi, were able to make working telegraph machines. Soon in Istanbul some repair shops were set up to work on telegraphs, in a similar way to watchmakers. In 1869 a repair shop was converted into a small factory which produced hundreds of machines within months.[135] By the late

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[133] On these schools and their programmes see A. Tanrikut, *Turkiye Posta ve Telegraf,* pp. 571-575

[134] *Ibid.,* p. 572

[135] Nesimi Yazici, "Osmanli Telegraf Fabrikasi", *Turk Dunya Arastirmalari,* vol. 22, (Subat 1983), pp. 70-81.

1870s, the factory was making a considerable number of telegraph machines that the Ottoman system needed. Its machines were exhibited in expositions at Vienna in 1884, Chicago in 1893, and Turin in 1911, and won prizes.[136]

Telegraphy was the first major Western technology which stimulated a considerable number of the Ottomans to study foreign languages, primarily French, since most telegraph employees, native or foreign, were required to speak French. English became an important language, as well. The convention of 1864 between the Ottoman and British governments entailed the employment of telegraphers with knowledge of English in major stations. The first directors of the Telegraph Department came predominantly from the Translation Chamber, which was established in 1820s, the only place the Ottoman Turks could master foreign languages at the time. Munif Pasha, the director of the telegraph commission, and the first directors of the Telegraph Department, such as Mehmet Efendi, Mustafa Efendi, Vulic Efendi and Mehmed Efendi were graduates of the Chamber.

2.6 Sultanic Messenger versus Satanic Messenger

The establishment of a telegraphic communication system in society as such was not only a matter of having skilled engineers and materials. The cooperation and support of the local governors, and especially the local peoples of the towns and villages to which wires would extend, was also essential. The telegraph was entirely new to

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136 A. Tanrikut, *Turkiye Posta ve Telegraf,* pp. 663-666.

them. There were many suspicions and superstitions about its nature. Asia Minor included a heterogeneous population, nomads, tribes with different races and religions. The Sultan's authority and sanction for the telegraph in such a traditional society was one of the most influential sources of its justification, at least for the majority of ordinary people countrywide. His association with the telegraph was used as propaganda to legitimise the telegraph. The Sultan was the owner of the first Ottoman telegraph message during the experimental trial by Professor Smith at Beylerbeyi Palace.[137] William Ainsworth suggested that the simple statement that electric telegraphy was used "to convey the messages of the Sultan" would protect it from all accidents and dangers from the locals.[138] Indeed, this was a rather witty and practical way for overcoming difficulties which might be encountered with the introduction of other Western inventions. Building telegraphic lines across the Empire, the British engineers, agents, and also the Ottoman officials and telegraph elite, besides explaining the nature of electric communication to the locals, were spreading this propaganda.[139]

Especially in areas with a settled population and established authority no substantial reaction to telegraphy was expected. The Ottoman government had already introduced legislation for the protection of the lines, which included heavy fines and imprisonment for damaging any line.[140] Besides, the Sultan's sanction, which

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[137] The Sultan Abdulmecid's message read "Has the French ship arrived? What news from Europe?". See A. Tanrikut, *Turkiye Posta ve Telegraf,* p. 536.

[138] William Ainsworth to W. P. Andrew, 13th August, 1856, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

[139] *Ibid.*

[140] A. Tanrikut, *Turkiye Posta and Telegraph,* pp. 583-4; N. Yazici, "Osmanli Telegraph Fabrikasi", p. 71.

presented the telegraph as an imperial design, functioned as a safeguard for the telegraph. Telegraphy was introduced in the name of the Sultan, and was associated with the extension of his power. Witnessing the extension of telegraphic lines to the eastern city of Diyarbekir, a local historian acknowledged that "all people watched the telegraph wires with great admiration, and prayed to the Sultan Abdulmecid wholeheartedly".[141] This propaganda worked well in the provinces where the Sultan's authority was firmly established.

However, in the distant parts of the Empire where the Sultan's control was weak there was serious hostility towards the lines and the telegraph institutions, which caused delays and interruption. This formed an important obstacle for building the telegraph particularly from Mosul to Basra, which was the subject of likely attacks from hostile tribes. This was one of the major concerns of the projectors of the line. The Ottoman authorities possessed little control over the Bedouin and Arab tribes living along side the projected line from the east of Diyarbekir to Basra. Most attacks and damage were caused by antagonism of locals towards the telegraph.[142] In such areas the safety of the lines could be obtained by a very trifling subsidy, to be paid as long as the wire remained intact. This was the cheapest kind of surveillance that could be obtained in the provinces in question.[143] In this way the tribes were made an interactive part of the system.

When in February 1861 a section of the line between Mosul and Baghdad was destroyed, Ismail Pasha, the governor Kerkuk, proposed to the Porte he should be

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141 A. Tanrikut, *Opt. cit.* p. 599.

142 F. J. Goldsmid, *Telegraph and Travel,* p. 80.

143 William Ainsworth to W. P. Andrew, 13th August, 1856, *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 1.*

allowed an irregular cavalry of 300 men for the special guardianship of the line.[144] However, Kemball, the British ambassador and agent in Baghdad, warned that the use of such a force might "render the telegraph a special object of attack".[145] Instead, he recommended the bestowal of a subsidy on the involved tribes as the most effective solution. This aimed at enlisting the tribes' interests in favour of the telegraph, and effectually would remove this source of danger. Ismail Pasha and Kemball agreed on a plan to furnish patrols from the tribes along the line, and in return they would receive a certain monthly payment as long as the line which passed by their camps and villages was kept safe.[146] In the early 1870s Goldsmid reported that the local tribes were beginning to be accustomed to the telegraph.[147]

Ottoman society was generally reluctant to learn and adopt Western learning and technology, which was perceived as satanic or of infidel character. Such views were often justified on religious grounds. However, its entry as a military tool most probably muted any important religious reactions against the introduction of telegraphy. There was no immediate threat to their power structure. Thus, during the construction of the Istanbul-Basra line, at least for the sections in Asia Minor, no religious or sectarian antipathy to the Ottoman telegraphs were reported. Goldsmid, who travelled alongside the Ottoman lines in the 1870s, observed "the friendly feeling towards the telegraph, amounting to appreciation of its value, in the towns possessing

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[144] Kemball to Lord John Russell, (identical dispatch to India Office and Henry Bulwer), 24th April, 1861, Kifri, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[145] *Ibid.*

[146] See "Proposition for maintaining the security of the telegraphic line in the Kerkuk district from the Zab Su to Kashka being 72 hours as concerted between Ismail Pasha and Colonel Kemball", by Kemball, 24th April, 1861, *FO78-1634: 1860-1861 European and Indian Junction Telegraph, vol. 2.*

[147] F. J. Goldsmid, *Telegraph and Travel,* p. 418.

stations".[148] The argument that the telegraph conveyed the Imperial will was also used against such arguments that it was of a satanic nature or infidel character. However, reactions against the establishment of telegraphy continued, especially by the provincial clergy, and became stronger when the Sultan and central power were weak. By the end of the century, the telegraph was no longer a mere military tool but was becoming a widely used public communication system. Thus, in the late nineteenth century opposition on religious grounds to telegraphy and other Western innovations alike became a bigger threat to the Ottoman Westernisation programme. For instance, in the 1890s Sir Charles Eliot wrote about the members of the clergy who seriously discussed how near to a mosque a telegraph wire could properly pass, seeing that it was "a means of conveying the voice of Satan from one place to another".[149]

Furthermore, some recently revealed texts which were written in the late nineteenth century by Ottoman provincial religious scholars condemned Western technological inventions including steamships, railways, electric telegraphy and factories for destroying God's Divine Law and thus spreading atheism.[150] With these Western inventions, they believed, "one attains one's goal easily without effort", and "if someone wishes to commit a sin in a far city, he can reach it quickly and do what he wishes".[151] In particular, the religious preachers and ordinary men found it difficult

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[148] F. J. Goldsmid, *Telegraph and Travel,* pp. 83-84.

[149] Charles Eliot, *Turkey in Europe,* London, 1900, p. 99. This is also quoted in R. H. Davison, *Essays,* p. 139.

[150] Rudolph Peters, "Religious Attitudes Towards Modernisation in the Ottoman Empire: A Nineteenth Century Pious Text on Steamships, Factories and the Telegraphy", *Die Welt des Islams,* vol. 26, (1986), pp. 75-105, (95).

[151] *Ibid.*

to comprehend the nature of electric communication. The opposition to its establishment was, thus, not only provoked by the general biased attitudes towards the West, but was partly originated from the new spatial implications which telegraphy entailed. According to the Divine Law, the mountains, hills, rivers and all other geographical barriers were there to maintain the peace and order among the villages, cities and nations. Without these barriers there would be disorder and ruin. With the telegraph these geographical barriers and distance became less important, which meant the Divine Law could not be maintained. Telegraphy could function as a tool for unbelievers and criminals. Furthermore, they believed that the telegraph, according to Divine Law, "can only furnish presumption and not certainty, and [therefore], it cannot serve as evidence for a legal verdict".[152]

However, religious reactions did not prevent electric communication becoming a most valuable political device for the centralisation of power and administrative structures in a vast empire. In days when there were neither railroads nor telegraphy, it was physically impossible for the Sultan and his Pashas to exercise effective control over the most distant provinces. After the completion of the Istanbul and Fao line, the Ottoman government extended the network of telegraphic communication to towns and far provinces throughout the Empire.[153] The telegraph remained largely an official machine for the Sultan and his pashas, though the public and merchants had some access. In 1874, an American missionary in Beirut wrote that the Ottomans had "a postal telegraph service, enabling the central power in Constantinople to move the whole empire like a machine."[154]

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[152] *Ibid.*

[153] *FO78-1420: 1856-1858 European and Indian Junction Telegraph, vol. 3.*

[154] H. H. Jessup, *Fifty-Three Years in Syria,* New York, 1900, vol. 2, p. 438.

Electric telegraphy was yet to become the most remarkable political tool during the long reign of the Sultan Abdul Hamid II (1876-1909), who ruled the Empire as a real autocrat for more than thirty years. Under his rule more than thirty thousand kilometres of lines were built, extending the system to remote corners of the empire.[155] The telegraph played a vital role in increasing the space and effectiveness of the Sultan's authority. In late nineteenth century Charles Eliot stated that:

> The present reign, ..., has witnessed a remarkable union of all the conditions required for real autocracy: an extension of the telegraph throughout the Empire; a prince who scorns delights, and is content to devote day and night to the examination of minutiae which most heads of departments would leave to their subordinates; and, lastly, an absence or elimination of all elements capable of withstanding the Imperial will.[156]

Even the Sultan's network of spies and secret agents throughout the Empire mostly depended on telegraphic communication. The Sultan was consciously trying to present the telegraph as a tool which served Islamic unity, especially when Damascus was connected to Mecca by a telegraphic line. This ideology served as the most useful propaganda for the justification of telegraphy. Later, the same propaganda was effectively at work for the Sultan's Hejaz railway project to keep the Empire united.

2.7 Conclusion

The introduction of Western telegraphic system to a non-Western environment, the post-Crimean Ottoman Empire, was relatively fast, once it had proved to be a

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155 N. Berkes, *The Development of Secularism in Turkey,* McGill, 1964, pp. 257.

156 Odysseus, *Turkey in Europe,* London: Arnold, 1900, p. 130

powerful military and imperial tool, which justified the new technology within the Ottoman cultural context. The telegraph was well suited to the Sultan's image and position in Ottoman society. Its presentation as an Imperial design and messenger provided effective propaganda both for its accommodation and extension of Sultan's power. Telegraphy was the source of a new geographical spatiality in the Ottoman culture. It diminished, to a great extent, the role of geographical distance and barriers in communication. It thus constructed a new representation of space: the Ottoman world became larger and more international. The authority of the Sultan and his government was consolidated. Above all, the Sultan's position and his relationship with his subjects and officials were transformed.

The establishment of Ottoman telegraphy involved the formation of a new operational environment and infrastructure for telegraphy, with its institutions, legislations and a technical community. In the early stage the transfer of telegraph technologies were simply a matter of the transfer of mechanical skills and hardware. Scientific knowledge of telegraphy was largely lacking, or inadequate. But telegraph engineers needed both practical skills and scientific knowledge of the system. The foundation of state telegraph schools and formal teaching of telegraphy in other established schools provided the main medium for the flow of scientific knowledge to the new technological environment. Text books for telegraphy were translated or written on Western models. Within a decade Ottoman telegraphy became a large technological system, and was well incorporated into the Ottoman political structure.

Chapter Three

THE EUPHRATES VALLEY RAILWAY: THE SHORTEST ROUTE TO INDIA

It seems designed by Providence, as the natural, as it is the most direct, highway for the intercommunication of the nations of the East with those of the West.[1]

Now that the Temple of Janus is closed for a season, let us stamp on Asia the impress of our genius and power: let us render the invasion of Asia Minor by Russia forever impossible, by throwing open to the world, by irresistible power of steam, the rich and forgotten plains of the Euphrates and Tigris -the once famed granaries of the East- and subduing to industry their wild inhabitants. This would be a greater triumph than the recapture of Kars, and at once a colossal and enduring monument of our science and enlightenment, as well as of our energy and might as a people.[2]

3.1 Introduction: "The Missing Link"

The establishment of railways in Turkey in Asia Minor was of primary importance to British imperial expansion eastwards, not only commercially, but also politically and strategically in communications with India and the East, Asia and Trans-Caucasia. Asia Minor, therefore, became a most attractive and key "junction" for direct British involvement and large enterprises in railway building, in addition to telegraphic communication.[3] This chapter discusses a vast British railway project to connect

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[1] W. P. Andrew to General Chesney and John MacNeill, 28th August, 1856, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[2] W. P. Andrew, *The Scinde Railway and its Relations to the Euphrates Valley and other Routes to India,* London: W. H. Allen & Co., 1856, p. 23.

[3] For a collection of papers on the importance of Turkish railways in Asia Minor for Britain, see *FO 424/2032, Papers Respecting the Construction of Turkish Railways in Asia Minor,* (Confidential and printed for the use of the Foreign Office), February, 1888; see also C. E. Austin, *Undeveloped Resources of Turkey in Asia, With Notes on the Railway to India,* London: William Ridgway, 1878, pp. 61-74, 115-123.

Europe with Asia and India by the Euphrates valley route through Asiatic Turkey. It was the shortest route to India. Because of its commercial and political advantages, the project found considerable support among the politicians and engineers in Britain. Since its involvement in India, the British desire to find a more rapid alternative route increased, as the travel by the sea route to India by the Cape of Good Hope would last months. The new developments in communication technologies, primarily in the applications of the steam engine and railways, resulted in the formation of grand scale projects by Victorian Britain and Napoleonic France in particular, such as trans-continental networks of communication and transportation systems.

By the mid-nineteenth century two alternative routes connecting the Mediterranean to the Persian Gulf and India attracted the attentions of the commercial and political world in Europe. One was the Euphrates, and the other, the Suez, for which a canal was needed. The findings of General Chesney's expeditions of the Euphrates and Tigris in the mid-1830's had led to the popularisation of the Euphrates route as the shortest route to India. The British, due to political and commercial advantages, became more interested in the Euphrates route, which would open up steam intercommunication between the West and the East. The Euphrates route came to be considered as the "Missing Link" in communication between Britain and India. It was also projected as the safest guarantee against Russian expansion in Central Asia, with the idea that the establishment of steam along the Euphrates would serve greatly "to counteract the designs of Russia" in the region.[4] The preservation of the Ottoman Empire and its alliance with Western Europe could only be consolidated by such a

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[4] W. P. Andrew, *Memoir on the Euphrates Valley Route to India with Official Correspondence,* H. Allen & Co.: London, 1857, p. 18.

communication system. In some quarters it became a rival project to the Suez Canal. The project was brought before both Houses of the British Parliament. The French opposed it fiercely until the opening of the Suez Canal in 1869. The Euphrates Valley Railway scheme, though never built, represents the heart of the British interest, and also illustrates how far politics was involved in establishing railways in Turkey.

3.2 The Super Highway Between Europe and Asia

The idea of constructing a railway from Europe through Asia Minor, Persia, and finally to India was first developed and projected in England by travellers, surveyors and tradesmen as early as the late 1830s.[5] The earliest consideration of a "Euphrates route" was related to a postal route to India. The term had been commonly in use, especially in the political correspondences between the Indian and British governments, since the early nineteenth century.[6] The route was almost exclusively used for the conveyance of mail-bags across the desert from Basrah to Aleppo and from Baghdad direct to Constantinople. It was later adapted to the use of travellers, and also to some extent, of merchandise.[7] However, the importance of the route as the most direct line of transit between the Mediterranean and the Persian Gulf, and as an alternative means of communication with India, began with the expeditions and

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[5] Among those travellers and surveyors in the 1850's were the respected members of the Royal Geographical Society, such as Sir Henry Rawlinson, A. H. Layard, W. Ainsworth, and Captain C. D. Campell. See W. P. Andrew, *Memoir on the Euphrates Valley Route to India,* pp. 124-126.

[6] *The Encyclopaedia Britannica; A Dictionary of Arts, Sciences, and General Literature,* Edinburgh, 1879, Ninth Edition, vol. 8, pp. 671-672.

[7] *The Railway News,* 6th August, 1864, p. 123.

exploration of the Euphrates by General Francis Rawdom Chesney, whose work introduced the idea of an overland route between India and Europe.[8]

General Chesney also became one of two most important promoters, the other being W. P. Andrew, of a railway projection alongside this route. The two men devoted most of their lives to the promotion of the Euphrates Railway in Britain, Europe and the Ottoman Empire. Together they played a very influential role in its popularisation and in bringing about its wider acceptance in both official and public circles. The construction of telegraphic communication and railway between Europe and India became their main occupation in the post-Crimean period. Chesney was originally sent to Constantinople in 1829 to render service to the Ottomans in their struggle with Russia. After finding the war was already over, he was then encouraged by Sir R. Gordon, British Ambassador at the Porte, to make a tour of inspection in Egypt and Syria.[9] From these journeys he returned with two very important observations. One was the Suez Canal, which he argued to be a feasible undertaking from an engineer's point of view, in spite of the adverse conclusions of Napoleon's surveyors. This report played a considerable role in M. de Lesseps undertaking of the Suez Canal project. He later styled Chesney "the father of the Suez Canal".[10]

The other was his exploration of the Euphrates Valley in 1831, which induced the British government to send out two subsequent expeditions to search for a shorter

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[8] For an autobiography and works of Francis Rawdom Chesney, see Stanley Lane-Poole (ed.), *The Life of General F. R. Chesney, by Wife and Daughter,* London, 1885; see also *DNB,* vol. 4, pp. 195-198.

[9] F. R. Chesney, *The Expedition for the Survey of the Rivers Euphrates and Tigris Carried on by Order of the British Government in the Years 1835, 1836, and 1837 (etc.),* London: Longmans, 1850, vol. 1, p. vii.

[10] *DNB,* vol. 4, p. 197.

route to India through Syria and the Persian Gulf. His report to the government urged by every means the adoption of the Euphrates route to India. Through influential connections, he managed to get a select committee appointed, which decided that the scheme of steam communication with India by way of the Euphrates deserved a careful trial.[11] After the sanction of the British government, Chesney was sent on a new expedition, which was to be commanded by himself, to prove his theory that the Euphrates was navigable from the point nearest to the bay of Antioch (Antakiya) down to its mouth.

In early 1835, with a company of thirteen officers and a small number of artillerymen, engineers, sappers, and miners, he set out on the expedition.[12] To demonstrate that the river was navigable, he began to transport two steamers from the Mediterranean to the Euphrates. After putting them together at Birecik in the north east of Aleppo, he attempted the descent of the river to the sea. One of these steamers was lost in a squall during the passage down the river, but the other performed the voyage safely, proving that the Euphrates was navigable for steam vessels through the entire course, from a point about 120 miles from the Mediterranean to the Persian Gulf. His reports helped the Euphrates route to become the centre of considerations as a new alternative route to India.[13]

From the British point of view, the importance of such a line was, firstly, due to the

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[11] See "The Report from the Select Committee on Steam Navigation to India", 14th July, 1834, *Parliamentary Papers*, Session, 1834.

[12] Chesney, *Expedition*, vol. 1, p. x.

[13] He prepared and in 1850 published two volumes, geographical and historical, of his *The Expedition for the Survey of the Rivers Euphrates and Tigris Carried on by Order of the British Government in the Years 1835, 1836, and 1837 (etc.)*, London: Longmans, 1850, 2 volumes. It became a very important reference and guide book in Britain for the two rivers and countries along them.

fact that once it was built it would form the shortest road to India. Secondly, it would connect Britain with eastern provinces of the Ottoman Empire, and beyond, such as Central Asia, Arabia and Persia. This was vital for British trade. Nevertheless, the British government did not take any initiatives to undertake a project for a rapid communication with India until the Crimean War, which gave considerable impetus to the search for an alternative route. During the war the transit of British goods to Persia and Syria via Trebizonde, (now Trabzon), on the Black Sea coast, faced obstacles arising from the war. This brought about an urgent need for an alternative route.[14]

A project of a railway line, either connecting the Mediterranean to the Persian Gulf by way of the Euphrates valley, or a line from Europe to India through Istanbul and Asia Minor, came to be discussed among the government and business circles in London. General Chesney, by then very influential both in London and at the Porte, welcomed such a project with the greatest enthusiasm. He stated the project as a "momentous" consideration and a "gigantic extension" of British trade. He recommended the establishment of a company to construct a railway from the Mediterranean to the upper Euphrates. This project should also embrace a direct line from Germany to Istanbul, then to Persia and India, partly by land and partly by water.[15] Spartali, an eminent Greek house in London with connections in Istanbul, referred to the route as "the most simple, the most natural and the least expensive" one, which

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[14] In his letter to the Earl of Clarendon, Mr Moore acknowledged that since the early 1850's some capitalists in London were considering the practicability of establishing a railway from Suedia to Birecik, on the Euphrates, by way of Aleppo. See Mr Moore to the Earl of Clarendon, Beyrout, 17th June 1854, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[15] Colonel Chesney to the Earl of Clarendon, 13th, 14th July, 1854, Colonel Chesney to the Earl of Clarendon, 7th Dec. 1854; see also for similar ideas and expressions, Mssr. Spartali of London to Colonel Chesney, 24th Nov. 1854, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

would "bring India within a short fortnight from England".[16]

In late 1855 a plan of uniting Europe with India by a line of railway communication continued through Asiatic Turkey was projected and submitted to the British government by R. M. Stephenson, who later became the chairman of the Ottoman Railway Company from Smyrna to Aidin.[17] By 1856 the European railway network had reached Belgrade, and the projects for constructing railways from Belgrade to Constantinople were on the way. The remainder was a line from Constantinople to Basrah and then to India. The Indian colonial government was among the ones who approved the project most favourably, and furthermore expressed its readiness to render assistance in the way of surveys and otherwise. G. F. Edmonstone, the Secretary to the India Office, stated that:

> such an undertaking, once completed, and reducing the distance between England and her dominions in India to little more than ten days' journey, would prove a vast national importance, and would be a great step in the progress of the world.[18]

However, no immediate steps were taken by the British government to put R. M. Stephenson's inter-continental railway project into practice.

In mid-1856 another project was put forward by W. P. Andrew, who was the successful originator of the great system of railways in the North-Western districts of India, the founder and chairman of Scinde Puncap and Delhi Railway Company , which was established in 1855.[19] Instead of a railway all the way from Europe to India, W.

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16 Mssr. Spartali of London to Colonel Chesney, 24th Nov. 1854, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

17 Mr. Edmonstone to R. M. Stephenson, 30th Jan, 1856, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

18 *Ibid.*

19 William Patric Andrew(1806-1887), born in Aberdeenshire, is founder of Scinde Puncap and Delhi Railway Co. in 1855, and its chairman until 1886. The great scheme of his life was the Eu-

P. Andrew proposed to construct a line of railway by way of the Euphrates valley route. He soon brought together a London based group, and formed a company, by the name of *The Euphrates Railway Company Limited,* "to connect the Mediterranean and the Persian Gulf by a railway from the ancient port of Seleucia by Antioch and Aleppo to Faber castle on the Euphrates".[20] Thereby steam communication would be established with all parts of India. W. P. Andrew himself became the chairman of the company. It included very influential men of various professions. General R. A. Chesney was naturally invited to take a prominent part in advocating this adaptation of his own scheme, with the position of the Consulting Engineer and Representative at the Porte. Sir John MacNeill, a leading Scottish railway engineer, became the Engineer in Chief.[21] William Ainsworth, the celebrated traveller, was attached to the company as geologist and mineralogist.[22] General Chesney and W. P. Andrew met in London several times in May in 1856 with Grand Vizier Ali Pasha, who was then on a official visit to Britain, and Musurus Pasha, the Ottoman Ambassador at London. They found both "were as favourable to the project as (they) could desire". Together they arranged the preliminaries and basis of a concession for this

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phrates Valley Railway, from 1856 to his death. He was called "the apostle of railways" and considered the British counterpart of de Lesseps. He was later knighted by patent in 1882, and became a member of C. I. E. and F.R.G.S. See *Dictionary of Modern English Biography,* vol. 4, p. 130.

[20] W. P. Andrew to the Earl of Shelburne, 26th Aug. 1856, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[21] John Benjamin MacNeill (1789-1880) was a leading "railway mania" engineer. He was a surveyor and was responsible for the construction of several railways in Scotland, and especially in Ireland. See Ben Marsden, "Enginering Science in Glasgow: W. J. M. Rankine and the Motive Power of Air", Ph.D Thesis, 1992, the University Of Kent at Canterbury, pp. 63-69; R. A. Buchanan, *The Engineers: A History of the Engineering Profession in Britain 1750-1914,* London, 1989, p. 167.

[22] The others included P. Anstruther, Sir Frederic Arthur, Harry Borradile, Barrow Ellis, Hon. J. C. Erksine, Captain B. K. Finnimore, Captain Lynch (of the Indian navy and a distinguished geographer), Sir Herbert Maddock, Major J. A. Moore, Thomas Williams. See W. P. Andrew, *Memoir on the Euphrates Valley Route,* p. 178.

purpose with the Grand Vizier, who also promised to use his influence at the Porte for the grant of the Imperial Firman if necessary.[23]

The project received the countenance and support of the Court of Directors of the East India Company, the cordial cooperation of Lord Stafford de Redcliffe, then the British Ambassador at Istanbul, of Lord Clarendon, then Secretary of State for Foreign Affairs and of Lord Palmerston, the prime minister.[24] The government sanctioned an expedition to examine the feasibility of such a railway. In April 1856, accompanied by John MacNeill and a staff of engineers, Chesney proceeded to Istanbul to prepare for the survey of the proposed railway.[25] Chesney, by a Resolution of the Board of the Euphrates Valley Railway Company, was appointed as Commissioner to Istanbul in company with John MacNeill, the Engineer in Chief, to represent the interests of the company at the Porte and to obtain the firman and concession.[26] At the same time John MacNeill was instructed by the chairman of the company to proceed to Syria, accompanied by a staff of engineers, to make a preliminary survey of the country between the Mediterranean and the Euphrates with a view to the selection of a port on the Mediterranean from which the railway should commence.[27] By December MacNeill had completed the preliminary survey of the first section of the proposed line, from Seleucia to Aleppo, and made a general

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[23] Major General Chesney to the Earl of Clarendon, 24th June, 1856, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[24] W. P. Andrew to the Under Secretary of State for Foreign Affairs, 4th Oct. 1866, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[25] General Chesney to the Earl of Clarendon, 11th April 1856, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[26] W. P. Andrew to General Chesney, 28th Aug. 1856, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[27] W. P. Andrew to John MacNeill, 28th Aug. 1856, vol. 1. *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

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examination of the country. MacNeill made a second complete survey in the following year. All his reports were generally positive, but acknowledged some engineering difficulty with the proposed harbour, near the mouth of Orintos on the Mediterranean.[28]

In Istanbul Chesney held several meetings at the Porte. The Council of the Tanzimat, that is, the council of the ministers headed by the Grand Vizier, sanctioned the plan, and proudly declared the proposed railway "the greatest and most beneficial project of the age", and that they would do their utmost to carry it into successful operation.[29] There were no important obstacles to undertaking the project technically. In June 1857, a deputation in favour of the British government granting pecuniary support to the project had an interview with Lord Palmerston. It included men of high position in all ranks and diverse political interests. Lord Stratford de Redcliffe, who held "the master-keys of Eastern policy", General Chesney, who was engaged in government surveys in the region of Euphrates, Sir Justin Shiel, the British Ambassador in Persia, Sir W. F. Williams of Kars, Sir Bartle Frere, the British Indian administrator, and John MacNeill were a few among a large party of influential men.[30] Their scheme was for the establishment of a railway line along the

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[28] *The Times,* 20th Nov. 1856; J. MacNeill presented his report on this first survey, with a second one in 1857, to the Select Committee of House of Commons of 1871-72 in details. In his survey he was accompanied by his son, Telford MacNeill, who also made report, especially on the calculations of length and time to India by the proposed railway. See the papers handed to the Select Committee, "Report of Select Committee on Railway Communication between Mediterranean, Black Sea, and Persian Gulf", *Parliamentary Papers,* vol. 7, pp. 501-590.

[29] General Chesney to W. P. Andrew, 17th Nov. 1856, Constantinople, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[30] See "The Euphrates and Indus Route to Centarl Asia" (Report of a Deputation to Lord Palmerston on the 22nd, 1857) in W. P. Andrew, *The Euphrates Valley Route to India: A Paper Read Before the British Association at Brighton, in August, 1872,* London: Wm. Allen & Co., 1873, pp. 39-45; *Morning Herald,* 23rd June, 1857; *The Railway News,* 6th August, 1864, p. 123; also see W. P. Andrew to the Under Secretary of State for Foreign Affairs, 4th Oct. 1866, *FO78/2254 Euphrates Valley Railway, 1869 to 1872, vol. 2.*

valley of the Euphrates, and the connection of Britain with the North-West frontier of India by a new overland route which would save 1,000 miles in distance and half of the time occupied in the journey.[31] Palmerston expressed cordial approbation for the project on the part of the government and promised any kind of moral support. However, he declined to pledge himself as to the imperial guarantee for the capital.[32] The pecuniary assistance proposed by W. P. Andrew was not granted by the government. This created financial problems for the project. The company could not find the money for the deposit needed to initiate the construction. In addition to financial problems, some rival companies mainly under French direction, were established to compete for the same concession or to prevent the present project being carried out, particularly by a British company alone. This move was supported by the French government and its political agents in Istanbul.

3.3 The Euphrates Railway versus the Suez Canal and the French Rivalry

France and Austria presented to the Porte alternative projects for opening communication between Europe and Central Asia through Turkey.[33] In early December 1856, the Porte announced that it had received another proposal for a concession to build all Turkish railways, but especially the Euphrates railway, for which no guarantee was required. It was a mixed company of French and English, but associated under

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31 On the distance and related survey, see the Letter from Captain W. B. Selby, the Surveyor in Mesopotamia, to W. P. Andrew, London, 12th June 1864, *On the Importance and Necessity of the Establishment of the Euphrates Route,* London: H. Allen & Co., (No date, perhaps 1864).

32 *Ibid.*

33 W. P. Andrew, *Memoir on the Euphrates Valley Route to India,* p. 5.

Map of Routes from EUROPE to UPPER INDIA AND CENTRAL ASIA.

VIA

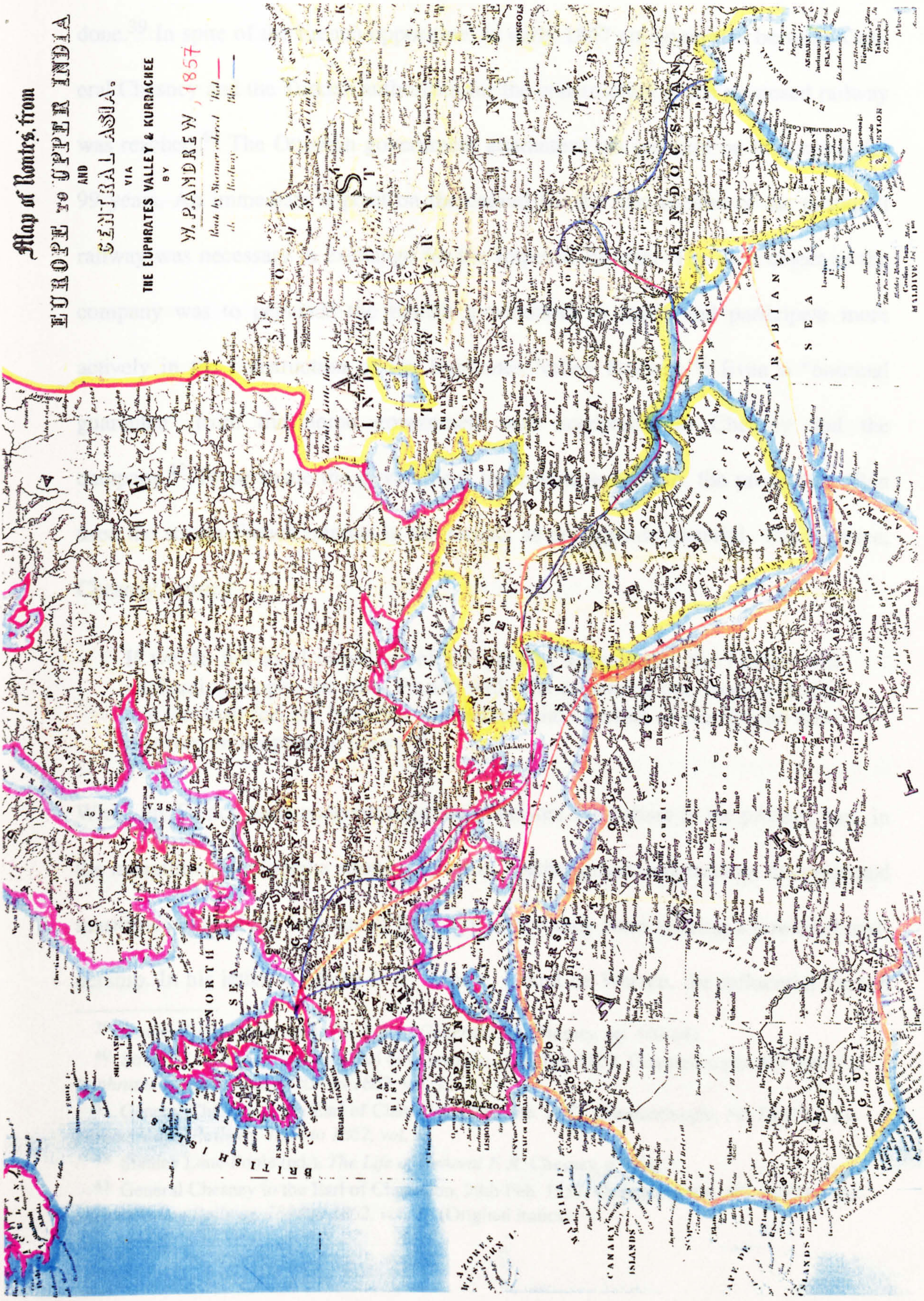
THE EUPHRATES VALLEY & KURRACHEE

BY

W. P. ANDREW, 1857

Route by Steamer colored Red —

do Railway Blue —



[From W.P, Andrew, Memoir on the Euphrates Valley Route, 1857]

they could upset the British project, and consequently nothing whatever would be done.[39] In spite of the French opposition, in early 1857 an agreement between General Chesney and the Turkish authorities for the construction of the proposed railway was reached.[40] The Ottoman government guaranteed six per cent on the capital for 99 years. An immediate deposit on the capital for the first section of the proposed railway was necessary in exchange for the Imperial Firman. The next object of the company was to persuade the British government to assist and participate more actively in the construction of the Euphrates Valley Railway.[41] Even a "nominal guarantee" from the home government was acceptable to Chesney and the company.[42] To persuade the government to provide assistance, the promoters often used the strong French interest in the project as propaganda material. For instance, Chesney warned:

> If we do not avail ourselves of the present opportunity, the French will enchantingly open the line. French will then command one route to India, and we shall feel ere long that the commercial interests of our Empire have received an irreparable injury.[43]

While the French were concentrating their pressure for a share in the project, they, in the meantime, developed a strong interest in another grand undertaking, the projected maritime canal of the Isthmus of Suez, for which they were seeking a powerful partnership. In his letter to Major J. A. Moore, Count de Warren, the influential French

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[39] Stanley Lane-Poole (ed.), *The Life of General F. R. Chesney,* pp. 440-441.

[40] Stratford de Redcliffe to the Earl of Clarendon, 12th Jan. 1857, Constantinople, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[41] General Chesney to the Earl of Clarendon, 28th Feb. 1857, Constantinople, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[42] Stanley Lane-Poole (ed.), *The Life of General F. R. Chesney,* p. 444.

[43] General Chesney to the Earl of Clarendon, 28th Feb. 1857, Constantinople, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.* (Original italics).

politician, explained that the French government contemplated with much favour the establishment of the Euphrates Valley Railway, but it took at the same time still greater interest in the Suez Canal project. He acknowledged that the French engineers were anxious that the companies, the Euphrates Valley Railway and the Suez Canal should unite in a joint international company, with "the object of uniting the endeavours and capital of Western Europe for the accomplishment of both undertakings at the same time".[44] He openly warned that unless the Euphrates Railway Company consented to this purpose of a union between the two companies, and the simultaneous achievement of both undertakings under a joint-direction, containing members belonging to several nations' interests in the matter, the French government "would make a most desperate and absolute opposition to any further concession" that the British might expect to obtain from the Porte.[45]

In mid-March Count de Warren published a long article, where he gave a detailed history and prospects of the project, and also outlined, again, the French opposition to this scheme being exclusively British. He strongly suggested the amalgamation of the two companies.[46] For Count de Warren, the Euphrates Valley Railway would not merely be confined to the conveyance of merchandise between Europe and the East, which could easily be defined, but it might serve as the bond of union between Persia and Europe.

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[44] Extract from a letter from Count de Warren, 5th March 1857, Paris, to Major J. A. Moore, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[45] *Ibid.*

[46] Count Edward de Warren, *European Interests in Railways in the Valley of Euphrates,* Translated from the *Revue Contemporaire* (March 15th, 1857) with Notes, London, 1857, (Reprinted from *the Morning Herald,* of March 30th, April 4th, 11th and 18th.)

> Viewed as a commercial speculation, as a financial operation, as a measure of general interest to the whole human race -for the relief of the miseries of Europe in particular, as assurance against famines and periodical deaths,- and as a social and sound *philanthropic* work, the undertaking of the Euphrates Valley Railway is one of the most noble conceptions of the present day.[47]

However, he foresaw a real danger in such a huge undertaking being exclusively British:

> There is not, then, one of those nations -not a continental power of Europe, but what is directly interested in protesting against the concession of the Euphrates Valley Railway, and for whom the concession may be an actual and present *danger, if the direction of this undertaking is confined to an administration exclusively English.*[48]

The worries of the French originated from the fact that the British position in the domination of the the most important highways between Europe and the East would be strengthened by the project. Moreover, in the long term the Ottoman Empire might be colonised by the British, like British India, and her monopoly of the railways would provide her with the best tool for this end. The character of the undertaking, would, however, be instantly changed, if placed under the "united administration of France and England". This might even include countries like Holland, Russia, and Austria. Count de Warren most willingly suggested the construction of *a great international company* to undertake the task. Under such an administration:

> ... like the war in the East [the Crimean War], the individual interest of each nation would be neutralised; there would be no fear, no surprise, no encroachment, no danger for Turkey, no uneasiness for Europe.[49]

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47 Count de Warren, pp. 20-28, 28.

48 *Ibid,* p. 29, (original italics).

49 *Ibid.*

He saw the best consequences in the conversion of the Company into an Anglo-French company, and the coalition of the two undertakings. The Suez Canal and the Euphrates Valley Railway would be mutually serviceable to each other. For such a company he proposed the title, *the International Company of Communication Between Europe and Asia,* which would be under the direction of the Turkish, British and French governments.[50] The central administration would be based in London, with offices established in Paris. Under the direction of such a company, Count de Warren pointed out:

> The Euphrates Valley Railway would become *only a great means of civilisation for Asia;* it would be the *resuscitation* of Turkey, whose agriculture and financial resources would be increased a hundredfold, order and harmony restored.[51]

From the French point of view such an important project should not be undertaken by Britain alone, which would form a *common danger* to Europe and other nations. France should either actively co-operate in this undertaking, and have an important share in its direction and superintendence, or it ought resolutely to oppose its construction.[52]

After the French offer became formal, the Euphrates Valley Railway Company officially asked the British government whether they objected to an amalgamation between their company and the Suez Canal Company.[53] Unwilling to commit itself to such a project, the government informed the Company:

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[50] *Ibid,* p. 30.

[51] *Ibid,* p. 29.

[52] *Ibid,* p. 31.

[53] W. P. Andrew to the Earl of Clarendon, 26th March, 1857, London, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

> Her Majesty's government can have nothing to do with any such pursuit and must decline to offer any opinion upon it.[54]

The French opposition was essentially political, and it was eased after the construction of the Suez Canal began by the French. The British government was opposed to the building of the Suez Canal, particularly by the French. However, there were some British politicians, who were critical of their government for throwing into the shade the Suez Canal project with prejudice and abandoning "Navigation Laws", which had been the source of the marine prosperity of Britain since George the Third.[55] The British objections originated from various grounds. One simple reason was on the ground that the canal would make it easier for a French fleet to sail through and attack British possessions in India. The canal would also separate Egypt and Turkey, while the British-Palmerstonian policy was to keep them united, particularly against a possible French invasion of Egypt.[56] Lord Palmerston was strongly opposed to the Suez Canal. However, the most important British objection came from Robert Stephenson, President of the Civil Institution of Engineers, and Member of Parliament. He declared the canal a technical impossibility on the ground that the canal must have no current, as he wrongly assumed that the Red Sea was higher than the Mediterranean.[57] To many British, the project was also of insignificant value commercially. Furthermore, national pride consolidated the British objection to the

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[54] Mr Hammond Esq. (From the Foreign Office) to W. P. Andrew, 6th April, 1857, London, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[55] See for instance, C. D. Griffith, M.P., *The Euphrates Railway and the Suez Canal,* London: J. E. Taylor, August 1857, pp. 4-7.

[56] *Ibid.,* p. 9.

[57] D. F. Bradshaw, "A Decade of the British Opposition to the Suez Canal Project, 1854-1864, *Transport History,* vol. 9, (1978), pp. 15-23; See also *Address of Robert Stephenson on His Election as President of the Institution of Civil Engineers Session 1855-56,* London: William Clowes & Sons, 1856.

canal. They were jealous of the French undertaking the project alone.

3.4 The Euphrates Question

Most concessions to foreigners in the Ottoman Empire were obtained largely through diplomatic channels or powerful families. Western concessionaires had often strong connections with their home government. French companies and their overseas operations were especially under the tied-control of the French government. Although the British overseas companies enjoyed considerable freedom, they had to consult and cooperate with the government in their politically and militarily oriented operations. Moreover, grand scale overseas projects entailed a strong political, and often financial, involvement of the home government. In the early years of its formation the Euphrates Valley Railway Company was desperately seeking stronger support for its project from the British government, and also from the East India Company.[58]

The company, after obtaining the concession from the Ottoman government, applied to the British government for further support, including a British government guarantee. For them the guarantees given by the Ottoman government were alone not sufficient, as the financial and political future of the country was uncertain. To this proposal for an additional guarantee for the undertaking from the British government, the Ottoman government reacted negatively. It considered such a step as tending to

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[58] See W. P. Andrew to the Earl of Shelburne, 5th Dec. 1856, London; also, General Chesney to W. P. Andrew, 17th Nov. 1856, Constantinople, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

violate the general principal according to which no foreign power can grant guarantees or any financial assistance for works undertaken in the territory of another power.[59]

However, though it was very enthusiastic and anxious to see a railway line connecting the Levant to the Persian Gulf, the British government rejected the company's proposal for an imperial guarantee. A frequent British government reply was:

> They are not prepared so far to change the course taken up to this time, by extending to the undertaking a government guarantee, which has been so often refused in respect to similar undertakings in the British colonies and at home.[60]

France pressurised the British government for not undertaking the project. Lord Palmerston, who had advocated the railway earlier, took a passive stand after his meeting with Louis Napoleon in 1858. He was tied by his French policy.[61] As the British government did not grant the necessary sanctions, the company did not raise and submit the deposit money required on the capital for the first section of the proposed railway, as well as the main capital itself until mid-1859. This meant failure to comply with the terms of the concession with regard to the deposit money. Therefore, the Ottoman government withdrew the original concession.[62] The chairman of the company, W. P. Andrew, blamed the Ottoman government for the impracticable conditions in the concession, such as the deposit on the main capital, and the refusal of

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[59] Musurus Pasha, the Ottoman Ambassador in London, to W. P. Andrew, 3rd September. 1857, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[60] The Treasury Chamber to E. Hammond Esq., 7th July, 1857, London, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[61] S. Lane-Poole (ed.), *The Life of Chesney,* p. 446.

[62] Mr. Musurus to W. P. Andrew, 20th May, 1859, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

the British government's co-operation, which would enable the necessary capital to be raised. The British government took a part of the blame for not providing stronger support.[63]

In his letter relating to the withdrawal of the concession, W. P. Andrew wrote to the Minister for Foreign Affairs that the establishment of communication by a railway along the route in question could never be accomplished by means of private enterprises and capital without the cordial cooperation of the British and Turkish governments, but if the needed assistance were granted, this project might at once proceed, with the all preliminary surveys and investigations made by John MacNeill and engineering staff of the Company.[64] He made a last attempt by requesting the newly appointed Minister for a reconsideration of the issue, but it yielded no positive results.[65] This was formally the end of the Euphrates Valley Railway Company established by W. P. Andrew in London. However, the project continued to receive increasing attention, and discussions and publications on the issue never ceased. The India Office was closely concerned with the project, which helped to popularise it among government circles.

General Chesney continued his efforts for the formation of a better environment for the implementation of the scheme. In his major *Memorandum* on the project in 1862, he was critical of the British government for its declining to offer any guarantee in

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[63] W. P. Andrew to Mr. Musurus, 25th May, 1859, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[64] W. P. Andrew to Lord Wodehouse, (For the information of Lord John Russell, the Minister for the Foreign Affairs), 23rd June, 1859, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[65] Lord John Russell to W. P. Andrew, 28th June, 1859, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

spite of their great interest in the proposed railway. Chesney and W. P. Andrew demanded stronger support from the British government.[66] In 1861-1862 the question of the Euphrates revived, particularly with the concession of the Jaffa to Jerusalem Railway. Furthermore, Lynch Brothers & Co., which had maintained steamers on the Tigris and between the Persian Gulf and Baghdad since the Expedition, was projecting a line to India by the Euphrates.[67] It also found a supporter in John Watson, the railway contractor, whose primary object was the construction of the Jaffa and Jerusalem line.[68] Furthermore, an international move by France, Lynch and others for building the Euphrates Railway was revealed. General Chesney, now seventy-three, visited Paris, Vienna and Istanbul, where he found the conditions most favourable. Back in London, he made a fresh attempt to secure the cooperation of Gladstone in the renewed Euphrates scheme, but in vain. He wrote: "Quite a damper to the railway by William Gladstone and Gurney declining to join it. I endeavoured to feel submissive though thrown back."[69] However, Chesney was encouraged by many others. General Sir A. Cotton wrote:

> I see nothing in the world to prevent the Euphrates line being worked. To the Turkish Empire it will be one of the greatest boons you can offer it. As for Arabs, one hundredth part of the money it would be worth our while to spend upon it would be beyond all their dreams, and would buy every man in the desert.[70]

The India Office was among the more favourable quarters. In their innumerable

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[66] See General Chesney's "Memorandum on the Euphrates Valley Railway", May 1862, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[67] S. Lane-Poole (ed.), *The Life of Chesney,* p. 452-453.

[68] *Ibid,* p. 456.

[69] *Ibid.,* p. 455.

[70] *Ibid.,* pp. 455-456.

communications to the Foreign Office they suggested that the project should be regarded with utmost favour and carried by the British rather than a foreign power for the interests of India. They strongly backed that provision of political support for the project. The British Ambassador should be properly instructed to facilitate his endeavours to obtain from the Turkish government a renewal of the concession made in 1857. Soon afterwards the Porte undertook to guarantee the payment of interest at the rate of 8 per cent per annum on the capital to be employed instead of 6 per cent as originally intended, and the British Ambassador in Constantinople considered the the renewal of the concession as a settled fact.[71] However, no important initiative was taken for several years.

But the project continued to occupy an important place in both the political and the commercial world. W. P. Andrew, even when the company was no longer in operation, concentrated his efforts to persuade the government, and especially the India Office of the political consequences of the proposed line and its importance for the British Empire. W. P. Andrew often presented the proposed railway as a great philanthropic work:

> Never in the past history of this country have we been afforded a more glorious opportunity of aiding the cause of peace and the spread of enlightenment throughout the world than that which is now presented to us in the proposal to open up by the *civilizing influences of steam,* the ancient highway of nations between the East and the West, by the route of the Euphrates.[72]

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[71] Henry Buchrer to the Earl Russell, 18th June 1862, Constantinople, *FO 78/1711, Euphrates Valley Railway, 1854 to 1862, vol. 1.*

[72] W. P. Andrew, *The Euphrates Valley Route to India: A Paper Read Before the British Association at Brighton, in August, 1872,* London: Wm. Allen & Co., 1873, p. 11, (My italics).

To publicise the project, General Chesney and W. P. Andrew published books, a significant number of articles, particularly in *the Times,* and wrote numerous letters to the government, mostly the Foreign and the India Offices, and influential people or companies. They insistently expressed the political importance of such a railway line for Britain and its eastern possessions. That the project was a guarantee against Russian expansion and French influence in the territories where it would be built was one of the strongest arguments for a more active British involvement. Besides, due to its scope and political orientation, the railway was beyond the work of a private company. W. P. Andrew declared:

> The proposed undertaking, important as it is on industrial and commercial considerations, is infinitely more so on account of its extraordinary political advantages, and it cannot, therefore, be considered to be fairly within the scope of private enterprise.[73]

As it would be the shortest steam communication to Asia, it was of crucial importance to India from a British perspective. A popular expectation was, therefore, that such a railway would secure "the peaceable possession of India".[74] The line would also secure the British interest in Central Asia and Persia against Russian expansion, as Russian roads and railways were advancing towards Persia.[75]

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[73] W. P. Andrew to the Under Secretary of State for Foreign Affairs, 4th October 1866, *FO78/2254 Euphrates Valley Railway, 1869 to 1872, vol. 2.*

[74] *Ibid.*

[75] W. P. Andrew to the Secretary of State for India, 18th Dec. 1867, *FO78/2254 Euphrates Valley Railway, 1869 to 1872, vol. 2.*

3.5 The British Select Committee on the Euphrates Railway

When opened in 1869, the Suez Canal provided the shortest maritime route between Europe and the Indian and Western oceans. Despite British doubts about its commercial prospects, it soon became one of the the world's most heavily used shipping lanes. Although, this did not lead to a total exclusion of the Euphrates Valley Railway, it diminished, to a large extent, the commercial and political importance attached to the Euphrates route in Britain. The Euphrates Railway project, nevertheless, continued to be considered as an alternative route to India. Moreover, the opening of the Suez Canal stimulated British jealousy against the French success and, therefore, led to the revival the British project of the railway to India. W. P. Andrew's Euphrates project received much wider attention from the public, commercial and official circles in Britain.

In 1870 the British government made a preliminary proposal to the Ottoman government to build a railway from Allexandrette to Aleppo, and from Aleppo to Baghdad and Basrah, at the head of the Persian Gulf, construction of which was to be under the direction and working of a mixed committee to be appointed jointly by the British and the Turkish governments.[76] The British government made this offer upon certain conditions. Firstly, it demanded that the Ottoman government guarantee to Britain the privilege of the conveyance of troops at all times by the railway to and from this country and any of her Eastern possessions.[77] Secondly, the transport of all British

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[76] Sir George Jenkinson to Mr Musurus, the Ottoman Ambassador, 16th February, 1870, *FO78/2254 Euphrates Valley Railway, 1869 to 1872, vol. 2.*

[77] *Ibid.*

mail to and from Britain would be free of charge at all times by the proposed railway. Thirdly, the funds were to be raised by means of an Ottoman loan, the interest of which was to be counter-guaranteed by Britain at the rate four per cent per annum. Fourthly, the proceeds of such a loan, when raised, would be deposited in the Bank of England, in the name of a mixed committee for the construction of the railway. All the lands necessary for the railway were to be provided by the Ottoman government.[78] Shortly afterwards the Ottoman government declared that it would accept and undertake to carry out all the conditions put forward by the British government for the proposed railway.[79]

This was a new beginning for the Euphrates Railway, as it raised the hopes of its projectors that the construction would start soon. The British government and public increasingly favoured the scheme. In July 1871 a Select Committee of the House of Commons was appointed "to examine and report upon the whole subject of railway communication between the Mediterranean, the Black Sea and the Persian Gulf".[80] The committee was presided over by Sir Stratford Northcote. For the use of this Committee, all the British consuls, either from the locality of their presence or from having served in parts of Turkey which would be on or near to the proposed line of communication with India through Turkey, were asked to report on the subject and forward to the Foreign Office by February 1872.[81] Soon the Foreign Office began to

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[78] For a detailed description of conditions of this British official proposal, see Sir George Jenkinson to Mr. Musurus, the Ottoman Ambassador, 16th February, 1870, *FO78/2254 Euphrates Valley Railway, 1869 to 1872, vol. 2.*

[79] Mr Musurus to Sir George Jenkinson, 12th March, 1870, *FO78/2254 Euphrates Valley Railway, 1869 to 1872, vol. 2.*

[80] "Report from the Select Committee on Euphrates Valley Railway, together with the Proceedings of the Committee", Minutes of evidence, appendix, and index., 27th July, 1871., *Parliamentary Papers,* 1871, vol. 7, pp. 501-590.

[81] From the Foreign Office to Her Majesty's Counsul at (Circular), 25th August, 1871,

receive a considerable number of reports, most of them including detailed information about the possible consequences of the proposed lines and their extensions. These were mostly in favour of the project.[82]

The engineering side of the proposed line was examined and assessed by the engineers and surveyors of the Euphrates Railway Company headed by J. MacNeill in 1856 and 1857. MacNeill presented the extensive findings and reports to the Select Committee. According to his reports, from the engineering point of view, the project presented no difficulty and could be executed with "perfect ease and perfect certainty".[83] The line could be worked by locomotive engine. Furthermore, he reported that the previous engineering difficulties were no longer applicable due to advancing knowledge of railway engineering in the 1870's. On the question of whether the ordinary gauge of English railways or a narrower one was to be used, MacNeill suggested the latter for the Euphrates Railway, a 3 feet gauge to the 4 feet 8.5 inches gauge. The safe speed of a 3 feet gauge railway then was 36 miles per hour.[84] The proposed gauge was the most economical. With this railway, J. MacNeill and his son, Telford MacNeill, calculated that the distance between London and Kurrachee would be by seven to eight days shorter, in comparison to a journey by a steamer via the Suez Canal, and London-Bombay by two days and nine hours.[85] The

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FO78/2254 Euphrates Valley Railway, 1869 to 1872, vol. 2.

[82] Most of these reports are compiled in the PRO's *FO78/2254 Euphrates Valley Railway, 1869 to 1872, vol. 2.*

[83] See MacNeill's papers and reports in "Report of Select Committee on Railway Communication between Mediterranean, Black Sea, and Persian Gulf; with proceedings, Evidence, Appendix, and Index", *Parliamentary Papers,* 1871, vol. 7, pp. 501-590.

[84] The safe speed of a 4 feet 8 was 56 miles, and 63 miles per hour for a 5 feet 3 inches gauge, as in Ireland, which was projected and implemented by J. MacNeill. See *Ibid.*

[85] *Ibid.*

whole distance of the line was 992 miles. A telegraph line was proposed from end to end, from one station to another. With four or five contractors the whole line might be completed within four or five years.[86] There were large numbers of papers and reports from geologists, geographers, politicians, British military and commercial agents in the East. They all supported the building of the proposed railway.

In July 1872 the Select Committee of the House of Commons made their report, in which they were generally in favour of the line. The committee acknowledged that there was no "insuperable obstacle" in the way of the construction of a railway from some suitable port on the Mediterranean to some other suitable port at or near the head of the Persian Gulf. It decided that there was no probability of the whole line being constructed by unassisted private enterprise.[87] The expense of a railway along the shortest route between the two seas was estimated to be around ten million sterling. There were three principal advantages to be gained from such a line. Firstly, it would mean the more rapid transmission of the mail between Britain and India. Secondly, it would mean the possession of an alternative and more rapid route for the conveyance of troops, and thirdly, there would be a great extension of commerce after the opening of the line. However, on the question of how this capital was to be obtained, the committee did not venture a recommendation. The report did not include a clear plan how to finance the project. It simply suggested the cooperative support of the two governments to raise the necessary funds.[88]

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[86] *Ibid.*

[87] See "Report of Select Committee on Railway Communication between Mediterranean, Black Sea, and Persian Gulf; with proceedings, Evidence, Appendix, and Index", *Parliamentary Papers*, 1872, vol. 9, pp. 171-414; also, "Memorandum: Respect to the Euphrates Valley Railway Scheme" by E. Camlet, 24th June, 1882, *FO78/3864 Euphrates Valley Railway 1882-1885, vol. 3.*

[88] *Ibid.*

However, no guarantees and money were promised. Indeed, there were some important objections to pecuniary assistance. Such a typical response came from General Sir Henry Rawlinson and his group. They claimed the project would be of considerable, but not paramount, importance to the interests of India, particularly after deriving great advantages from the opening of the Suez Canal.[89] Furthermore, this route entailed transshipment, unlike the Suez Canal and Cape of Good Hope, which ran without any risk in transshipment, and this would raise the cost of the transport of goods by the Euphrates route. Since they did not consider the project to be of vital importance, Rawlinson's group declared that they were "decidedly averse to any promise of pecuniary assistance being made."[90] Without a state guarantee no single company would take such a big financial risk to undertake the project. Thus, the whole scheme fell through. Nevertheless, it was never given up entirely. In Britain many articles were written, books published, and meetings held, strongly advocating the construction of the Euphrates Valley Railway, until the construction of the Baghdad railway by the Germans.

3.6 Conclusion

The Euphrates Railway, engineered in London by W. P. Andrew as the Chairman, with General Chesney as the Consulting engineer and John MacNeill, the Engineer in Chief, was a very large "imperial" project. It was well within the capacity of

89 *Ibid.*
90 *Ibid.*

contemporary railway building engineering and technically almost everything was ready for its construction. However, establishing a large technological system is not a technical matter alone. It also involves a problem of building political, financial and social environments. The Euphrates Railway was beyond the scope of private enterprise, and could not be accomplished without British imperial guarantee and financial help. It was a highly politically oriented project in its consequences. The Ottoman environment did not provide all the attractions for Western investors and system builders. Its political and financial structure was becoming increasingly dependent on European powers. For European and British capitalists, the Ottoman guarantees were not alone sufficient and safe for such a project. Therefore, they were reluctant to invest money, without a state assurance, in the Ottoman Empire, which was referred to as the *Sick Man Of Europe.* Most Europeans believed that its immediate collapse was underway. *The Bombay Times* expressed surprise and negative reaction to the fact that it was not the security of the British but of the Turkish government that shareholders had to rely on, and that the Porte, who guaranteed six per cent for 99 years:

> He must be a bold politician who, after what has just occurred, would venture to claim for the Turkish power an existence of half this duration, and if, in place of 99, we assumed nine as the extreme limit of the existence of an antiquated and effete empire.[91]

Thus, investing a sum of ten or twenty million on such a project was to throw away it on "wild-goose adventures".[92]

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[91] The paper wrote that "when the Euphrates Railway Company talked of the certainty of a guarantee the world received the assurance in the customary sense of a guarantee from the East India Company". See "Euphrates Railway", From *Bombay Times, The Times,* 2nd December, 1856.

[92] *Ibid.*

The capitalists or investors looked for extra and safer guarantees. Therefore, General Chesney and W. P. Andrew made every effort to persuade the British government to provide guarantees and financial support for the undertaking. The British government supported the British scheme at the Sublime Porte, particularly against the rival companies. However, it never committed itself to provide any of the government guarantees and financial assistance needed. The parliamentary debates, and the Select Committee of House of Commons of 1871-1872 did not lead to any practical change in the government's policy towards the railway. It became less attractive to the British, at least commercially, especially after they gained a firm control in the Suez Canal, buying most shares of the company from the Khedive of Egypt in 1875. Furthermore, the French influence in the East was loosened due to its defeat in the Franco-Prussian War in 1870. Finally, Egypt was occupied by the British in 1882, and the communication with India became safer, no matter that it was not the shortest route. So, retaining its strong hold on the Egyptian line, the British government was far from embarking on so costly an undertaking merely for its possible political advantages.

By 1880, then, the Euphrates Valley Railway was no longer a politically or commercially viable project for the British interest in the East. Most importantly Palmerstonian traditional policy of the preservation of the Ottoman Empire was abandoned. In addition, the new liberal policy led by Gladstone was against the Ottoman Empire. Gladstone's Crusade against Turkey was seen to be a major obstacle from the mid-1870's to the British support for the Euphrates Railway and other industrial projects in Turkey.[93] The weakening position of the Ottoman Empire in the political and

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[93] On Gladstone's crusade against Turkey, see, for instance, Captain Pim Bedford, *Address to*

financial world played a major negative role. The *Encyclopaedia Britannica* stated in 1879 that there was no reasonable prospect of such a scheme being resumed under native auspices, as Asiatic Turkey threatened to become yearly more hopelessly disorganised:

> It is only, indeed, in the possible event of the Tigris and Euphrates valleys falling into the hands of a European power that we can look with any hope to the construction of railways, or the scientific embankment of the rivers, or the excavation of canals, or any of those measures of internal improvement which, however, if executed with care and skill, would soon restore these now desolate regions to their former exceptional condition of populousness, wealth, and general prosperity.[94]

Thus, a gigantic imperial project, the Euphrates Valley Railway, remained only a momentous consideration. But it, nevertheless, became the foundation of the future Baghdad Railway. Referring to the concession of the Baghdad Railway by the Deutsche Bank in 1902, *The Times* stated that:

> the long story of the brilliant inception which distinguish the part taken by Great Britain, at intervals during a period of upwards of sixty years in endeavouring to inaugurate a system of direct land communication between Europe and the seas of the Southern Persia.[95]

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the Working Men of Scotland on the "Position of Turkish Affairs", London, 1878.

[94] H. C. R., "Euphrates", *The Encyclopaedia Britannica: A Dictionary of Arts, Sciences and General Literature,* Edinburgh, 1879, Ninth Edition, vol. 8, pp. 668-672, (672).

[95] *The Times,* 24th January, 1902; For similar link, Sir Thomas Sanderson, "Memorandum on the Baghdad Railway", 23rd Feb. 1903, and also printed for the use of the Foreign Office, 14th April 1903, (Confidential), *FO78/5322 Asia Minor and Baghdad Railways, 1903, vol. 3.*

Chapter Four

THE SMYRNA-AIDIN RAILWAY: EXPERIMENTAL LINE IN ASIA MINOR

> These works [railway] will do more to impress the people of the country with superior resources of Europeans than anything else. Already they begin to acknowledge this, and lament their want of instruction; they feel their natural capacity and quick perception, and wish only for the opportunity of educating these qualities. At every step which the railway proceeds their minds will be opened more and more, so that without hyperbole one might say that railways in Turkey will be like the furrows of the plough of Triptolemus opening the road to civilisation.[1]

> Soon the prejudice which the first suggestion of its construction excited amongst the Mohammedan population subsided, and the doubts of its practicability which followed disappeared with the first whistle of the engine.[2]

4.1 Introduction

I have already stated in the previous chapter that the British saw the establishment of railways in Turkey in Asia Minor as vitally important to their political, military and commercial interests in the East. Turkey occupied an exceptional position on trade routes between Europe on the one hand and Egypt, Iraq, Iran, and even central Asia, on the other. Therefore, at the outset, building of railways in Turkey was primarily a British concern. While public and official debates over the Euphrates Railway project continued, British entrepreneurs projected plans to build small scale railway systems in the region, particularly in the areas of rich agricultural products and valuable raw materials. Most of these small railway systems were originally proposed as profit

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1 *The Times*, 6th April, 1858.

2 *The Illustrated London News*, 20th November, 1858, pp. 511-512.

oriented rather than as big political and imperial projects. Investors and builders made sure that these railways would return their money. British and other European capitalists aimed at connecting by a system of railways rich towns in the interior with major seaports, where shipping allowed communication overseas.

In Turkey the projected lines included the Smyrna to Aidin and Cassaba on the Agean Sea; the Mudanya to Brussa, and the Scutari and Ismid on the Sea of Marmara; Trebizonde, Samsun, Sinope and Kustenje on the Black Sea, and Mersina and Adana on the Mediterranean.[3] In this chapter, I will confine myself primarily to the British efforts to establish and "pioneer" the construction of railways in the Ottoman Empire in Asia. The railway building in European Turkey will be outside the scope of this study. I will particularly concentrate on the first railway construction in Asiatic Turkey, the Smyrna to Aidin Railway. The system builders presented the undertaking as an "experimental line" and a model commercial enterprise in Turkey. Its perceived success would be used in future schemes as a strong rhetorical device. The line was constructed exclusively by British engineers and management, and only British material was employed.

Within two decades after the first "railway mania" in 1830 in Britain, when steam locomotive trains were first run, railways became the most important symbol of industrial, economic and political power in Europe. As a large technological system, the railway entailed large systems of subsequent industrial innovations. The visual impact of the railway on the public image was very great and immediate.[4] It often

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[3] On the proposed railways in Turkey by European capitalists, see C. E. Austin, *Undeveloped Resources of Turkey in Asia, With Notes on the Railway to India,* London: William Ridgway, 1878, pp. 61-74.

[4] For a recent study of the image and impact of railways, see Nicholas Faith, *The World the Railways Made* London: The Bodley Head, 1990.

represented imperial power and authority. For a vast empire, railway was an essential tool for the central administration, as it connected the peripheral provinces to the centre with a network of rapid communication. Railways were seen to be the key to modernisation, progress and economic development, as they helped to create a new economic wealth, and opened new channels for manpower.[5]

After a rapid construction period, the major network of railways was largely complete in Britain by the mid-nineteenth century.[6] Then British railway engineers and investors turned their attention abroad: first, to Western Europe where the completion of major networks of railways was already underway, and the USA, where the construction of railways was rapidly growing on grand scales. The next was the non-Western world. As early as 1850, Britain and France began to project and construct railways, not only in their direct dominions but in the rest of the world. They were often carried out as instrumental to imperialist objectives. Because of their role in conquering and then controlling the empires built up during the nineteenth century, railways came to represent an imperial "tool" for penetration.[7] However, from a European perspective they were the source of civilisation and enlightenment in the non-Western world.

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[5] Daniel R. Headrick, *The Tentacles of Progress: Technology Transfer in the Age of Imperialism, 1850-1940,* New York & Oxford, 1988, pp. 49-96.

[6] H. Pollins, *Britain's Railways,* Newton Abbot, 1971, pp. 34-40; H. G. Lewin, *Early British Railways, 1801-1844,* London & New York, 1925, especially chapter 5.

[7] See Daniel R. Headrick, *The Tools of the Empire: Technology and European Imperialism in the Nineteenth Century,* New York & Oxford, 1981, pp. 187-8.

4.2 The Imperial-Medjidieh-Ottoman Railways

Sir William Fairbairn, the distinguished British engineer, arrived in Istanbul in 1839 as a part of a "scientific mission", under the instructions of the late Sultan Mahmud II.[8] The Sultan had earlier dispatched a commission to Britain and other Western countries, including America, for the purpose of making enquiries about "useful arts and manufactures" that might be introduced to his country, and men of "practical science" to survey and report upon the different establishments then in operation in the Ottoman Empire.[9] Fairbairn was one of these men of "practical science" to inspect and recommend on the Ottoman industrial and technical works.[10] He made valuable observations on the present state of the public works in Turkey and his remarks on Ottoman industrial enterprises also included railway communication. He had long meetings, and conversations with high officials, pashas and effendis, connected with different government departments such as the war and ordnance, were concentrated on "the improved state of practical science in England", and the introduction of

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[8] Fairbairn appears to have arrived in Istanbul a few days before the death of the Sultan, Mahmud II. In the same letter he writes that his majesty died the very morning of his appointment with him for an audience at the palace. Due to the death of the Sultan his inspections and surveys of the public works were temporarily suspended until he received new orders from the Grand Vizier to proceed with the same. See *The Life of Sir William Fairbairn, Bart,* (Partly written by himself, edited and completed by William Pole). First published in 1877 by Longmans Green and Company. The reprint, 1970. Especially chapter XI, pp. 165-176.

[9] *Ibid.*

[10] Fairbairn acknowledges that he reported upon nearly all the government works. Later with his recommendation an Ottoman commission under Mr. Ohanes Dadian (Assoc. Inst. C. E.) visited England, "in furtherance of the plans for ameliorating the state of the Turkish community by introducing useful arts and manufactures". See *Minutes of Proceedings of the Institution of Civil Engineers,* (1843), vol. 2, pp. 125-126; William Fairbairn, "Experimental Researches into the Properties of the Iron Ores of Samakoff, in Turkey, and of the Haematite Ores of Cumberland, with a View to Determine the Best Means for Reducing them into the Cast and Malleable States; and on the Relative Strength and Other Properties of Cast-Iron from the Turkish and Other Haematite Ores", (1844), vol. 3, pp. 225-241.

railways. From his observations Fairbairn stated that:

> [Railways] appeared to them inexplicable, if not entirely beyond their comprehension. They could not realise the idea of travelling at the rate of forty miles an hour, and doubted the correctness of the descriptions that reached them.[11]

Railways had not then extended beyond Western Europe. It was only during the Crimean War that the Ottomans experienced the railway communication system.[12] In addition to electric telegraphy, the railway system was employed during the war, which probably affected the outcome. The British built a railway, surveyed and engineered by D. Campbell, for purely military reasons between the camp of the allies at Sebastopol and their base of supplies at Balaklava, a distance of about eight miles. It was then extended to the village of Kadikoi. The railway was simply constructed. Rails were fastened down over the wooden sleepers which were laid over a bed of stones on the road.[13] With all sections, the railway was about twenty miles in length. Its significant role in the outcome of the war has been described by Cooke as "the railway that won a war".[14] It is also the earliest instance of a purely military railway being constructed during a war.[15] The Sultan and his officials developed a strong interest in railway building in their empire once it was proved to be a crucial system

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11 *The Life of Sir William Fairbairn,* pp. 170-171.

12 Though according to *The Times' Turkish Number* in 1938, the long history of Ottoman-Turkish railways began in 1836 with the proposal of a group to build a line in Anatolia, there is no written record that this was the case, or that such a project was ever carried out. See *The New Turkey,* Reprinted from the Turkish Number of *The Times,* 9th August, 1938, p. 80.

13 In his book, which he calls "an engineer's version of the Crimean War", Cooke presents a readable account of this military railway. See Brian Cooke, *The Grand Crimean Central Railway, the Railway that Won a War: The Story of the Railway built by the British in the Crimea during the War of 1854-1856,* Cheshire, 1990.

14 *ibid.,* p. 3.

15 E. A. Pratt, *The Rise of Rail-Power in War and Conquest, 1833-1914,* London, 1916, pp. 206-211.

of communication, as it had been demonstrated most dramatically during the war. They were aware of economic, military and political benefits of a railway network in Turkey.

In late 1855, even before the Crimean War ended, the Ottoman government declared and transmitted to the various Embassies and Legations throughout Europe "the fundamental conditions" for the establishment of railways in the Ottoman Empire. To this end the government "resolved to address itself directly to the experiences and capital of Europe".[16] These conditions were in the first place proposed for the establishment of a railway line between Constantinople and Belgrade, for which there had been some European projects.[17] But, later they were applied to other railway enterprises in Turkey. It ruled that the construction, as well as the direction of the working, of railways shall always be under the high superintendence of the Sublime Porte. A company to construct a line could only be established under the name and title of *Imperial Ottoman Company,* which would always be subject to the general laws of the Ottoman Empire and remain as its property. Most importantly, foreigners could be shareholders without any distinction from the subjects of the Ottoman Empire.

It took Europeans by surprise how quickly the Sultan and his government passed a *Firman,* Imperial Charter or bill, to allow European companies to build railways in various domains of the empire. Thus, referring to the concession for the railway from the Danube to the Archipelago port, *The Times* Constantinople correspondent wrote that he did not think "there ever was a project presented to the Ottoman Government

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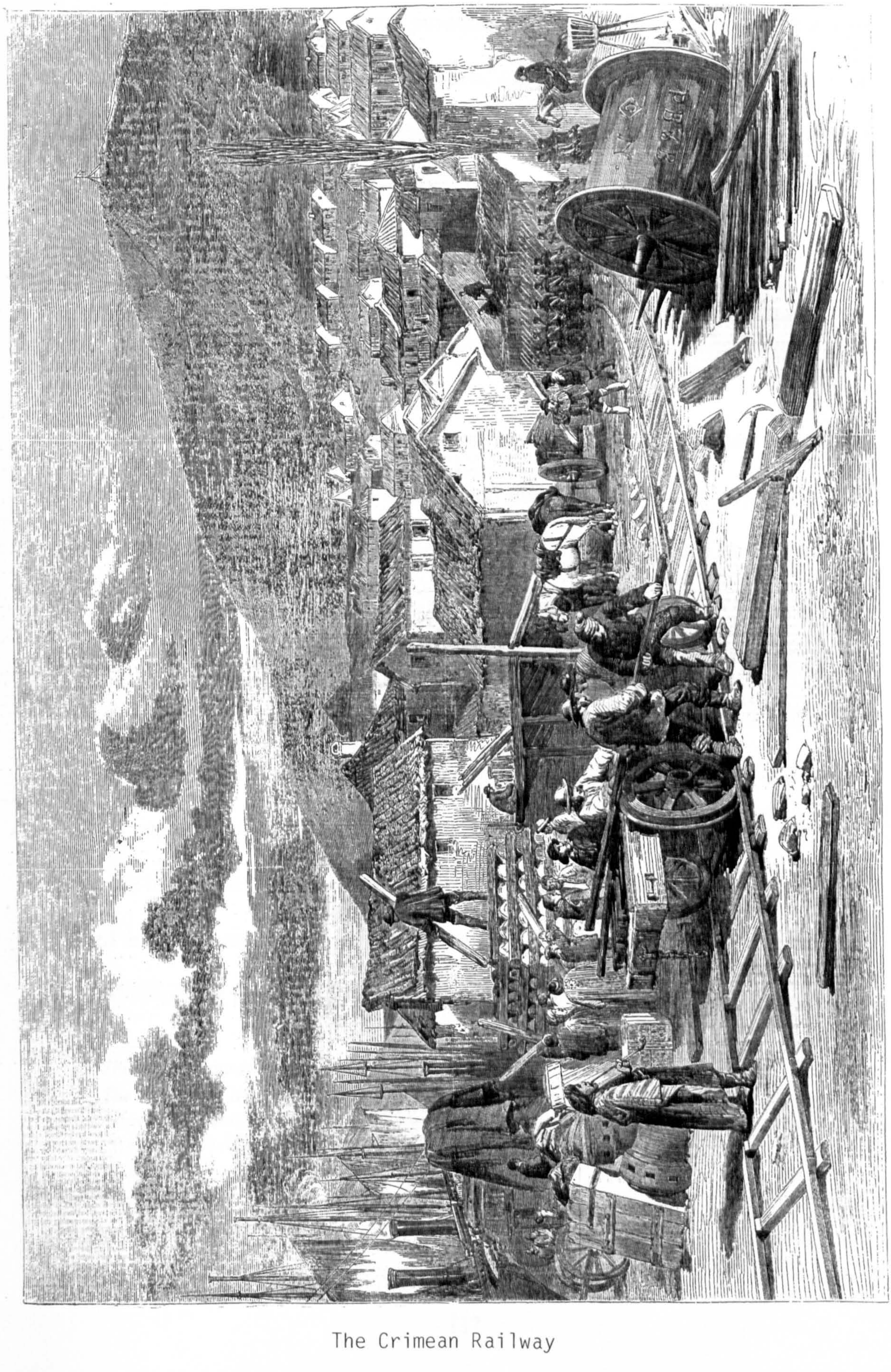
16 *Times,* 2nd October, 1855, pp. 8-9.

17 A report on the projected line from Constantinople to Belgrade was presented to the Ottoman government in 1853, by Messr. Edmund and Matthew Leahey, the civil engineers who surveyed the whole line. See *Times,* 12th October, 1855.



COMMENCEMENT OF THE RAILWAY WORKS AT BALACLAVA.

The Crimean Railway

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which was so universally approved by all and found less objections".[18] Such a line was of the highest importance to the government, not only from a financial, but also from a political and military point of view, connecting the different provinces of European Turkey , and facilitating the movement of troops. A privately circulated official text by the Ottoman government or the Tanzimat administration declared:

> To develop, to the utmost extent, the resources of Turkey, to bring its capital and its most productive provinces into the shortest communication with centre and west Europe, and at the same time to complete the European portion of the direct route to India, it is proposed to construct *The Imperial Ottoman Railway.*[19]

As evidence of his personal appreciation of the undertaking the Sultan wished his own name should be connected with it, and consequently that it should be *"The Imperial-Medjidieh-Ottoman Railways"*[20] The line was proposed to connect the Danube at Rustchuk to Varna and Istanbul, and then unite them with the Black Sea and the Mediterranean. The commercial community of Istanbul, European and native, particularly welcomed and favoured the initiative. Soon after the plan was publicly known, some of the most influential and wealthy families in the city entered into an engagement to subscribe the sum of one million sterling for the project.[21] Even the inhabitants of the two provinces through which the railway was to pass petitioned the government in favour of the scheme, offering to subscribe for the purchase of land belonging to private individuals, and to present it gratuitously to the state for

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[18] *The Times,* January 30th. 1857.

[19] *The Proposed Imperial (Medjidieh) Ottoman Railway, its Purposes and Prospects.* Printed for private circulation only, 1857, London? or Constantinople?, British Library, Miscellaneous Tracts, 82925-1915.

[20] *Ibid,* p. 4.

[21] *Ibid,* pp. 4-5; *The Morning Post,* January 21st, 1857.

the purposes of the line.[22] The members of the diplomatic body recognised the enormous advantages which a railway could confer upon Turkey and upon Europe at large, and expressed themselves no less disposed towards the scheme.[23]

The line was projected to form the "great high road between the West and the East", and to be the "main artery" of the railway system of the European portion of the Ottoman Empire, providing an outlet for the vast produce of the richest, best inhabited, and most productive districts of Turkey in Europe.[24] The engineering examination, with reference to a railway of the country between Rustchuk and Varna, had been already made during the Crimean War by British and French engineers, and the line had been strongly urged on the Ottoman Government by a commission to inquire into its capabilities and facility of construction and its commercial prospects.

European engineers had also examined the country between Adrianople (Edirne) and Istanbul, and strongly recommended the construction of a line to the Ottoman government and to capitalists. Some British officers during the Crimean War held high ranks in the Turkish army. They became intimately acquainted with the country through which the projected railway would pass, and they were employed officially to inspect it with a view to the construction of a military road between the capital and the Danube.[25] The proposed line had great commercial advantages as well as military and political advantages: it would be the most direct railway communication between western and central Europe and the East, including India, Australia, and

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[22] *The Proposed Imperial (Medjidieh) Ottoman Railway,* p. 5.

[23] The recognition in Turkey of the importance of the proposed railway by Europe was noticed in the British papers, especially in *The Times* and *The Morning Post*

[24] *The Proposed Imperial (Medjidieh) Ottoman Railway,* pp. 6-15.

[25] *Ibid,* pp. 7-10.

China. From the British point of view the most important emphasis on the *Imperial (Medjidieh) Ottoman Railway* was the fact that it was going to be:

> the shortest and most direct line to India under every possible circumstance, and whatever may be the changes which time bring about in the European systems of railway communication.[26]

These lines, once completed and united with the Austrian lines, would naturally form the great high road to all parts of the East, and also the route to be followed by British overland Indian mail. However, such a grand project was not put into practice before the 1870's. The first project that was put into practice was that of a British company connecting a commercial port town with another in the interior.

4.3 The Experimental Line and the First Locomotive

Though the Ottoman government and official elite were beginning to understand the importance of a railway network in their empire, they did not know about railway enterprise and construction works, as the country had no cultural and technical infrastructure to establish such a large technological system. Therefore, Europeans were invited to construct and operate railways in Turkey, where with the close of the Crimean War, a large number of government grants and European loans had been made available for railway enterprises. Having no experience of such business transactions with Europe the Ottoman government relied on the mediation of the Levantines, a class of opportunist men in Turkey with European knowledge and

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[26] *Ibid,* p. 13.

languages.[27] They offered their services as mainly dragomen, and utilised the Ottoman ignorance of European ways and interactions for their own benefit. They became involved in the railway concessions granted by the Ottoman government to Europeans as agents and intermediaries. However, the Levantines, whom *The Engineer* referred to as a "gang of speculators" or "half-caste adventurers" in Turkey, knowing not much about railway construction and enterprise, soon turned the "concessions" process into profitable business.[28] According to *The Engineer* the general course of concession procceding was:

> A Levantine made application to some Turkish subordinate official or dependent on a minister- sometimes to a minister himself- representing that he was personally acquainted with Rothschild, or all the Rothschilds, and all the capitalists in Europe, and that he was ready to favour the government by constructing forthwith three or four hundred miles of railway on a guarantee of 6 percent interest on 15,000 pounds a mile, and stating that the government would derive an enormous income from the surplus profit. The minister, well aware of the benefit railways were conferring in Europe, and having good examples in a tributary portion of the empire- Egypt-readily gave way to these requests, the more particularly as he knew the reputation of the English, and what they had done in Egypt. The government firmly believed that they were dealing with Englishmen, and with the leading capitalists and engineers.[29]

Their aim was not the introduction of railways to Turkey but was rather the sale of concessions. They used every means, even bribery or pretending to be representatives of some capitalist in Europe, to gain concessions from certain pashas. Then they would sell them to European investors, who often did not know the conditions of the

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[27] C. Hamlin, who lived among them for about half a century, stated that "No particular race owns him. If there is a class of men on earth utterly destitute of the truth, to whom falsehood is sweeter than truth and who are sagacious to know in a given case how much a man can be made to swallow without arousing suspicions, it is these Levantines. They have a list of classic horrors about the "unspeakable Turk", to palm off upon all unsuspecting travellers. Our knowledge of Turkey really comes from them". See C. Hamlin, *Among the Turks,* p. 357.

[28] H. Clarke, "Railways in Turkey, I", *The Engineer,* 21st September, 1867, p. 344.

[29] *Ibid.*

country.[30] While the Levantines made large sums of money, there were too many concessions. However, not many of them were put into practice. This complexity deterred the leading engineers and contractors from engaging in Ottoman railways. Especially after some examination most Levantine projects would be found to be impracticable:

> The Levantine projectors had no notion of how a railway could be carried, and had lines laid down over high mountains, as if engines could hop over them as a bird hops over a straw.[31]

Therefore, only very few of these projected lines could be implemented before 1860.[32] One of these lines was the line from Symrna (Izmir) to Aidin (Aydin). Its concession was obtained by a British company in 1856. This was the first project to commence in Turkey in Asia. It, therefore, marked the beginning of railway enterprise, and also the earliest such commercial undertaking by Europeans in Turkey. The country where the line would pass was one of the most important commercial and agricultural regions of Asiatic Turkey.[33] Smyrna, which is situated on the Agean Sea and the eastern extremity of the Mediterranean, was a very old commercial city-port in Turkey.[34] The city had also grown on the lands adjoining two large rivers.

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30 *Ibid.*

31 *Ibid.*

32 In European Turkey, the Kustenji, Rustchuk and Varna railways were local lines under other conditions, and without guarantees. Here I am not dealing with these lines. See *FO78-3194: 1864-1879 Kustendjie Harbour dues, claim of the Danube and Black Sea Railway and Kustendjie Harbour Co. vol. 1. FO78-3195: 1878-1888 Kustendjie Harbour dues, claim of the Danube and Black Sea Railway and Kustendjie Harbour Co. vol. 2. FO78-4184: 1878-1881 Rustchuk and Varna Railway FO78-4185-4191 (8 files), 1882-1888, Rustchuk and Varna Railway.*

33 For a statistical study of the region, see Hyde Clarke, *Report on the Traffic of Smyrna, with Statistics of Trade, &c.*, London: Nissen & Parker, 1860.

34 For a study of the economic and commercial importance of Smyrna at that time, see Mr. F. Wakefield, "Report upon Smyrna and its Producing Districts", 1857, in Sir R. M. Stephenson, *Railways in Turkey: Remarks upon the Practicability and Advantage of Railway Communication in European and Asiatic Turkey,* London: John Weale, 1859, pp. 30-38.

This illustrates that economic interests were preponderant in the undertaking. A railway in such a commercial city was to ensure good returns to its investors. It would enable Europeans to transport their manufactured goods from their ports to deep inside the Ottoman Empire, and in return, raw materials could be carried back to the European ports. It was estimated by a special commissioner that goods traffic from Aidin to Smyrna employed 10,000 camels and 500 mules, at the cost of over 400,000 pounds per annum. Independent of those camels which were constantly employed to carry the traffic between the two towns, there were at least another 20,000 camels employed on various routes in conveying produce from the interior to the sea.[35] When the railway to Aidin was completed, the traffic conveyed by at least half of 20,000 camels would come to the line, and thus at once increase the existing amount of traffic between the two towns. The Austrian Consul at Smyrna, C. Zalloni's table for the trade of Smyrna for 1857 shows that imports for that year amounting to 2,447,493 pounds and exports to 2,397,342.[36] This illustrates the significance of Smyrna as a site for the first railway system.

The concession was granted originally to a British group consisting of Joseph Paxton, Messr George Whthes, William Jackson, and A. W. Rixon.[37] The Firman, or the legislative sanction of the concession, was said to be a free grant by the Imperial Ottoman government to the concessionaires to encourage the undertaking.[38]

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[35] R. M. Stephenson, *Railways in Turkey, 1859,* p. 6; F. Wakefield, "Report upon Smyrna and its Producing Districts", 1857, pp. 30-37.

[36] "Abstract of Import and Export Trade of Smyrna, from Mr. Zalloni's Tables for 1857", see Appendix C in R. M. Stephenson, *Railways in Turkey, 1859,* pp. 46-48.

[37] For the original convention reached on 23rd September, 1856, see "Izmir-Aydin Demiryolu Imtiyaz Mukavelenamesi", "23 Eylul 1856 Osmanli Mevzuati Hukukiyesi", *Sicilli Kavanin: Osmanli Mevzuati Hukukiyesi, 23 Eylul 1856 - 15 Mart 1917,* (1935 edition), vol. 11, pp. 1-11; *Mecmuai Mukavelat,* (1856), vol. 1, p. 2.

[38] *Ibid.*

However, in the company's budget the concession appeared to have cost 40,000 pounds.[39] This money must have been shared among the company's agents or the Levantines. The contract for originally 72 miles of railway, harbour works and stock was taken by Thomas Jackson at 1,030,000 pounds.[40] The concession was conceded for 50 years after 1860, when it had to be completed and ready for traffic. The Ottoman government guaranteed to the company a net income of six percent on the capital expended on the actual construction of the line, but such expenditure was not to exceed 1,200,000 pounds.[41]

The capital was to be obtained by the issue of shares, one fourth being reserved for Turkey, and subscription was accordingly invited in 1857-8 for 60,000 shares of 20 pounds each. 49,478 of the total shares were subscribed before the works were commenced: 15,000 by the Ottoman government, 500 by the Sultan, 25,750 by the contractor, 6,500 by the concessionaires, 1,728 by the British public.[42] The company that was to construct the proposed railway was established in London, by the name of *The Ottoman Railway from Smyrna to Aidin of His Imperial Majesty the Sultan.*

Rowland MacDonald Stephenson, a distinguished civil engineer, contractor and managing director of the East Indian Railway Company, became the chairman of the company.[43] He was a man of grand projects. He, too, had projected the construction

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[39] H. Clarke, "Railways in Turkey, I", *The Engineer,* p. 344.

[40] *Ibid.*

[41] *Ibid.*

[42] "Memorandum on Smyrna and Aidin Railway Company by the Committee of Investigation", *FO78/2255, Smyrna and Aidin Railway (Ottoman Railway), 1867 to 1872.*

[43] Sir Rowland MacDonald Stephenson (1808-1896), born in London and educated at Harrow, became a civil engineer from 1830. He was the secretary to the association established in 1835 for securing steam communication with India, and managing director and also deputy chairman of East Indian Railway Company. He was the author of some scientific books on railways, such as *Science and Railway Construction* (4th ed. by Nuget, 1869), *Railways* in Weale's Rudimentary series. See *The Illustrated London News,* (1857), vol. 30, p. 338; *Minutes of Proceedings of Institu-*

of a railway between Europe and India and Central Asia. His railway engineering and managerial skills were employed in the construction of the East Indian railway. He was at the same time the chairman of a company established on the original basis of the Red Sea and India, to connect India by telegraphic lines.[44] He was later even involved in a project to construct the first railway in China in 1864, where, upon the suggestion of Jardine Matheson & Co., he undertook a preliminary survey and proposal for an "experimental line" between Shangai and Woosung.[45] With building the first line in Turkey, he believed that his company was to "pioneer" the construction of railways, and was also to provide a model for the whole of railway communication in Turkey.[46] As the first work of the kind in the Ottoman Empire, it possessed a more than ordinary interest, and its successful completion would have a special influence on all future enterprises of a like nature.

The work began in the mid-autumn of 1857. It was constructed exclusively by British engineers and management, and only British material was used. It was built on the British model gauge, 4 feet 8.5 inches. When the work started, the chief engineer was George Meredith, who had been involved in many railway projects in Ireland, Holland and Britain, including the construction of the Liverpool and Manchester Railway under George Stephenson.[47] Mr Jackson, the contractor, was described as an

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tion of Civil Engineers, (1896), vol. 128, pp. 451-62; *Dictionary of Modern English Biography,* vol. 3, p. 736.

[44] *Bradshaw Shareholders Guide, Railway Manual and Directory, 1862.* p. 462.

[45] There again he projected a vast network of lines ultimately extending to India. However, Chinese statesmen were alarmed and apprehensive at the prospect of the country being covered with railways under foreign ownership and management. The construction of the projected line only commenced in 1875. See Alan Reid, *The Woosung Road: the Story of the first Railway in China 1875-1877,* (Suffolk, 1977), pp. 1-14, (Published for Private distribution, Science Museum Library).

[46] A Memorandum by S. N. O'Conor to Landsowne, 24th September, 1905, Therepia, *FO78/5450 Extensions of Smyrna-Aidin Railway, 1902-1905.*

[47] In addition to his service for the Ottoman Railway Company, he made a survey of a proposed

honourably distinguished able man in his business enterprises. His resident agent in Smyrna was Mr. Hammond, who had undertaken similar work in Britain and India.[48] *The Illustrated London News* described the commencement of the line as such a great event that marked a "new beginning" in Turkey:

> It appeared as if the whole city of Smyrna was formed in an animated circle around the field where the ceremony was celebrated of this great undertaking which will establish *a new era* in Turkey.[49]

Mustapha Reshit Pasha, the influential man of the Tanzimat and Foreign Minister, many other pashas, Ali Efendi, Imperial Commissioner of Public Works, the civil and military authorities of the city were ready at the commencement ceremony. Shortly after, the Imperial troops, as a tradition the representatives of all the communities of the city and the consuls, appeared in order:

> The Mufti or High Priest; the Mallah, or Judge; and the imams or priests; likewise the Consuls; the Greek and Armenian Bishops, the great Babbi of the Jews, and the sundry communities of the city; all of whom took their position near the Pasha. Several elegantly dressed ladies were also present.[50]

Indeed, Smyrna was a well chosen city-port to construct the first railway in the Ottoman Empire, not only because of its economic and geographical advantages, but also because of its social and cultural structure. Its population consisted of many different ethnic groups, primarily Turks, Greeks, Armenians, Jews, and many Europeans. It, accordingly, accommodated different religions and languages.

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line from Constantinople to Adrianople and returned to Britain with intentions of taking measures to have this line carried out, but he died soon afterwards. See *Minutes of Proceedings of Institution of Civil Engineers,* (Session 1865-66), vol. 25, pp. 515-6; *The Times,* 16th November, 1858.

48 *Ibid.*

49 *The Illustrated London News,* p. 436, 31th October, 1857.

50 *Ibid.*

The introduction of the first locomotive by the Smyrna to Aidin Railway Company was a very important event. The company introduced a locomotive when only less than ten miles of the line was complete. It was a very great show for the general public. The ordinary people were suspicious and unable to understand the nature of the undertaking:

> They heard that if that Frankish "marifet" (marvel) was finished they could go in two hours from Aidin to Smyrna, a journey which, with considerable exertion, they may now accomplish in two days; they shook their heads and asked whether it was by flying through the air. Those who lived in Smyrna, and those who visited it looked with astonishment at the mounds of earth thrown to the right and left, at the rocks which were blasted and forced out, and the *mysterious* iron lines which were drawn with cabalistic calculations, without being able to understand how all these contrivances could in any way advance the object in view.[51]

Bearing in mind the general suspicion of the Ottoman public towards Western technology and innovations, the system builders expected the first locomotive to produce a great effect in Turkey. In the words of *The Times'* correspondent, who was watching the arrival of the first locomotive in Asia Minor, it would "make an epoch in the minds of the people in this part of the world".[52] Since the beginning, railway works had been the centre of attraction in the town. Curiosity was the highest when "a black-looking vessel was seen to drop its anchor in the bay to the west of the town fronting the line. It contained the mysterious engine", and was met by numerous crowds of people at Smyrna. They were described as belonging to not less than "nineteen different races and nationalities -English, Irish, Scotch, French, Americans, Italians, Slavonians, Armenians, Turks, Greeks, Poles, Albanians, Austrians,

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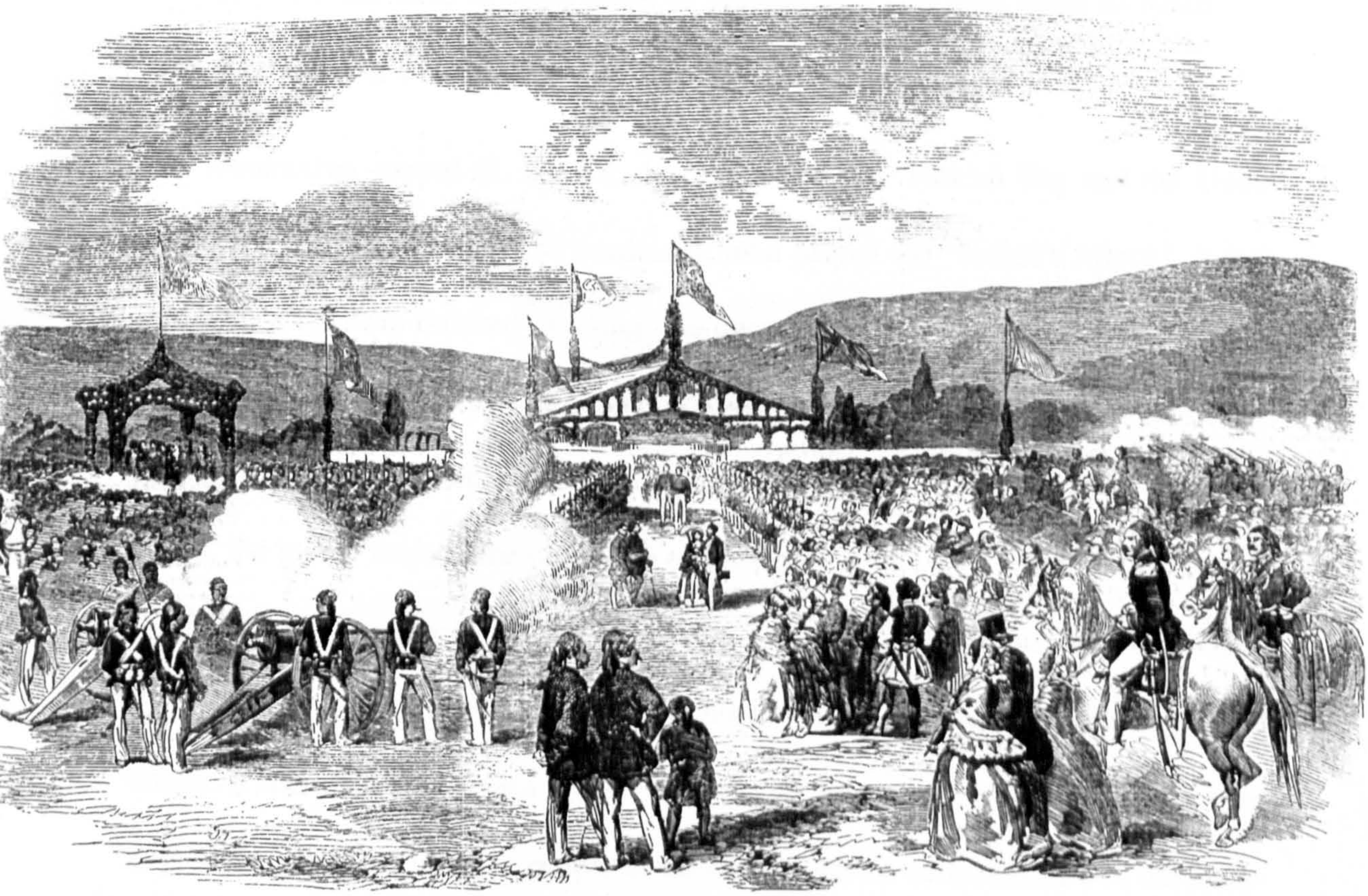
51 *The Times*, 6th April, 1858.

52 *Ibid.*



COMMENCEMENT OF THE SMYRNA AND AÏDIN RAILWAY.

The first railway in Asiatic Turkey

Prussians, Hindoos, Negroes, Ionians, and Spaniards."[53] There were also several hundreds of camels encamped on the same spot, of which *The Times* correspondent wrote rather romantically that:

> The very camels -those representatives of Eastern dignity and the *nil admirari-* seemed to forget their ill temper for the moment, and chewed their chopped straw with an air of satisfaction, as if they suspected that the angry, puffing, and hurrying fire-car was destined to take off their loads of figs and raisins and carry for them. Poor deluded creatures! They little know that instead of diminishing it will rather increase their work, and if they will not have to come down to Smyrna they will have twice as much to do to feed the long string of waggons in which will be collected the produce from all corners of the interior.[54]

The locomotive, named *St. Sophia,* decorated with the Turkish flag and the Union Jack, then carried up a band of musicians, who played the "Sultan's March". It first met with a scarcely finished building, the owner of which was being a native Turk, painted up the words "Railway Hotel". He asked for a drawing representing a locomotive as his sign board.[55] *The Times* correspondent reported that the people of Aidin, the inland town at the other end of the line, say that they would sell, if necessary, "their shirts" to come up by the railway.[56] Now railway locomotion was within the grasp of the local people in Smyrna, while hitherto, the whole idea was vague and empty. It was the popular idea that the running of a locomotive would do more than anything else to convince the people of the country of the serious nature of the enterprise and "the last doubts".[57] Lord Stratford de Redcliffe, the British Ambassador at

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[53] *Ibid.*

[54] *Ibid,* (original italics).

[55] *The Times,* 6th April, 1858; *The Illustrated London News,* 27th November, 1858, pp. 512-513.

[56] *Times,* op. cit.

[57] *Ibid.*

Constantinople, who went to Smyrna on the occasion of the laying of the foundation stone of the Smyrna station in November 1858, strongly believed that the success of the railway would in all likelihood be the precursor of similar triumphs in other parts of the vast empire. In the near future, it would be intersected throughout by *a network of iron communication.* [58] He firmly believed that the railway and the telegraph, as the basic means of Western civilisation, would lead to dramatic changes, and in this way the Ottoman Empire would soon become a part of Western civilisation.[59]

With the introduction of the locomotive, the attempts to systematise the whole construction of railways in Turkey under certain principles and laws became a main concern of system builders and the Ottoman government. M. Stephenson, who visited Smyrna in 1858 upon the request of the directors of the Ottoman Railway Company to inspect the progress of the works of the Smyrna and Aidin Railway offered his services to the Ottoman government. When he visited Istanbul, M. Stephenson was invited by the Ottoman Ministers to advise on the establishment of railways in the country. He chaired the meetings of the Constantinople Committee upon Railways in Turkey, which directed their resolutions to the accomplishment of basic conditions as preliminary to a future railway enterprise. These were primarily the general survey and level of the country, the settlements of the terms of concession, and the settlements of the tariff, bye-laws, and regulations of the companies.[60] These would

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58 See the extracts from his speech on the occasion of the laying the foundation stone of Smyrna Station and opening of the first section of the line, R. M. Stephenson, *Railways in Turkey ...*, pp. 37-46.

59 *Ibid.*

60 See "Minutes of Proceedings of the Constantinople Committee upon Railways in Turkey", in R. M. Stephenson, *Railways in Turkey, 1859*, pp. 53-56.

impart confidence to European capitalists. Stephenson made his report to the Grand Vizier, Ali Pasha, for the consideration of the Porte.[61]

The report identified the main objections to investing capital in railways in Turkey. Firstly, no system existed, and thereby no confidence was entertained. Secondly, the arrangements were complicated, and terms and conditions of the concessions all differed, instead of being framed upon the same basis. Thirdly, the European capitalists and entrepreneurs, who would willingly subscribe if the conditions were fixed and well understood, did not know what changes might take place in future concessions, would not invest their money under any other system.[62] R. M. Stephenson suggested simplified arrangements, and the organisation of a system of regulations, conditions and law upon which all future concessions be granted, and further suggested the co-operation of all parties interested in Turkish railways to consider and decide in a committee in conjunction with committees appointed in London, Paris and Vienna.[63] He also suggested that the Turkish government should proceed upon the basis of limiting their concessions at first to moderate lengths of line, and allowing the works to be extended according to the progress which had been made upon the first sections. To encourage to the utmost of their power the construction of railways, the government appointed a Department of Public Works, with special reference to the railways and telegraphs. This resulted in a *chair de charges,* or general code of regulations under which future lines in Turkey were to be sanctioned.[64]

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[61] See "Copy of Letters Addressed to the Ministers at Constantinople", in R. M. Stephenson, *Railways in Turkey, 1859,* pp. 49-52.

[62] R. M. Stephenson to Ali Pasha, Grand Vizier, 10th November, 1858, in R. M. Stephenson, *Railways in Turkey, 1859,* pp. 51-52.

[63] *Ibid.*

[64] See "Chair des Charges de la Concession d'un Chemin de Fer", in R. M. Stephenson, *Railways in Turkey, 1859,* pp. 63-80.

4.4 The Construction of the Smyrna to Aidin Railway

Within the first year of its construction, the work on the Smyrna and Aidin railway went satisfactorily. R. M. Stephenson, who inspected the progress of the works personally in 1858, reported that the line employed about 3,000 men of seventeen different nations, and found the works in all respects satisfactory.[65] A section of 10 miles from Smyrna to Seydikoy was opened on 30th October 1858, about a year after the work had begun. The opening was a major event that built up the confidence in the works, and also impressed the local administration and people about the railway. M. Stephenson predicted that the works upon the forty miles out of Smyrna constituting the First Section, which was in rapid construction, would be completed in time to open the line before the end of 1859.[66]

However, the construction of the line did not progress as it had been planned. By the end of 1860, the date that was originally proposed to be the date of the opening of the whole line, only 27 miles was built, which the government claimed had terminated at "the insignificant station of Tiranda", whilst at Aidin, the company had only commenced the works of the tunnel of Saladdin Pass.[67] However, the engineers soon suggested an alternative route. Afterwards the Saladdin tunnel was abandoned, and the line carried through the Ephesus Pass. The new deviation lengthened the line by about ten miles, making the total length about 81.5 miles, and brought steep

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65 R. M. Stephenson, *Railways in Turkey, 1859*, pp. 3-4.

66 *Ibid*, pp. 3, 18.

67 "Official Communication" of the Board of Public Works in response to the "Memorial of the three Anglo Turkish Railway Companies to the Turkish Government" (dated 29th April, 1868), September, 1868, *FO78/2255, Smyrna and Aidin Railway (Ottoman Railway), 1867 to 1872.*

gradients. This showed that the engineering survey of the line had not been done properly at the beginning. In addition to engineering difficulties, the Ottoman government put the blame for the slow progress partly on the suspension of the works by the contractor.[68] 1860 was a critical year for the company. It appeared that the system builders lacked practical knowledge of financial and construction works. Besides constant depreciation and the postponement of the promised opening, the contactor, T. Jackson, suspended payment and went into bankruptcy. As a result, the shares became unmarketable. The company's chief engineer, second engineer, secretary, general manager and agents at Istanbul and Smyrna were removed without better appointments being made by the Chairman, who himself also disappeared for a while.[69] Hyde Clarke stated in *The Engineer* (1867) that the general impression in Istanbul was that:

> The Smyrna and Aidin Railway was nothing but waste, robbery, and peculation administered by rogues and swindlers, with the complicity and connivance of fools and knaves in England.[70]

The cost of construction was greater than anticipated and the estimated capital of 1.2 million pounds proved too small. The company claimed that the main difficulty was caused by its having been constituted as a "Société Anonyme" with shares payable to bearer, and transferable without deed or registration, thus involving no responsibility beyond the amount actually paid from time to time upon the shares.[71] The state of

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[68] *Ibid.*

[69] H. Clarke, "Railways in Turkey, II", *The Engineer,* 1st November, 1867, p. 372.

[70] *Ibid.;* see also "Memorandum on Smyrna and Aidin Railway" by the Ottoman Railway Company, *FO78/2255, Smyrna and Aidin Railway (Ottoman Railway), 1867 to 1872,* pp. 225-228.

[71] See "Memorandum on Smyrna and Aidin Railway" by the Ottoman Railway Company, *FO78/2255, Smyrna and Aidin Railway (Ottoman Railway), 1867 to 1872,* pp. 225-228.

the enterprise created agitation in Turkey and Britain. It also prevented the construction of the other lines projected by new promoters. The new engineers, agents and other system builders were appointed only after a long interval. The list included Edwin Clark as the Consulting Engineer, Edward Purser as the Engineer in Chief, S. J. Cooke as the Secretary, W. F. Fergusson for the Traffic and Locomotive Supt., with T. R. Crampton as the new contractor.[72] In March, 1861 the government agreed to grant a prolongation of 3 years for the completion of the line, which was to expire in May, 1864. In consideration of this extension the company would not receive interest on the caution money until the opening of the line. The government also authorised debentures to the extent of 250,000 pounds for five years at 6 per cent to restore confidence amongst the shareholders.[73]

When the first section of 41 miles which terminated at Karbounar was opened in November, 1861, the government allowed the company to draw the guaranteed proportion of 39,360 pounds per annum. In 1863 the capital was increased from the original sum of 1,200,000 pounds to 1,784,000 pounds, and the government increased the guaranteed income on the same ratio, that is, from 72,000 to 112,000 pounds per annum.[74] The whole line to Aidin, after a further delay, was only completed in July, 1866. The stations were completed after the line was opened. The government authorities were complaining that the rolling stock was incomplete, and there were no turntables or sidings, in addition to the lack of locomotives and trucks.

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[72] Bradshaw General Railway Publication, *Shareholders Guide: Railway Manual and Directory for 1862*, London: W. J. Adams, 1862, pp. 347-348.

[73] "Official Communication" of the Board of Public Works in respond to the "Memorial of the three Anglo Turkish Railway Companies to the Turkish Government" (dated 29th April, 1868), September, 1868, *FO78/2255, Smyrna and Aidin Railway (Ottoman Railway), 1867 to 1872.*

[74] *Ibid.*

These complaints were rejected by the managers of the company at Smyrna. E. Purser claimed that there was a 40 foot engine turntable at Aidin, and there was no call for any more, and there was a loading siding at each station.[75] He further reported that two new and very powerful goods engines by Stephensons Co. were obtained expressly for the new section, and were running in July, and that two ballast engines were taken over from the contractor. In addition, twenty six wagons were added just before the opening of the line and sixteen immediately after.[76] Two years later, Edward Purser, then the general manager and engineer of the company reported from Smyrna that since the opening of the whole line the Aidin traffic by camels entirely ceased between that town and Smyrna.[77]

This railway had been originally proposed to provide a model for railway enterprise in Turkey. However, it did not provide an impressively good example for the whole. Its overall cost was much higher than had been expected, even though R. M. Stephenson predicted that the cost of building a railway there would be cheaper than anywhere else.[78] According to the company, the cost was 15,500 pounds per mile.[79] But, it was claimed the actual cost of a mile was around 22,000 pounds.[80] The public and government's image of the company was influenced by its long prolongation and

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75 Edward Purser, General Manager & Engineer, to the Chairman and Directors of the Ottoman Railway Company, 8th October, 1868, Smyrna, *FO78/2255, Smyrna and Aidin Railway (Ottoman Railway), 1867 to 1872.*

76 *Ibid.*

77 Edward Purser to the Chairman and Directors of the Ottoman Railway Company, Smyrna, 8th October, 1868, *FO78/2255, Smyrna and Aidin Railway (Ottoman Railway), 1867 to 1872.*

78 R. M. Stephenson, *Railways in Turkey, 1859*, p. 15.

79 Smyrna and Aidin Railway Company, "A report on the late allegations and replies to them -for those shareholders who may have been unable to attend the late meetings.", May, 1867, *FO78/2255, Smyrna and Aidin Railway (Ottoman Railway), 1867 to 1872.*

80 Smyrna and Aidin Company, "Report of the Committee of Investigation to be presented to the shareholders at their Adjourned Eighteenth Half-Yearly General Meeting", 21st May, 1867, *FO78/2255, Smyrna and Aidin Railway (Ottoman Railway), 1867 to 1872.*

often partly bad management of the railway. Hoping to put an end to the monopoly of the company, the government sanctioned the establishment of rival companies. In spite of the Smyrna-Aidin Company's opposition to the granting of concessions to another company, in 1863 the Ottoman government granted a new concession to Edward Price, a British railway engineer and contractor, who had a link with Robert Stephenson, to build a new line from Smyrna to another town, Cassaba (now Turgutlu).[81] The length of the line was originally 58.25 miles. It was to serve very fertile and rich country. E. Price soon transferred the concessions to a British company, *the Smyrna-Cassaba Railway,* established in London to construct the line. The company began construction in 1864, and completed the largest section, from Smyrna to Manisa, 41 miles, in October, 1865, and with the completion of the remaining 17.25 miles in the following year, the whole line was opened to traffic even earlier than the Smyrna and Aidin line in 1866. The company received the praise and pleasure of the government for their success:

> We have an example in the Railway from Smyrna to Cassaba, which is constructed with economy and administered with intelligence, the revenue of which very nearly comes up to the guarantee from the state, and which has never had with the state any dispute, nor given it any trouble, and shows that in Turkey just like elsewhere, railways can succeed, provided they are in the hands of administrators, who are clever, economical, and above all, sincerely loyal to their duties towards the public and the state.[82]

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[81] Edward Price (1805?-1871) was involved in the construction of several tunnels in Britain and France. In 1851-4 he built the Benha and Kaffre Azayat bridges over the Nile for Robert Stephenson, and part of the Alexandria-Cairo Railway. Later he contracted for the Dom Pedro Segundo Railway in Brazil, from Rio de Janeiro to the foot of the Serra S. Anna (40 miles). Further foreign contracts followed in Portugal and Asia Minor. The Smyrna-Cassaba Railway was one his last contracts. See J. Marshall, *A Biographical Dictionary of Railway Engineers,* David & Charles, 1978, p. 174; also *Min. Proc. ICE,* volume 33, (1871-2), pp. 267-9.

[82] "Official Communication" of the Board of Public Works in Response to the "Memorial of the Three Anglo Turkish Railway Companies to the Turkish Government" (dated 29th April, 1868), September, 1868, *FO78/2255, Smyrna and Aidin Railway (Ottoman Railway), 1867 to 1872.*

It met no important management and construction difficulties. Besides, the cost of the construction per mile was much cheaper than that of the Smyrna and Aidin Railway. The company obtained another concession in 1871 for an extension to Alasehir, a further distance of 47.50 miles. This was built on the government's own account, and was operated by the Smyrna-Cassaba Company. The company made a loan of 500,000 pounds to the government for the extension, on which interest at 7 per cent, and amortisation at the rate of 1 per cent, were guaranteed by the government share in the revenue of the railway. It was opened to traffic in March 1875 and operated by the same company. The new line, thus, ended the monopoly of the Smyrna and Aidin Railway, and encouraged competition between the two for new concessions to build railways.

The engines, rolling stock and other materials for building railways came almost exclusively from Britain. The first locomotive engines for the Smyrna and Aidin Railway were purchased from Robert Stephenson Company Limited, which at the time was a world famous locomotive builder.[83] They were 4-4-0 type, and the company was the only supplier of the locomotives for some decades.[84] The Smyrna and Cassaba Railway, on the other hand, purchased nearly all early locomotive engines from Beyer Peacock. The first such engines came in 1864, and were 0-4-2 type. The supplies of the engines from Beyer Peacock continued until the line passed to

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[83] Edward Purser, the general manager and engineer of the company, to R. M. Stephenson, 8th October, 1868, Smyrna, *FO78/2255, Smyrna and Aidin Railway (Ottoman Railway), 1867 to 1872.*

[84] By 1855 the company had built over one thousand locomotives. Its customers, besides Turkey, included Austria, Egypt, India, Ceylon, Holland, Belgium, Luxembourg, etc. See J. G. H. Warren, *A Century of Locomotive Building by Robert Stephenson & Co., 1823-1923,* Newcastle, 1923, pp. 612-614.

Nagelmackers, and afterwards no further orders were placed with British firms.[85] Both lines were built on the British system and broad gauge. In the early 1870's the British system of construction of railways employed in Turkey came under some criticisms, especially by the French. A French railway engineer, J. H. Haddan, criticised the British broad gauge system on the grounds of its being so costly and extravagant, and not necessarily good for both the geographical and financial conditions of Turkey, as they differed fundamentally from those of England.[86] He claimed that if the narrow gauge, at 3 feet wide, were implemented, it would reduce the cost of the current railways by well over 50 percent. Besides, the narrow gauge was the most suitable system particularly for mountainous countries, such as Turkey.[87] He urged a *scientific Medjlis* presided by Rashed Pasha, Minister of Public Works, to be established in order to solve the problems of the railway construction quickly and definitely.[88] Such suggestions seem to have remained theoretical, and any specialist committee that was established lacked continuity due to political and financial instability.

Nevertheless, by the late 1860's railways came to attract increasing attention from the Sultan and the Porte. After their opening to goods and passenger traffic the Smyrna-Aidin and Smyrna-Cassaba railways yielded very good traffic and attracted a wider public attention. In the summer of 1867 the Sultan Abdulaziz visited major European

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[85] For the list of locomotive engines purchased by the Smyrna-Cassaba Railway, see E. Talbot, *Steam in Turkey: An Enthusiasts' Guide to the Steam Locomotives of Turkey,* London: The Continental Railway Circle, 1981, p. 41.

[86] J. L. Haddan, *Le Largeur : De Voie Convenable four Les Chemins de Fer de la Turquie,* (Constantinople, Imprimerie et Litographie Centrales, 1873), pp. 1-8.

[87] *Ibid,* p. 7-17.

[88] *Ibid.*

countries including Britain, being the first Sultan ever to visit Europe. He also attended the Paris Exhibition of 1867. The visit also meant the Sultan's first railway journey, which began in his own dominions in Rustchuk. The line from Rustchuk to Varna, built and operated by the British, was about 120 miles in length, and ran through some of the finest hill and wood sceneries of Bulgaria, then a province of the Ottoman Empire:

> His Majesty, after a stay of two days at Rustchuk, left that city on the morning of the 6th ult. in a train consisting of nine carriages, painted white and emblazoned with the star and crescent in white and gold. The engine was also elaborately ornamented, and was in charge of an English driver named Frank White. The journey occupied seven hours, as the Sultan received deputations en route at Rasgard, the Shumla-road, and Pravadi. The embarkation at Varna was made before the sunset, a stay of only three hours being made at that port. The Imperial suite of 700 persons, with their baggage, horses, etc., were conveyed to Varna in nine special trains, and no hitch of any kind occurred during the journey.[89]

The Engineer (1867) declared that "the Sultan's visit brought Turkey nearer to Europe."[90] In Europe the Sultan expressed a desire to extend railways throughout the empire.[91] It was an excellent opportunity for the Sultan to experience railway journeys and other industrial enterprises during his journey. *The Times* reported that

> Of all the strange things the Sultan saw on his journey nothing seems to have produced a greater impression than the rapid means of locomotion by rail, nothing seems to have caused greater satisfaction than re-entering his own dominions by the Rustchuk and Varna Railway, a railway in his own dominions.[92]

The visit encouraged the projectors of the great lines from Belgrade to

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89 *The Railway News*, 7th September, 1867, p. 238.

90 H. Clarke, "Railways in Turkey, III", *The Engineer*, 22nd November, 1867, p. 436-437.

91 *The Railway News*, 21st September, 1867, pp. 296-297.

92 *The Times*, 15th January, 1868, and 28th January, 1868.

Constantinople, and from Scutari across Asia Minor and Mesopotamia to Basra, who then found the government willing to listen to their proposals.[93] It was reported that since the Sultan's return the two main subjects to which attention was chiefly directed were means of communication and western style schools. One of the fruits of the Sultan's journey was already materialised in early 1868 in the establishment of a Lycée, which came to be known as the *Galatasaray Lycée,* on the model of the French Institution.[94] The Sultan had already shown a great interest in railway building, beginning with the Smyrna to Aidin Railway, for which he bought a large number of shares. Particularly after the Sultan's European tour there were increasing numbers of new negotiations between the Ottoman government and various European entrepreneurs to build railways in the dominions of the empire.

Haddan, who urged the Ottoman government to adopt a better system for railways, acknowledged in 1873 that "Constantinople is full of engineers."[95] The railway mania among the Ottoman administrative elite mounted particularly in this period. The Sultan himself appeared most keen to see a large network of railway communication in his empire. In 1873, referring to the political disturbances around the Sultan Abdulaziz, Count N. P. Ignatyev, the Russian Ambassador at Constantinople, reported that he was "victim of a veritable railroad fever."[96] In spite of the strong desire to extend the network of railways in Turkey, because of the internal and external political problems and economic difficulties no important railway projects were

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93 *The Times,* 15th January, 1868.

93 ibid.

94 *Ibid.*

95 J. L. Haddan, *Le Largeur,* p. 8.

96 R. H. Davison, *Reform in the Ottoman Empire, 1856-1876,* Princeton, 1963, p. 237.

put into practice. The Sultan, on the contrary, perhaps after having seen luxury palaces in Europe, spent enormous amounts of money to build himself a very expensive palace, the Dolmabahce Palace on the Bosphorus. When he was deposed from power in 1876, only a few hundreds of miles of constructed railways existed in Asiatic Turkey.

4.5 The Decline of British Railway Building and German Monopoly in Turkey

During the long reign of the Sultan Abdul Hamid II (1876-1908), railways became a strong political and military power in Turkey, which enhanced the Sultan and his elite's ability to retain their power over the far-flung empire till WWI. Multi-national European companies were encouraged to build railways in Turkey. The Sultan Abdul Hamid himself felt an urgent need to construct a network of railways across Asia Minor to Baghdad and the Arabian Peninsula. New concessions were granted to the existing and new companies. Germany emerged as the strongest power, while the British lost new concessions, though it had monopolised the railway building since its inception in the empire. By the late 1870's the relations between the Ottoman Empire and its Western alliance, Britain and France, began to change. In addition to Russia, now Britain and France were aiming at military and political designs over the Ottoman dominions. In Britain, the traditional approach to the Eastern Question was abandoned to a large extent. William Gladstone had launched his anti-Turk crusade. Britain increased its military presence in Egypt after the Franco-German War in 1870, and occupied it in 1882. France, on the other hand, was collaborating with

Russia against the Ottoman Empire, in addition to its occupation of Algeria.

Germany was just becoming a major European industrial and military power, which the new Sultan trusted in the construction of railways. The Sultan held the opinion that "the only country that [he] can safely trust in the construction of railways is Germany".[97] In the Sultan's view, the aims of Germany were only financial and economic, whereas Britain, France and Russia had political and military desires over the Ottoman dominion. The Ottoman railway building was shaped within the political and military environments of the time. Turkey was facing great financial and military problems, which were exploited by European powers. The Sultan, and his Viziers and most ministers at Porte often were anxious about foreign occupations by way of railways. They were cautious, and often refused to grant concessions for strategically sensitive regions. The Sultan, therefore, was opposed to constructing railways near the borders and coastlines. For instance, Dr. P. Pohrbach of the Baghdad Railway observed that:

> The Sultan insists in a most decided manner that the railway shall nowhere approach to within less than half a day's march from the coast, for fear of its being attacked from the sea. The company (Anatolian Railways) never have maintained their demand to touch Adana, where an English railway leads to the port of Mersina.[98]

This policy delayed the construction of most commercially oriented short lines projected before and after the 1860s. Nevertheless, the Ottoman government granted the concessions for several new lines. With new concessions, the Smyrna to Aidin Railway Company managed to connect other towns in the interior with Smyrna by

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[97] Enver Ziya Karal, *Osmanli Tarihi,* Ankara, 1988, vol. 8, pp. 465-471.

[98] The Summary of a Pamphlet on the Baghdad Railway by Dr. Paul Pohrbach, 18th January, 1902, *FO78/5249 Asia Minor and Baghdad Railways, 1901 to 1902, vol. 2.*

building a railway network. By the early twentieth century, the Smyrna to Aidin Railway, including branches, was brought to the total mileage of up to 318.5 miles. The company competed with the others for the Ottoman railway concessions. Its standards were improved. The railway represented about a third of the money invested in Turkey by the British public.[99] The British were opposed to the Ottoman government granting any concessions to other companies, and wanted to remain as a monopoly. However, with the decline of British influence on the Ottoman Empire, the company often lacked the Ottoman Imperial sanction for expanding its railway network in Asia Minor. Sir Nicholas R. O'Conor, the British Ambassador in Istanbul, after his interview with the Sultan regarding the subject in 1902, stated that:

> I had never been able to understand why his Imperial Majesty had in past years so strenuously opposed the prolongation of the Smyrna-Aidin Railway. This line was, as his Imperial Majesty knew, almost the only railway in Turkey which had been constructed without a kilometric guarantee and without expense of any kind to the Imperial government. It had marvelously developed the economic conditions of the districts it traversed, it had almost doubled the public revenues in those parts, and it had given valuable factor for the conveyance of troops when occasion required.[100]

The Smyrna-Cassaba Railway, which was operated under British management and engineers, received many additional concessions. The government itself built several lines on its own account. They were subsequently operated by the Smyrna Cassaba Railway. In 1887 the company began to build a branch from Manisa to Soma. The government provided the finance and also granted the concession to operate the line after it was completed in 1890. In 1893 the Belgian engineer Nagelmackers, the

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99 See Leon Dominian, "Railroads in Turkey", *Bulletin of the American Geographical Society,* (1915), vo. 47, p. 935.

100 N. R. O'Conor to Landsowne K. G., 10th February, 1902, *FO78/5450 Extensions of Smyrna-Aidin Railway, 1902-1905.*

founder of the International Sleeping-Car Company, obtained from the government a contract for the operating rights on all sections of the Smyrna Cassaba Railway.[101] Already owning some sections of the railway, it repurchased the remainder, for which Nagelmackers advanced the money. Then the original company was dissolved and in 1893 was replaced by a French company founded in Paris, the *Société Ottomane du Chemin de fer de Smyrne-Cassaba et Prolongements.* [102]

Although the early initiatives to construct and operate small railway systems in Turkey began in Britain, they were soon followed by France, and later joined by Austria, Belgium, Germany and other European countries, including Italy. Even Russia, the traditional enemy of the Ottomans, was involved in Turkish railway business, especially in the late nineteenth century when railway building in Turkey ceased to be a pure financial or business matter and became a political one. Russia wanted the concessions for railway building for purely military reasons. In addition, it tried to prevent European powers from building railways in the Ottoman Empire, especially in eastern Turkey and on the Black Sea coasts. Despite their extreme displeasure and unwillingness, the Sultan and his government, under Russian intense political pressure, had to grant the Russians railway concessions on the Black Sea coasts and in the eastern province of Erzurum. When the Russians obtained an Irade from the Sultan to build a railway from Kars to Erzurum, people of the region reacted with anger that "they will have become like Persia and given away their country without a struggle to Russia".[103] However, it was never built.

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101 E. Talbot, *Steam in Turkey,* pp. 10-11.

102 *Ibid.*

103 Major Maunsell to N. R. O'Conor, 17th March 1900, Van, *FO78/5102 Asia Minor and Baghdad Railways, 1898-1900, vol. 1.*

By the late 1880's the Germans began to dominate railway building in Turkey. Their political will was accompanied by their financial power, while other European capitalists were becoming more reluctant to finance railways in Turkey. The German monopoly was consolidated when the concession for the most important part of the Anatolian Railways, the line from Istanbul to Konia, was granted to German and Austrian builders in 1888. Although French and British capital was represented, it was predominantly German owned. In addition, the Haydarpasha-Ismid Railway's operations, which the government had started to build as a strategically important railway, being originally operated by British builders, was given to Germany, together with a major railway concession from Ismid to Ankara. When the German Emperor, Kaisser Wilhelm II, visited Istanbul and Jerusalem in 1898, the proposal to construct a line from Constantinople to Baghdad was given a great impetus. Through lavish expenditure the Germans gained special favours from the Sultan and obtained an Irade, or Imperial Consent. In December, 1899 an agreement between the Turkish Minister of Commerce and Dr. Siemens, the President of the Deutsche Bank, was signed on railway building, including the Baghdad Railway. Though there was no objection from the Germans and the Sultan, the British did not participate.[104] As originally a British co-operation had been preferred, Dr. Siemens made overtures to the Smyrna-Aidin Railway Co., but these were subsequently rejected. He then applied to the French Cassaba Railway Co, and made an undertaking with the French.[105]

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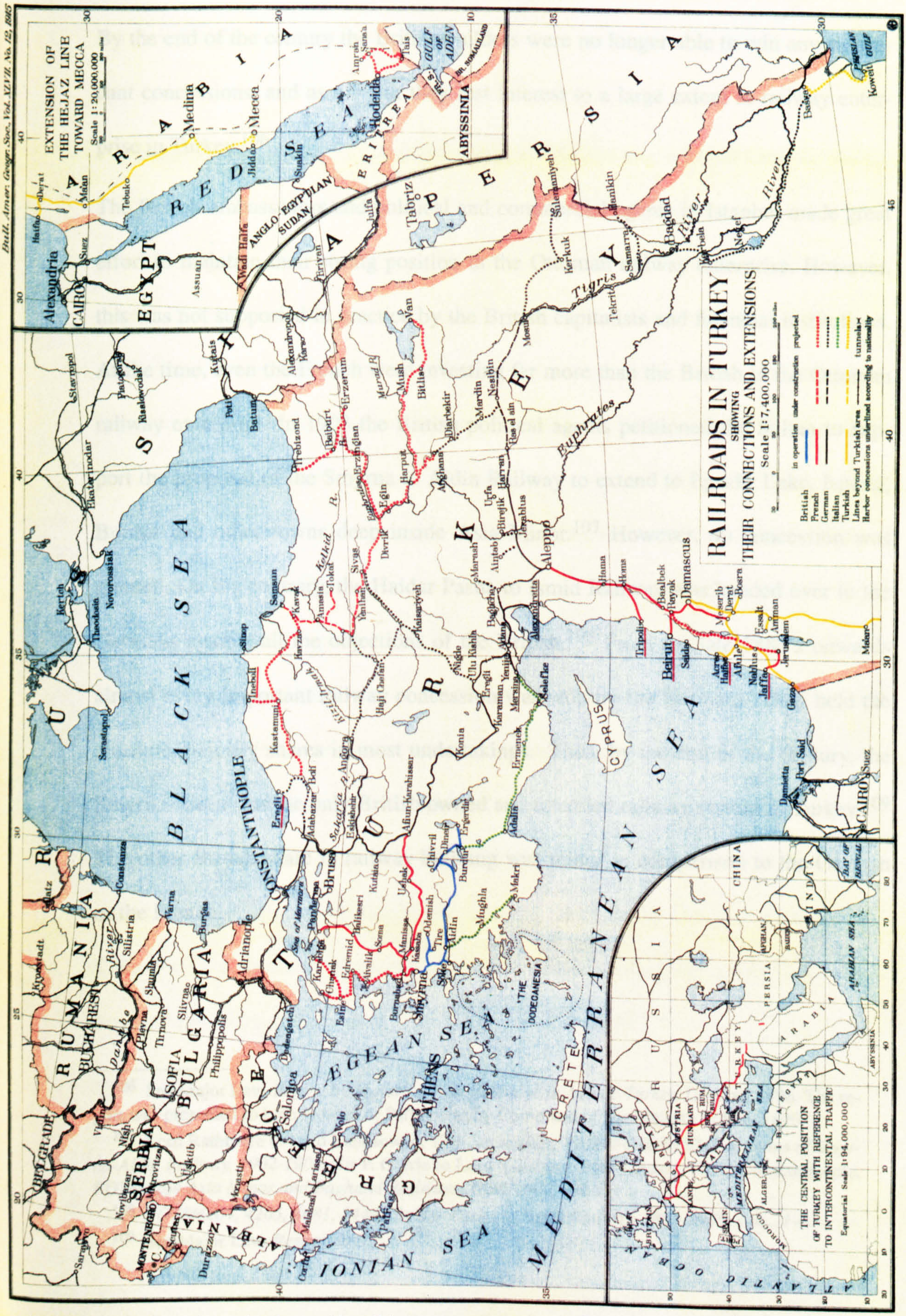
104 "A Memorandum, containing a brief account of the Negotiations relating to the Baghdad Railway, 1898-1905" by Mark Sykes, enclosed in N. R. O'Conor's letter to Foreign Office, 20th August, 1905, *FO78/5449 Asia Minor and Baghdad Railways, 1904-1905, vol. 4.*

105 *Ibid.*



Railways in Turkey before the First World War. [From L. Dominian, Bull. Amer. Geogr. Soc., 1915]

By the end of the century the British builders were no longer able to win any significant concessions, and as a result they lost interest to a large extent in railway enterprise in Turkey.[106]

The British ambassadors and political and commercial agents in Istanbul made great effort to maintain their strong position in the Ottoman railway enterprise. However, this was not supported in practice by the British capitalists and financial institutions. At the time, even the French were investing far more than the British in the Ottoman railway enterprise. In 1903 the British political agents petitioned the Sultan to support the proposal of the Smyrna to Aidin Railway to extend to Egridir Lake, Isparta, Burdur and other towns deep inside Asia Minor.[107] However, no concession was granted. On the contrary, the Haidar Pasha to Ismid Railway was handed over to the Germans against all the objections of the British.[108] From the late 1880's onwards almost every important railway concession was won by the Germans. They held the absolute majority shares in most undertakings. Thus, by the end of the century, the Smyrna-Aidin was the only British owned and operated railway system in Turkey.[109] The other British share in railway building was minor in comparison to the German or the French.

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106 See Major Law, *Report by Major Law on Railways in Asiatic Turkey,* London, 1896. The report was presented to both Houses of Parliament by Command of her Majesty in May 1896.

107 Lord Rathmore to Lord Landsowne, 17th September, 1903, *FO78/5450 Extensions of Smyrna-Aidin Railway, 1902-1905;* Sir P. Currie to Lord Salisbury, 14th January, 1898, Constantinople, *FO78/4264 Asia Minor and Baghdad Railways, 1898-1900, vol. 1.*

108 *FO78/4264, 4265, 4681, 5449, Haidar Pasha to Ismid Railway, 1885-1905, vols. 1-4.*

109 See Major Law, *Report,* 1896.

4.6 Conclusion

The introduction of railway systems to the non-Western world began with the private or state initiatives of Europeans to build railways overseas for economic, military and political purposes. The style and pattern of this transfer were largely shaped by geographical, economic and political conditions of the country in question. One classic example is colonial India, where the British had a monopoly in railway building. The other examples are mainly Japan, the Ottoman Empire, China and Africa, where several European companies competed to build railways. The Ottoman Empire, though it was not a colony, saw its strong position largely weakened after the mid-nineteenth century and became subject to indirect colonial attempts by European powers. Especially through the European financial and political morasses, the principle of independence was to some extent lost. This marked all the relations of the Ottomans with foreigners in the late nineteenth century. Although at the outset railway enterprise in Asia Minor was entirely in British hands, soon other powers became involved in railway concessions and enterprises. Accordingly Ottoman railway building presents a mirror of the struggling of powers for a bigger share in the Ottoman Empire itself. Thus, the Ottoman case represents neither a colonial pattern nor a completely independent one, but perhaps a unique combination of them.[110]

European competition to build railways was not often purely a matter of commercial enterprise or economic concern in Turkey. It was, in this decaying empire, largely a

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[110] N. Faith ascribes the German's monopoly of the railways in the Ottoman Empire to direct colonialism, and suggests that only a direct colonialism could provide the empire with an efficient network. See Nicholas Faith, *The World The Railways Made*, pp. 152-153.

political matter, particularly by the end of the century. It involved political privileges for the winner. Each power carefully calculated the advantages and disadvantages of every railway construction for itself and for its rivals.[111] As a result, most concessions were obtained through diplomatic channels. This created enormous difficulties for the Ottoman railway enterprise as a commercial undertaking. The severe rivalry among Europeans delayed construction of railways for several years, and their intrigues caused failure of most plans, as in the case of many other projects. Perhaps one common concern of the European powers was to avoid any type of investment that would contribute too much to the economic and military strengthening of the empire.[112] Although the Sultan and his officials were aware of the political importance of railway communication, they had to depend on Europeans for railway construction. The Sultan made efforts to build the strategically important lines, which served as political designs for his extension of power. Especially by the Hedjaz Railway project to build a pilgrim-railway to Mecca, 1900-1908, the Sultan aimed to bring Muslims together, and prevent political disturbances and revolts in the eastern provinces.[113] This was the major line that was built under Ottoman management, and indigenous engineers were also employed.

On the whole, the Ottomans could not adopt the railway technological system and establish its infrastructure, as in the case of electric telegraphy. Indeed, within the

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[111] On the conflicting interests of the European powers involved in railway construction, see L. Dominian, "Railroads in Turkey", pp. 934-40.

[112] Jacob M. Landau, *The Hejaz Railway and the Muslim Pilgrimage: A Case of Ottoman Political Propaganda,* Detroit, 1971, pp. 7-9.

[113] F. R. Maunsell, "The Hejaz Railway", *Geographical Journal,* (1908), vol. 32, pp. 570-585; *FO78-5186: 1896-1901 Haiffa-Damascus Railway, vol. 1; FO78-5451: 1902-1905 Haiffa-Damascus Railway, vol. 2; FO78-5452: 1900-1905 Damascus-Mecca Railway (Hedjaz Railway).* An important part of this railway was destroyed Arab nationalists during WWI, led by the British agent T. E. Lawrence.

non-Western world Japan was the only case that adopted the Western railway technologies with success. Japan reached a level of high self-sufficiency by the end of the nineteenth century, particularly in locomotive construction, the most sophisticated component of this large technological system.[114] Turkey, on the other hand, remained almost entirely dependent on European hardware, knowledge and technical skills. The railway as a large technological system entailed far higher cost, heavy industrial structures and more difficult engineering skills in comparison with the electric telegraphy, which was established countrywide within about a decade. The Ottoman financial state presented a major obstacle to the construction of railways. Therefore, unlike the telegraph, railways were from the beginning financed, controlled and operated by the foreign capitalists, and remained largely a foreign enterprise until the early twentieth century.

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[114] For a short account of the transfer of railway technology to Japan, see Takeshi Yuzawa, "The Transfer of Railway Technologies from Britain to Japan, with Special Reference to Locomotive Manufacture", in D. J. Jeremy (ed.), *International Technology Transfer: Europe, Japan and the USA, 1700-1914*, Hants & Vermont, 199, pp. 199-219.

Chapter Five

THE BRITISH NAVAL MISSION and PASHAS

5.1 Introduction

The British naval link to Turkey began as a semi-official mission by the British government as a part of its wider imperial policy to increase its influence in the Ottoman Empire from the 1830s. The British government and admiralty allowed or often appointed a certain number of officers of the British navy to serve in the Ottoman navy. From about the 1840's to the First World War there was almost a ceaseless succession of British Naval Advisers and officers to the Ottoman navy. Many of them became *pasha,* a title of high official rank in the Ottoman Empire. Most of them established close contacts and friendship with the Sultan, his senior officials and naval authorities; a process which helped to develop good will among the Ottoman administrative elite for British engineering and technologies. This played an important part in Britain's becoming more and more influential in Ottoman naval matters. In this chapter I will examine the "official" British naval mission and major naval advisors to the Ottoman Empire.[1] I will argue that the British naval mission served to cultivate the grounds for the introduction of British naval technologies to the Ottoman Empire as a part of a wider imperial expansion. It originally aimed at increasing British political and military influence in Ottoman affairs in the general power struggle of European military and industrial competition.

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[1] By an "official" mission, I mean one largely controlled by the British government, and its members (advisers, officers and engineers) generally belonged to the British Admiralty and were subjected to the approval of the British government.

The development of the whole Ottoman naval programme since the 1830's can be interpreted as a large technological system building programme, based on British model. This is analogous to what Hughes calls "the evolution of large technological systems".[2] I will avoid applying such a programme in a strong sense, for the reason that the technological system approach presupposes a deterministic, or implicitly teleological, interrelationship among the components of a system. I will employ this approach simply as a didactically useful theoretical tool. Besides, the building of a large technological system in the Ottoman Empire, a non-Western environment, would be different than in the West, on which Hughes's system approach is based. Within the framework of such an analysis, the British naval mission was a part of the preliminary step for building political and institutional environments for British naval technological systems in Ottoman society. British advisors and officers represented and pursued British military and commercial goals while helping the Ottomans with the reorganisation of their navy on a British model. They were not only agents between the Ottoman navy and the British Admiralty and government, but they also provided a channel of communication and mediation between the Ottoman navy and British shipbuilders and armament companies, which were to supply the Ottoman navy with new naval machinery, armament, and technical instruction for operating the new system.

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[2] T. H. Hughes, "The Evolution of Large Technological Systems" in Bijker, Hughes & Pinch (eds.), *The Social Construction of Technological Systems,* Cambridge, Man: MIT Press, 1987, pp. 51-52.

5.2 The "Imperial Policy" and The British Naval Mission

The British naval mission to and supervision of the Ottoman navy, from the British perspective, was a part of the general foreign policy in the East. It therefore needs to be examined within the contexts of the British "imperial policy" and "the balance of power" struggle in Europe in the nineteenth century. When Russia became a real threat to the *status quo* of the Ottoman Empire, particularly after the Ottoman-Russian war of 1828-29, British interests were also at stake, for the British feared a future Russian expansion to Asia Minor and the Mediterranean, which would form a danger to the British dominions and markets in the East. The British government under Canning and Palmerston used seapower to maintain and expand British overseas interests. This included defending the Ottoman Empire from its predators.[3] Britain therefore committed herself to establish strong naval and military ties with the Ottoman Empire. The preservation of the Empire was seen, especially by Lord Palmerston (as the Foreign Secretary and, later, Prime Minister) and his friends, as a necessary element in the general balance of power in Europe and the guarantee to check Russian expansion.[4] These objectives formed the basis of the Palmerstonian framework in the British approach to the *Eastern Question,* which were to be pursued in the formation of a military and political alliance in the Crimean War.

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[3] Lord Palmerston, Foreign Secretary, to the Earl of Minto, First Lord of the Admiralty, 13th November, 1838, in J. B. Hattendorf, R. J. B. Knight, A. W. H. Pearsall, N. A. M. Rodger, and G. Till (eds.), *British Naval Documents 1204-1960,* London: Scolar Press, 1993, pp. 577-578.

[4] For a good reference source on the subject, see Stanley Lane-Pole, *The Life of Stratford Canning: From His Memoirs and Private and Official Papers,* 2 vols., London: Longmans, Green & Co., 1888; See also M. E. Chamberlain, *"Pax Britannica"?: British Foreign Policy, 1789-1914,* London: Longman, 1988, p. 80.

From about the early 1830's Britain began to show serious concern over the present and future states of the Ottoman Empire with respect to their long term commercial and political interests in the East. Furthermore, alliance and friendship with the Sultanate would help the British increase their power and prestige in the Islamic world. The British utilised the Sultan's authority and position in favour of their economic and political expansion in the Ottoman Empire and the rest of the Islamic world. The new British imperial policy was reflected in their willingness to initiate a programme of certain military and naval reforms in the Ottoman Empire to strengthen its defensive power. To serve the British objectives, it had to remain a relatively strong power, for example, at least powerful enough to prevent Russian expansion. This entailed the improvement and modernisation of the Ottoman military structure on Western European models. Britain was ready to play an active role in this reconstruction programme for her future interests in the region. As early as the mid 1830s, the British government sent several military and naval missions to the Ottoman Empire to assist with its military and naval reorganisation.[5] Later, there was also a number of officers and men of the Royal Artillery and Engineers, who were dispatched to Turkey for the purpose of reforming the artillery and engineering departments of the Ottoman army. This led to the establishment of an "artillery laboratory" for the casting of guns, howitzers, and mortars.[6]

At first, the Sultan and his officials had been suspicious of the British naval and military missions for their invisible military objectives over their Empire, and therefore

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[5] See Frederic Stanley Rodkey, "Lord Palmerston and the Rejuvenation of Turkey, 1830-1841, Part I, 1830-1839", *The Journal of Modern History,* vol. 1, No. 1, (1929), pp. 570-593, (578-584).

[6] Frederic Stanley Rodkey, "Lord Palmerston and the Rejuvenation of Turkey, 1830-1841, Part II, 1839-1841", *The Journal of Modern History,* vol. 2, No. 2, (1930), pp. 193-225, (199).

they had been rather reluctant to accept British assistance and grant permission for British naval officers and engineers to enter the Ottoman navy.[7] The Ottoman naval failures against European navies provided a major motivation and force for the review of the navy in the light of European naval structures and technological power. The Sultan and his government by the early nineteenth century had already become aware of European naval and military power, which was greatly increased by the applications of new technological innovations to the armament and transport systems. Among the Sultan's officials there were Europe-oriented reformists: for instance, men like Reshid Pasha, who had been in Paris and London for some years, and who later became an important figure in the reform movement in the Empire. Later, there were Ali and Fuad Pashas, who served as Foreign Ministers and Grand Viziers. They set up most of the plans and programmes for the Ottoman naval reconstruction with British naval advisers.[8]

There was also traditional Ottoman pride and reluctance to change the established system of naval defence and machinery. However, when the decline of Ottoman naval power, relative to Europeans, was no longer a secret to the ordinary man, the acceptance and search for further Western supervision and instruction became simply a practical necessity for maintaining a strong navy. The Ottoman Sultans, particularly Sultan Mahmud II (1808-1839), invited European naval artisans and engineers to

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[7] S. J. Shaw and E. K. Shaw, *History Of the Ottoman and Modern Turkey,* Cambridge: Cambridge University Press, 1977, vol. II, p. 59.

[8] Woods Pasha's *spunyarn* provides us with invaluable information about Ali and Fuad Pashas and their role in the reorganisation of the Ottoman navy and in the making of the British Naval Mission to the Ottoman Empire. See Sir Henry Woods Felix Pasha, *Spunyarn... Forty Seven Years Under the Ensigns of Great Britain and Turkey,* London: Hutchinson & Co. Paternoster Row, 1924, (2 vols), especially, vol. II.

introduce European naval shipbuilding technologies. They were largely British. At the time, the French were not trusted because of their ambition over Egypt, then an Ottoman province. However, there was still a considerable French military and naval mission in the Empire. Furthermore, there was also a number of Prussian officers, who were seeking employment in the Ottoman army and navy.[9] Prussian officers were mainly involved with the Ottoman land defence and artillery. The involvement of French and Prussians with the Ottoman military structure made Britain act quickly to get involved with the Ottoman navy to increase her influence in the Ottoman government. Particularly cautious of a strong French military influence on the Empire in the future through the naval and military missions, Lord Palmerston had been anxious to send British naval and military officers to instruct the Ottoman army and navy.[10] Furthermore, Palmerston believed that the support for the Sultan and his government in adoption of liberal reforms in the long term would result in their becoming congenial commercial clients and political allies.[11]

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[9] For example, the famous Prussian, Helmuth von Moltke, one of the earliest and most prestigious Western military experts, had been already in its employ since 1835. His mission became the foundation of a strong Prussian military mission to the Ottoman Empire. See H. K. B. Moltke, *Moltke: His Life and Character, Sketched in Journals, Letters, Memoirs, a Novel and Autobiographical Notes,* Osgood, 1892.

[10] For instance, in 1838, he sent to Turkey four British officers; Captain Walker, Commanders Legard and Massie, and Lieutenant Foote. Walker was employed as naval adviser, and later made propositions to the Porte for the improvement of naval training. See Stanley Rodkey, "Lord Palmerston ..., I", p. 590.

[11] P. J. Cain and A. G. Hopkins, *British Imperialism: Innovation and Expansion, 1688-1914,* London: Longman, 1993, p. 398.

5.3 Expansion of the British Naval Mission

The British naval mission to the Empire began with the officers simply providing the Ottoman navy with supervision and advice on the structuring and reorganisation of the navy, but soon it was expanded to the flow of naval vessels, arms and other complementary machinery. In other words, the British naval mission and the introduction of her industrial and military machinery to the Ottoman Empire went hand in hand. For example, as early as the early 1840s, Cyrus Hamlin acknowledged the existence of a general "English store where good English articles could be obtained", and the place also operated as "the rendezvous for English engineers from steamers and government works."[12] Inspecting the newly established Ottoman industries in Istanbul in 1839, Sir William Fairbairn reported that:

> The Imperial dockyards, small-arm manufacture, cannon foundries, powder mills, and roperies, were in a very primitive state. Some additions and new machinery had been introduced a year or two before my arrival, but they were far from perfect, and the native workmen appeared to be at loss how to work and manage machinery of such a complicated character.[13]

In the Imperial Dockyards he found:

> a powerful steam engine and a new set of pumps were required to empty the docks when repairs were wanted, instead of having to wait three or four days for the slow action of mules and horses, the only motive power then for driving the imperfect machinery. In the roperies the spinning, stranding, and laying of cables were entirely done by hand. Since that time good and improved machinery have been introduced in both establishments, greatly to the benefit of the government.[14]

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[12] Cyrus Hamlin, *Among the Turks*, New York: Carter and Brothers, 1878, p. 210.

[13] W. Fairbairn, *The Life of Sir William Fairbairn, Bart*, (Partly written by himself, edited and completed by William Pole), London: Longmans Green & Company, 1877, pp. 168-169.

[14] *Ibid*, p. 169.

Although the importation of Western industrial hardware technically presented no difficulties, the Ottoman Empire lacked an infrastructure for the operation of this machinery. Therefore the British government, besides sending technical experts, also agreed to accept a certain number of Ottoman students to the military academies, including Woolwich, Portsmouth and Sandhurst. Thus, by the mid-nineteenth century there was a considerable number of Ottoman naval and military students in England.[15] On the other hand, the influential British ambassadors at Istanbul, such as John Ponsonby and Stratford de Redcliffe, constantly encouraged the Porte to purchase iron steamers to strengthen its fleet, and torpedo boats, especially for the defence of Istanbul.

At the same time a considerable number of British engineers and experts were employed by the Ottoman government. They particularly instructed naval shipping and naval training.[16] By the mid-1830s there had been some steamers in the service of the Sultan. They were mostly purchased from Britain. The Sultan had employed British naval artisans, and, indeed, most of the earliest Ottoman steamers were operated by British engineers and captains.[17] At the time, Britain had the largest fleet in the Mediterranean and was becoming the major world naval power. The Ottoman Empire, as its naval capacity was diminishing, had no option but to establish close

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15 "Egitim gormek uzere Londra'ya gonderilen 18 ogrenci", *Turkish Naval Archives at Istanbul (TNA), Muhasebe Bolumu, 11/77,* 10 November 1851; Also, "Egitim icin Londra'ya gonderilen Bahriye Mektebi talebesi", *TNA, Sura-i Bahri Bolumu, 12/5A,* 6 November 1851.

16 See "Ingiltere'den gelen yabanci ogretmenlerin istihdami", *TNA, Muhasebe Bolumu, 2/5,* 14 June 1849; "Ingiliz Albay Elestin'in donanma emrine ogretmen olarak verilmesi", *TNA, Muhasebe Bolumu, 7/20,* 19 June 1850; "Cekic fabrikasinda calistiralacak Ingiliz uzman", *TNA, Muhasebe Bolumu, 16/90,* 27 August 1852.

17 For some details about the British engineers employed by the Ottoman government at the dockyards and in the operation of similar works during this early period, see *Turkish Naval Archives at Istanbul, Muhasebe Bolumu,* 93/73, 27th March, 1838; *TNA, Muhasebe Bolumu,* 93/75, 27th March, 1838.

relations with the British, particularly regarding naval matters. Furthermore, the Sultan's reliance on Britain as an ally against the Russian threat was an important factor for the Ottoman Empire's naval connections with Britain. However, the Ottoman authorities were not naively unaware of the political and military ambitions of Britain and other European great powers, mainly France and later Germany. Therefore, the Ottoman general policy was not to allow the domination of a single European power in their affairs, but rather to keep them in some balance. That is, as in the cases of telegraphy and railways, all great European powers and their private firms were involved in the exportation of European naval and military machinery and expertise to the Empire. For example, while Germany was becoming the major influential power on military issues towards the end of nineteenth century, Britain remained the most influential on naval matters until WWI.

However, its weak financial and military state did not allow the Ottoman government to exercise any effective role in making the balance or the *Concert of Europe* in a Palmerstonian term. European financiers who were involved in the Ottoman Empire helped to expand the sphere of political influence of their countries. Indeed, the interests of European financiers and concession holders operating overseas very often coincided with the political policies of their governments.[18] For the most part, the Ottoman government had no real control over the flow of European naval ships and arms. Most ship and arms orders to Britain, France and Germany were made under foreign loans. The first international loan was made in Europe, mainly in Britain and France, for reconstruction of the Ottoman Empire's defence and public works after

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[18] D. McLean, "British Finance and Foreign Policy in Turkey: The Smyrna-Aidin Railway Settlement 1913-14", *The Historical Journal,* vol. 19, 2 (1976), pp. 521-530.

the Crimean War.

Initially, the Ottoman loans were popular in Europe. Woods Pasha, the naval adviser, stated that "it was the era of foreign loans, Turkish credit stood very high in the world of finance, and money seemed to be flowing everywhere".[19] However, foreign capital and funds were soon linked to increasingly unfavourable terms, for example, with very high interest rates. Between 1869 and 1875, the Ottoman government borrowed more than its estimated revenues.[20] The failure of the Ottoman government to repay its debt stopped its capital imports and led to an economic crisis. To deal with this, in 1881 the *Ottoman Public Debt Commission* or *Administration* was set up under the supervision of foreign bond holders, mainly from Britain and France. The organisation guaranteed that the state would accept its obligations as a debtor nation in the world financial system.[21] In practice, this was a separate administrative body, which controlled a large proportion of Ottoman revenues. Thus, Britain and France, and later, Germany, through their financial power were in a position to check the flow of ships and arms to the Ottoman Empire. This opened the way for their pursuit of imperialism. In the wider context, the British naval mission to the Ottoman Empire was a part of her imperial ambitions in the East, which was accelerated by the new political and military balance or imbalance brought about by the Crimean War.

There were also officers educated in Europe, who were familiar with Western military technology. In Post-Crimean Turkey Britain became the most popular

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19 Sir Henry Woods Felix Pasha, *Forty Seven Years...* vol. II, p. 94.

20 Donald Quataert, "Part IV: The Age of Reforms" in Halil Inalcik (ed), *An Economic and Social History of the Ottoman Empire, 1300-1914*, Cambridge: Cambridge University Press, 1994, pp. 759-934, (773).

21 *Ibid.*

destination for the Ottoman's naval training by the mid-nineteenth century.[22] The Ottoman officers who were trained in Britain formed the largest Europe oriented Ottoman naval group. British engineers and experts, who were employed by the Ottoman government gave instruction with respect to naval shipping and naval training.[23] Following the Crimean War, which greatly improved the relations between the two countries, the British naval advisers to the Ottoman navy were appointed to key positions and were able to contact the Ottoman officials. They were also given authority to act on behalf of the Ottoman navy, especially regarding the connections with the British government and private companies. The British naval mission continued throughout the century. When the Young Turks took power in 1908, the Ottoman government employed higher ranking British officers as naval advisers, with a large number of staff under them. The British naval mission became a large scale and very influential factor in the reorganisation and actual command of the Ottoman fleet.

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[22] For instance, see "Egitim gormek uzere Londra'ya gonderilen 18 ogrenci", *TNA, Muhasebe Bolumu, 11/77,* 10 November 1851; "Egitim icin Londra'ya gonderilen Bahriye Mektebi talebesi", *TNA, Sura-i Bahri Bolumu, 12/5A,* 6 November 1851; "Londra'ya gonderilen ve adet eden alti Bahriye Mektebi ogrencisi", *TNA, Sura-i Bahri Bolumu, 14/233A,* 24 Mart 1853.

[23] See "Ingiltere'den gelen yabanci ogretmenlerin istihdami", *TNA, Muhasebe Bolumu, 2/5,* 14 June 1849; "Ingiliz Albay Elestin'in donanma emrine ogretmen olarak verilmesi", *TNA, Muhasebe Bolumu, 7/20,* 19 June 1850; "Cekic fabrikasinda calistiralacak Ingiliz uzman", *TNA, Muhasebe Bolumu, 16/90,* 27 August 1852.

5.4 British Pashas of the Ottoman Navy

In this section I will attempt to examine major British Naval Pashas serving as the head of the British naval mission and advisers to the Ottoman government and Ministry of Marine, and their role in forming a medium and agency between the Ottoman Empire and British industrial enterprises. They were also political agents of Britain. They were sometimes subsidised by the British government. Our knowledge of British Pashas and their activities in the Ottoman navy and army is far from being comprehensive. Their names were usually adapted to the Turkish language in order to make them pronounceable for the locals. Sometimes they were even given a new Turkish-Ottoman name, such as Mushaver Pasha for Adolphus Slade. Most senior British naval advisers gained the title "pasha", such as Hobart Pasha, Frost Pasha, Woods Pasha and Gamble Pasha. The title simply meant high rank official, one of the most respectable and powerful titles in Ottoman society. They were also made admirals in the Ottoman navy. Hobart Pasha was even appointed as the marshal of the Ottoman Empire by the Sultan.

All British pashas and officers were highly esteemed by the Ottoman officials, navy officers and public. They presented mostly an adventurous image. Their service in the Ottoman navy won them fame and reputation particularly at home. They were keen on wearing Ottoman naval uniforms, and even when they were back in Britain they were proud of being seen in those uniforms, in addition to their medals and titles. Indeed, most of them made a great effort to adapt to a life style similar to that of an Ottoman gentleman or pasha. This improved and created a mutual environment

of communication and influence with indigenous pashas and officers. British naval pashas usually accompanied by a group of British naval engineers, skilled men and officers, who usually dealt with the navy's machinery, technical instruction and organisation. They played a crucial role in Westernising the Ottoman navy by introducing European machinery, education and skills. In what follows I illustrate the most senior British naval pashas and their services as the Naval Advisors and the Heads of the British naval missions to the Ottoman navy.

Mushaver Pasha

Sir Adolphus Slade (1804-1877), K.C.B., was one of the earliest high-ranking British officers to serve as a naval advisor to the Ottoman navy after the retirement of Captain Walker.[24] Slade was a knowledgeable officer on naval construction and promotion.[25] He was allowed to serve in the Ottoman fleet in 1849, without losing his rank in the British navy. He became known as Mushaver Pasha by the Ottomans. Mushaver Pasha lived much like an Ottoman.

He was with the Ottoman fleet at the bombardment of Sebastopol by the Allies in the Crimean War. Until the late 1860s, Mushaver Pasha remained as the administrative head of the Ottoman navy. He became involved in the reorganisation of the navy, and was claimed to have brought it to "a point of relative efficiency".[26] He had a considerable knowledge on military navies of maritime states.[27] His period of service

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[24] For biographical information, see *The Times,* 21st July 1890, p. 9; *DNB,* vol. 18, p. 362; and also F. Boase, *Modern English Biography,* vol. 3, p. 599.

[25] See Adolphus Slade, *A Few Words on Naval Construction and Naval Promotion,* London: Sounder and Otley, 1846.

[26] O'Byrne, *Naval Biographical Dictionary, p. 525.*

[27] While in Istanbul in the service of the Ottoman navy, Sir Adolphus Slade wrote his book, *Maritime States and Military Navies,* London: James Ridgway, 1859.

included the Crimean War.[28] His services were acknowledged by the Ottoman government with Medjidie and Osmanieh medals. When he obtained the rank of rear-admiral in the British navy he retired from the Ottoman service.[29]

Hobart Pasha

After the retirement of Admiral Adolphus Slade, another British naval officer, Augustus Charles Hobart-Hampden (1822-1886) entered the service of the Sultan. He was the son of the Earl of Buckingham.[30] Upon the recommendations of his brother, Lord Hobart, then the Director General of the Imperial Ottoman Bank, he was invited by Ali Pasha, then the Grand Vizier, to superintend and assist the re-organisation the Ottoman navy in 1867.[31] Hobart had become a well-known officer through his services and adventures during the Crimean War and American Civil War while he was still in the British navy.[32] At first, he obtained no definite position in Turkey and acted as an unofficial adviser to the Ottoman government and Ali Pasha in particular. In 1868 he was nominated "member of the Board of Admiralty, and Director General of Naval Schools" in the Ottoman Empire.

Shortly before his arrival the Ottoman fleet had suffered several disasters in Crete during revolt. Following these disasters a new Ministry of the Navy had been

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28 His book, *Turkey and the Crimean War,* was published in 1867.

29 *DNB,* vol. 18, p. 362.

30 For a biographical sketch of Hobart Pasha, see *Biographical Magazine,* No: 1, (June), 1877, pp. 35-45; see also Sir Henry Woods Felix Pasha, *Forty Seven Years...* vol. II, pp. 150-160.

31 Ali Pasha had known him while he was Ottoman ambassador in London, See *Biographical Magazine,* p. 41; Woods Felix Pasha, *Forty Seven Years..,* vol. II, p. 151.

32 He published some his adventures during the American Civil War in his book: *Never Caught,* 1867, which he wrote under the pseudonym of "Captain Roberts". He wrote his adventures during his service for the Ottoman Empire in the: *The Torpedo Scare: Experiences During the Turco-Russian War,* Edinburgh and London: W. Blackwood & Sons, 1885. See also, Augustus Charles Hobart-Hampden, *Sketches From My Life,* London: Longmans, Green 1887.

established, with the minister and his undersecretary responsible for administration and finance with the grand admiral left only to command the fleet.[33] An advisory council consisting of retired naval officers was also set up to help with construction of a more efficient and powerful fleet. During the visit of the Sultan Abdul Aziz to Queen Victoria in the summer of 1867, the British government agreed to send to Turkey a British naval mission headed by an Admiral.[34]

However, due to the Cretan Rebellion, the House of Commons delayed the mission in question. When the project was brought up for consideration again, the Ottoman government had changed their minds about the nature of the mission. They simply applied for two naval instructors for teaching navigation, two gunners and an officer of Lieutenant's rank to act as commandant of the naval cadets.[35] Later, a British naval mission led by Hobart Pasha was invited to provide advice and technical assistance.[36] Hobart's service in the suppression of the Cretan Rebellion, 1866-1869, brought him the rank of full admiral, with the title of pasha.[37] Thereafter, he became commonly known as Hobart Pasha. During his long service in the Ottoman navy, he continued to reorganise the Ottoman navy. He led committees for revising naval rules, regulations and signals. He helped the Ottoman Ministry of Marine set up naval schools and training ships. He wrote:

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33 S. J. Shaw and E. K. Shaw, *History Of the Ottoman and Modern Turkey,* vol. II, p. 75.

34 Sir Henry Woods Felix Pasha, *Forty Seven Years..,* vol. II, p. 11.

35 Sir Henry Woods Felix Pasha, *Forty Seven Years..,* vol. II, p. 11.

36 *Ibid.*

37 Hobart's action against Greece during the Cretan rebellion was seen as a breach of the Foreign Enlistment Act, and was accordingly struck off the British navy list. However, he was restored to his naval rank in 1874, with the support of Lord Derby. See *DNB.,* vol. 9, p. 931.

Hobart Pasha: Admiral, Advisor and Commander of the Ottoman Fleet. He was made marshal of the Ottoman Empire by the Sultan in 1881. [From the Illustrated London News, 1877.]

> I have organised the Turkish navy in a way which has led to high encomiums as to its state from all the Commanders-in-Chief of the English fleet who have lately visited Constantinople. I have established naval schools, training and gunnery ships (and here I have been assisted by English naval officers).[38]

Hobart Pasha also provided an important medium between British agents for armament and naval machinery and the Ottoman Ministry of Marine. On several occasions he offered help and advice to Armstrongs' representatives and agents and arranged their meeting with the other Ottoman naval authorities.[39]

During the Turco-Russian war of 1877, Hobart Pasha was placed in command of the Ottoman fleet in the Black Sea. He kept the sea clear of Russian raiders with his flagship, the *Arsari-Tevik,* whilst the smaller vessels of his squadron held Russians at bay.[40] He especially displayed considerable skill in out-witting the Russian torpedoes, mainly consisting of Whitehead torpedos. [41] Fish or Whitehead torpedos, the Harvey, the Pole, the fixed or mine torpedo, the Ley or Nordenfeldt, the cigar-boat and the Berdan were becoming important in naval warfare. In particular, fish-torpedo warfare was designated as the "naval scare of the day".[42]

He was highly esteemed by the Sultan. In 1881, the Sultan appointed him mushir or marshal of the Ottoman Empire.[43] He lived in a commodious mansion in the "Rue des Postes" at Pera, and led a pleasant life, spending much of his time shooting in the Sultan's farms.[44] He was receiving a salary of 200 Turkish Liras from the Ottoman

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38 *Illustrated London News,* vol. 70, 12th May 1877, p. 435.

39 Noble to Armstrong, 29-30th June, 1873, Constantinople, 31/2116, Rendel Papers, Newcastle.

40 Sir Henry Woods Felix Pasha, *Forty Seven Years..,* vol. II, pp. 154-157.

41 Hobart Pasha, *The Torpedo Scare,* London, 1885.

42 *Ibid,* pp. 746-747.

43 *Modern English Biography,* vol. 1, pp. 1426-1427.

44 He was also known to have been studying the details of management of the big iron mon-

government when he died in August 1886.[45]

Woods Pasha: Forty-five Years in the Ottoman Navy

Sir Henry Felix Woods (1843-1929), (K.C.V.O., 1902), served as the Adviser to the Imperial Ottoman Navy from 1869 until he retired after the Young Turk Revolution. Woods lived in Istanbul for forty-seven years. He became admiral and pasha and in later years, served as Aide-de-Camp to the Sultan Abdul Hamid. He first went to Turkey as young officer when being appointed a Second-in-Command of the dispatch vessel, the *Caradoc,* in attendance upon the British ambassador at Istanbul.[46] While in Istanbul, Woods was selected as a British delegate to the International Commission for the Improvement of Navigation in the Black Sea and Bosphorus, which was set up in 1867. He led a project involved with placing a lightship at the entrance of the Bosphorus for the safety of vessels entering or leaving the Black Sea. After completing his work for the commission, Woods was allowed to enter the Ottoman navy as an instructor, by the special request of the Ottoman government to the British government.[47] First, he joined the Naval College at Halki. Four years later, he took command of the cadets on the board the school frigate *Hundevendighar,* and later, the *Mukbir Soroor,* where he gave instruction on various naval subjects.[48]

Woods assisted Hobart Pasha with the reorganisation of the Ottoman fleet. He organ-

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sters, and lying for years as useless toys under the windows of the Sultan's palace. See *Biographical Magazine,* No. 1, (June), 1877, pp. 44-45.

45 *TNA, MKT-506/62,* 26th August 1886.

46 Sir Henry Woods Felix Pasha, *Spunyarn... Forty Seven Years Under the Ensigns of Great Britain and Turkey,* London: Hutchinson & Co. Paternoster Row, 1924, (2 vols), vol. I, p. 250.

47 *Ibid,* vol. II, pp. 11-12.

48 *Ibid,* pp. 12, 25; See also "Yabanci uzman olarak celbedilen Woods and Moris Beyler", 3rd March, 1877, *TNA, 82/141A.*

Woods Pasha encouraged and planned for the Ottoman Navy to order torpedoes from Britain.[49] He devoted much of his attention to torpedo instruction. However, he thought it was like "making bricks without straw":

> The old naval Chiefs did not believe in torpedoes at all before the war with Russia, and the Council would not sanction [his] special expenditure.[50]

However, before the Russo-Turkish War he received instruction to prepare a torpedo and launch it in the Bosphorus for explosion. He managed to display to the Ottoman naval officials the destructive power of torpedoes. Later he destroyed an old wooden frigate by a torpedo as part of a demonstration in the presence of the Sultan. The Imperial Yacht, though being about two miles away from from the frigate, was affected by the explosion and the Sultan was terrified. According to Woods Pasha's account, cautious of such an attack by his enemies, the Sultan did not venture afloat again even in a steam launch, except once or twice a year.[51] After his torpedo demonstration, Woods Pasha was called upon to draw up plans for coastal defence. He surveyed and buoyed the Dardanelles and its approaches.

During the Russo-Turkish War, he undertook torpedo work and the improvement of sea-mines with two highly distinguished British Woolwich gunnery experts, Frost Pasha[52] and Vinicombe Pasha, both of whom later attained the rank of general,

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49 "Miralay Woods Bey'in alt adet musadameli torpitonun Ingiltere'ye siparis edilmesi teklifi", 1st December 1877, *TNA, 6/66.*

50 Woods, *Forty Seven Years..*, vol. II, p. 30.

51 *Ibid.*, pp. 31-35.

52 Frost Pasha (1838-1902), an Aberdonian, held an influential position in service of the Sultan. After his appointment in the gunnery department of Woolwich Arsenal, through Sir John Anderson he was offered a position of responsibility in Tophane, the Turkish Arsenal in Istanbul, the Ottoman counterpart of Woolwich Arsenal. He actively engaged in the production of guns for the Imperial Ottoman government for 34 years. He is said to have invented a new type of gun and improved torpedoboat. *People's Journal* referred to him as the "Aberdeen Engineering Genius". Unfortunately, I have so far been unable to find more information about him. See a newspaper cutting (no date) in the City of Aberdeen, Arts and Recreation Division Archives.

ADMIRAL SIR HENRY WOODS PASHA.

Admiral and Pasha in the Imperial Ottoman Naval Service.
Grand Cordon of the *Medijeh* and *Osmanieh*.
K.C. of the Saxe-Coburg Order.

Aide-de-Camp for some years to the
Sultan Abdul Hamid.

[From Sir Henry Woods Felix Pasha, Spunyarn ... Forty Seven Years Under the Ensigns of Great Britain and Turkey, 1924.]

in *Tophane,* the Ordnance Department under the Grand Master of Artillery.[53] Woods, with the assistance of Warren, the Engineer-Instructor of the cadets, was able to examine the mechanism of the Whitehead torpedo, when three Whitehead torpedoes, launched by the Russians, were captured unexploded. They discovered the secret of its structure, and therefore the Ottomans were able to posses the Whitehead torpedoes, with a special deal, without payment of the heavy premium exacted by the inventor for the first one which he supplied to any government.[54] For his services in the war he was promoted to Colonel, and was placed on the Staff of the Admiralty under Hobart Pasha. He organised a torpedo school on board the *Hundevendighar.*

When Hobart Pasha retired, Woods replaced him as the Naval Advisor and gained full title of Pasha in 1883. Thereafter, he became responsible for reforming the navy. He introduced some modern European machinery, including some British electrical machinery, to the Empire.[55] While reforming the Ottoman navy, Woods Pasha continued his work as an instructor in the modern Naval Engineering School by lecturing on torpedoes.[56] Woods Pasha contacted several British naval and armament companies on behalf of the Ottoman navy and played an agent role between the two.[57] He managed to arrange many European social and commercial contacts with the Ottoman government and officials.[58] Woods Pasha often met the Sultan, his ministers

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53 Woods, *Forty Seven Years..*, vo. II, pp. 36-37.

54 *Ibid.*, pp. 42-46.

55 "Woods Pasha'nin Ingiltere'den getirdigi elektrik makineleri fiatinin gizli olarak tahkiki", 16th August 1885, *TNA, 476/32.*

56 "Bahriye Mektebin'de okutulacak torpido dersleri hocaligina tayin edilen Woods Pasha", 26th August, 1886, *TNA, Mektubi, 506/62.*

57 "Woods Pasha tarafindan Londra'dan satin alinan Ingiltere Ticaret Gemileri Katalogu...", 18th September 1886, *TNA, Muhasebe, 985/58.*

58 See letters to Sir C. Dilke, *BL, Add. MSS. 43874,* f. 163, (1890); *BL, Add. MSS. 43916,* f. 10, (1897); also letters to Sir A. H. Layard, *BL, Add. MSS. 39021,* f. 61, (1878); *BL, Add. MSS. 39033,* f. 290.

and the Grand Vizier to discuss the state of the navy. He even spoke some Turkish.[59] For his services to the Ottoman navy, he was awarded Grand Cordons of Osmanieh and Medjidie (brilliants), and the Gold Medal of the Imtiaz. When the Sultan Abdul Hamid was deposed in 1908, he was retired from the Ottoman naval service with his pay as a Turkish officer as a pension. He lived in Istanbul until WWI.

Gamble Pasha

Woods Pasha was followed by another high ranking British Naval Adviser, Sir Austin Douglas Gamble (1856-1934) in December 1908, when the Young Turk government asked for a new naval mission. He was made a Vice-Admiral in the Ottoman navy. Thereafter, he was commonly called "Gamble Pasha" among the Ottoman officers. The local paper, the *Sabah,* stated that:

> Admiral Gamble was called practically to command the Fleet in the time of H. Hilmi Pasha. He was after a short time loved by the navy. So long as difficulties were not put in the way of Gamble Pasha we profited by his services.[60]

The main objective of the Ottoman government for employing British naval experts was the modernisation of the Navy on the British model. All naval advisers were therefore expected to help to improve both the material and managerial or organisational structures of the navy. When he was appointed as Naval Adviser, Gamble Pasha, like other advisers before him, made efforts to restructure or rebuild the navy with the help of British engineers attached to his mission.

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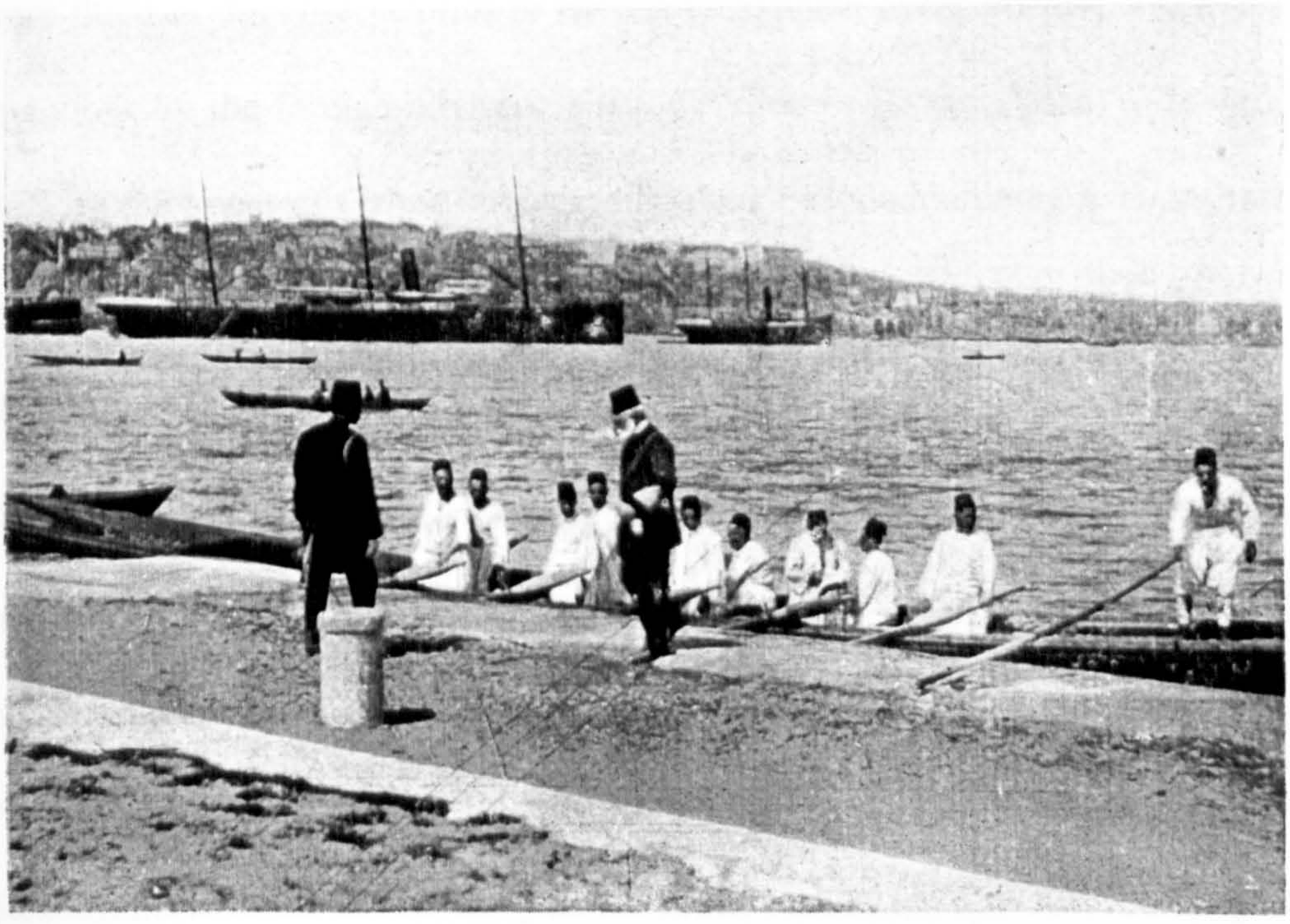
59 Herbert Chernsic to General Bruckenbury, 10th May 1890, (Secret and Personal), *PRO, HD3/77.*

60 From the leading article in the *Sabah,* 13th June 1912. Gamble Pasha had leave because of his poor health.



WOODS PASHA LANDING FROM AN IMPERIAL CAÏQUE AT SERAGLIO POINT.

He was in the Ottoman naval service for 45 years.

[From Sir Henry Woods Felix Pasha, Spunyarn ..., 1924.]

One of his first steps was his proposal to the government to send the future local instructors in navigation, gunnery, torpedo and mechanical engineering to Britain, where they could get the best training on the subjects.[61] Furthermore, he made recommendations to modernise the navy: primarily, buying modern naval vessels and arms from Britain.[62] Gamble Pasha and his staff persuaded the Ottoman government to purchase "a set of most perfect and beautiful astronomical instruments", such as were fitted in the observatories in Britain to regulate chronometers. There had been intentions by the foreign advisers, since the time of Hobart Pasha, to build a *Time-Ball* on the tower of Galata.[63] Gamble's plans included building a Time-Ball, but it was never built as his mission did not last very long.

Williams Pasha

When his health deteriorated, Admiral Gamble left the mission and was succeeded by Rear-Admiral Hugh Pigot Williams (1858-1934) in April 1910.[64] After he became a captain in the British navy in 1898, H. P Williams served as the British Naval Attaché to Russia, Turkey, Norway and Sweden until 1900.[65] He became Rear-Admiral in the British navy in 1908. His service for the Ottoman Empire as the head of the British naval mission lasted about two years. In the Ottoman navy, Admiral Williams was granted extensive authority to reorganise the navy and its

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61 "Ferik Gamble Pasha tarafindan yapilan teklif geregince, navigasyon, top, torpido ve makine okullarinda muhendislik ve ogretmenlik ile gorevlendirilecek subaylarin ihtisas yapmak uzere Ingiltere'ye gonderilmesi", *TNA, Gemiler, Erkani Harbiye, Tersane etc., 941/200A*, 30th May 1908.

62 "Donanmanin modern hale konulmasi ve programlastirilmasi konusunda Gamble Pasha'nin teklifleri", *TNA, Mek., 20/20A*, 9th August 1909.

63 This had been a long ambition of Woods Pasha, too. But he could not get the necessary sanctions to carry out his plans. See Woods, *Forty Seven Years..*, vo. II, p. 278.

64 "Gamble Pasha'nin istifasi and yerine getirilen Wilyams Pasha'ya verilen yetki", *TNA, Gemiler, Erkani Harbiye, Tersane etc.*, 1025/65, 4th May, 1910.

65 *Who Was Who, 1929-1940*, vol. III, p. 1461.

infrastructure.[66]

He was an influential high ranking British officer. During his mission as the Naval Adviser, substantial orders for naval vessels and armament were secured for Britain.[67] During the Tripolitanian War, which began in September 1911 with Italy over the control of Tripoli, the British naval mission continued as normal, as Britain had declared its neutrality. Admiral Williams communicated to the Ottoman government that the British naval engineers and men attached to his mission would continue their work uninterrupted but without joining the war.[68] Admiral Williams served as the adviser until the appointment of the new Naval Adviser in 1912.

Admiral Limpus: The "Scientific Adviser"

In the years before WWI, the British naval mission to the Ottoman Empire reached its peak both in terms of its far-reaching political influence and the number of British officers and engineers attached to it. The last British Pasha of the Ottoman navy, Sir Arthur Henry Limpus (1863-1931), was the highest ranking British naval officer to serve in the Ottoman navy since the beginning of the British mission. Limpus was serving as a distinguished rear-admiral and Captain of H.M.S *Terrible,* in the British home fleet, when he was appointed as the naval adviser to the Ottoman navy in April, 1912.[69]

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[66] *Ibid.*

[67] Sir Edward Pears, *Forty Years in Constantinople,* London: Herbert Jenkins, 1916, pp. 324-325.

[68] "Admiral Williams'in deniz kuvetlerinde calisan Ingiliz uzmanlarinin harbe istirak etmeksizin gorevlerine devam etmeleri hakkindaki 6 Tesrinevvel, 1911 tarihli mektubu", TNA, MKT-2352/88, 12th October, 1911.

[69] *NMAG, Limpus Papers, MS79/018,* box. 6.

He was made vice-admiral in the Turkish navy and served for two and half years, between 1912 and 1914, until the Ottoman Empire joined the war alongside Germany.[70] His mission continued throughout the two Balkan Wars (1912-1913) in which the Ottoman navy and armies were actively involved. However, the British naval mission remained uninterrupted. Men of the mission even engaged the enemy's warships several times on the Ottoman side.[71] He was invested with:

> the duties of bringing about the necessary nautical and *scientific progress* in the fleet, the central administration, and the schools in order to secure the progress and improvement of the fleet and *Scientific Adviser* [72]

He was made responsible for modernisation and reorganisation of the entire Ottoman fleet. Limpus was granted great powers, and with these powers his position became one of the most influential among the British or other foreign advisers who had been employed by the Ottoman government up to that time. The contract, which was signed by the Sultan Resad, stated that:

> The Admiral is to organise the navy and is to take executive command of the Fleet as an Instructor. He will train the senior officers, officers and men. He is given, generally speaking, the duty of reforming and improving the efficiency of the personnel and material of the Ottoman navy, and of preparing it in all aspects for war.[73]

During his service for the Ottoman Navy as the head of the British naval mission,

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[70] See *Limpus Papers* in the National Maritime Archives at Greenwich. There is also an official out-letter-book, 1912 to 1913; a diary kept by Limpus's wife during their stay in Turkey and letters from Limpus to his wife, 1912 to 1916.

[71] A. J. Marder, *From the Dreadnoughts to Scapa Flow: The Road to War, 1900-1914*, London: Oxford University Press, 1961, vol. I, p. 302.

[72] See the draft contract in the British Admiralty to Limpus, NMAG, box. 26, 72/116, 23rd April 1912.

[73] See the article 2 of the later contract which was signed by the Sultan Mehmet Resad, 24th May 1328(1912) in Admiral Limpus to Sir Lewis Mallet, the British Ambassador, Pera, Istanbul, *NMAG, Limpus Papers, MS79/018*, box. 23, 10th September 1914.

Admiral Limpus made efforts to improve the conditions of the Ottoman navy, with help of the British expertise, shipbuilding technologies and technical naval instruction. He encouraged contacts between the British firms and the Ottoman government for naval trade and armament connections. In a way, he played a double role, by representing both the British firms and the Ottoman government on naval matters. Therefore, it was a very important position for the British, though he had nothing to do with Britain officially.

Germany and Britain were not only military rivals but they were also in dangerous competition and rivalry in heavy industries and the world markets. Accordingly, the British influence on the Ottoman navy was not merely of military benefit for them, but most importantly it would maintain and create wider markets for the British naval industries. Apart from commercial interests, the main motive behind the British naval mission before the war was political. They were anxious to see the Ottoman navy under British control. Limpus's position in the Ottoman navy, and the monopoly given to Vickers and Armstrong to build arsenals and dockyards, were measures to balance the German military mission, headed by Liman von Sanders.[74] On one hand Limpus was reforming the Ottoman navy, and on the other hand he was a British political agent working to build good relations with the Ottoman government.

Limpus was also to form his staff and a group of British specialist officers for instruction and technical education in the fleet. When Limpus took the position, there were an important number of senior British officer-engineers in the Ottoman navy,

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[74] J. Heller, *British Policy Towards the Ottoman Empire, 1908-1914*, London: Frank Cass, 1983, pp. 113-116.

including Lieutenant Faughtwas, navigator, who also acted as the Chief of the staff afloat, Lieutenant Mackinnen, gunnery instructor, Engineer Lieutenant Reed who acted as Engineer captain afloat, Engineer Captain Blake, Engineer-in-Chief of the Imperial Dockyard and Arsenal, Engineer Lieutenant Le Rage and Naval Instructor Holland who were the directors of studies at the Naval College.[75] The Ottoman navy lacked, to an important degree, technical expertise, material supplies and trained men to run and repair vessels and heavy arms. A. V. Blake, Engineer in Chief of the Imperial Arsenal, observed that the weakness of the navy was a question of supplies both for maintenance of and repairs to vessels.[76]

Limpus was soon writing to the British Admiralty for the Turkish naval students, engineers and artificers to be permitted to serve for some time on British ships, such as the *Orion* and *Monarch,* to gain experience.[77] Though the response of the Admiralty was not always positive in regard to the applications for training onboard seagoing ships, as the admiralty refused foreign officers and men on such ships, they could arrange courses of instruction at Whale Island and other establishments for such students and engineers.[78] Admiral Limpus remained in the service until October, 1914. He was trusted and liked by the Turkish sailors.[79] The *Messudieh* was the flagship of Limpus until he left Istanbul.

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[75] H. P. William (Rear-Admiral) to Limpus, *NMAG, Limpus Papers, 72/116,* box. 26, 30th March 1912.

[76] A. V. Blake to Limpus, *NMAG, Admiral Limpus Letterbook 1912,* 21st July 1912.

[77] See for example, Limpus to the British Admiralty, *NMAG, Admiral Limpus Letterbook 1912,* 3rd August 1912.

[78] The British Admiralty to Limpus, *NMAG, Admiral Limpus Letterbook 1912,* 15th August 1912.

[79] Sir Edward Pears, *Forty Years in Constantinople,* London: Herbert Jenkins, 1916, p. 173.

5.5 The British Naval Mission Versus the German Military Mission

By the late nineteenth century, a pattern became more obvious in the Ottoman Westernisation programme: Britain and Germany came to dominate and shape two distinct systems in the Ottoman defence structure: Britain established itself as a leader of naval technology, training and organisation, whereas Germany influenced military, or land defence structures. Though France had several military missions and men in Turkey, their system building was not as distinctive as the two former. The area where the French were dominating was the Ottoman internal defence, mainly *Gendarmerie.* The Ottoman-Turkish gendarmerie traditionally adapted the French system both in its organisation and machinery and remained close to a French model throughout its history.[80]

The situation is analogous to the system building model. While Britain shaped the Ottoman naval technological system by providing instruction and naval machinery and armament, Germany controlled the Ottoman land defence technological system. As the Ottoman Empire became more and more dependent on these technological systems, particularly after the end of the century, Britain and Germany were in a better position to expand their political sphere of influence.

The Prussian army had a reputation for efficiency after the Napoleonic wars and some of its non-commissioned officers and subalterns assisted in training the Sultan's soldiers. Since the time of the famous Prussian officer, Helmuth von Moltke, who

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[80] There were also some British officers attached to the gendarmerie, including Mahir Pasha (General Borthwick) who rose to the command of the Gendarmerie in the autonomous province of Eastern Roumelia with Sultan's firman as a general and pasha. Blunt Pasha, who served in the Turkish Gendarmerie Department after the Crimean War until 1880's, and Baker Pasha, a staff of retired British army officer, came to Turkey to reorganise the the gendarmerie in 1870's and but later organised the Egyptian gendarmerie. See Woods, *Forty Seven Years..*, vol. II, pp. 13-138.

served as the military adviser to the Ottoman government from 1835, Germany was able to maintain a military link to the Ottoman Empire.[81] After the Franco-Prussian War in 1870 Germany had become a major military power in Europe. This was accompanied by her increasing industrial and economic power. As a result, Germany's international influence both in Europe and overseas began to be felt. Prussian military reformers and the German armament industry were becoming an influential power in the Ottoman military system. Particularly in the 1880's Germany began to pursue a policy that would make her a new imperial power.

Within this context, the German military mission to the Ottoman Empire, to which Germany now attached a special importance for her imperialistic objectives in the East, became influential and more political. It was no longer a mere industrial and economic concern. On the other hand, partly as a result of Gladstonian "bag and bag-gage" policies against Turkey, the traditional relations between Britain and the Ottoman Empire were changing for the worse. The vacuum created by Britain's dwindling interest in playing the role of Turkey's "protector" in Europe was now filled by Germany.[82] When the Sultan Abdul Hamid sent a small private mission to Berlin in the early 1880's for a number of German officers, the German Chancellor, Bismarck, responded most favourably. Soon a strong German military mission arrived in Turkey to reorganise the army. The mission included Von der Goltz, a very able Major of the Staff of Corps, Baron von Hobe for the cavalry, Kamphoevener for the infantry, and von Ristoff for the artillery. They were rapidly advanced to Generals

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[81] See H. K. B. Moltke, *Moltke: His Life and Character, Sketched in Journals, Letters, Memoirs, a Novel and Autobiographical Notes,* Osgood, 1892.

[82] Dan Van der Vat, *The Ship that Changed the World,* London: Hodder and Stoughton, 1985, p. 22.

of division, and subsequently appointed to Aides-de-camp of the Sultan.[83] All became Pashas. With new missions the German military influence inevitably increased and new high ranking officers were sent to reorganise the Ottoman army and defence system. This was followed by the Kaiser's new and friendly approach to the Sultan and his Empire in the financial and political world.

The new Ottoman naval system, however, was established and developed on a British naval model in most of its aspects, including training, instruction, organisation and machinery. Most able Ottoman naval officers were either trained in Britain or trained in Turkey under the British instructors and engineers. As a result of the long British tradition in the Ottoman naval system, the Ottoman navy developed a tendency to follow the British. Woods Pasha during his long service found most Ottoman officers particularly friendly to the British. For example, Admiral Said Pasha, the governor of the modern Naval College at Halki had a "blind admiration for the English character" and he referred to the "English" as the "salt of the earth".[84] Throughout the century the British influence in the Ottoman naval matters remained dominant. Visiting Istanbul in 1904, as the agent of Armstrongs, D'Eyncourt observed that:

> It was noticeable that the officers of the Turkish Navy were particularly polite to the English, for they had a system whereby their own naval officers trained under English ones. It was a very different matter when it came to the Army officers, who had been trained by German military personnel and reserved their best courtesies for them. Obviously the Germans had done everything in their power to cultivate the goodwill of the Turks, chiefly with a view to obtaining orders for armaments. The Krupp family had a most palatial residence near Constantinople, where they dispensed lavish hospitality.[85]

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83 Woods, *Forty Seven Years..*, vol. II, pp. 145-147.

84 Woods, *Forty Seven Years..*, vol. II, pp. 12-14.

85 Sir E. H. W. Tennyson D'Eyncourt, *A Shipbuilders Yarn: The Record of A Naval Constructor,* London, Hutchinson & Co., 1948, p. 49.

The Germans went far and expanded their mission to the Ottoman navy, too. The British strove to keep out the Germans at least in the Ottoman navy. However after the death of Hobart Pasha in 1886, the Germans managed to place their naval officers among the Sultan's naval advisers and instructors. The German Lieut-Commander Starkie, and later Kaula von Hofe, also a Commander in the German navy, entered the service of the Sultan as Instructors and Advisers.

A primary objective of the whole British naval mission in the late nineteenth and early twentieth centuries was to maintain or regain a more influential position in the Ottoman Empire at a time when German influence was at its peak in the military, economic and political life of the country. Limpus's position and mission were secured by the intensive efforts of the British Foreign Office to counteract the increasing German military influence in the Ottoman Empire. However, in 1913 a new German military mission, being the largest ever, headed by Liman von Sanders was dispatched to Turkey.[86] This mission resulted in a substantial increase of general German influence in the Ottoman Empire, which was becoming a "helpless satellite" of Germany.[87]

The establishment of this new military mission under Liman von Sanders in Turkey was an important factor in the formation of the German-Ottoman alliance in WWI. The German mission's anti-Russian feature especially encouraged many Ottoman officials to side with Germany.[88] Anti-Russian feelings had always been strong

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[86] See for new objectives of the German military mission with von Sanders, his own account, Otto Liman von Sanders, *Five Years in Turkey,* Annapolis, Md., 1927.

[87] See Ulrich Trumpener, *Germany and the Ottoman Empire, 1914-1918,* Princeton: Princeton University Press, 1968, p. 13.

[88] See R. J. Kerner, "The Mission of Liman von Sanders, IV", *Slavonic Review,* (1928), vol. VII, pp. 90-112.

among the Ottomans, and were running very high at the time. The British reacted most strongly to the new position gained by the Germans. They were extremely wary of the mission and position of Liman von Sanders in Turkey. There was no doubt that Liman von Sanders' mission would serve as an important means for furthering expansion of the German sphere of influence in Ottoman military affairs. The British Foreign Minister, Edward Grey, wrote to their ambassador in Istanbul:

> We have heard that a German general has been given a very effective and far-reaching command in Constantinople; we hear that this command would create for him a position which hitherto has been occupied by no foreign officer in Turkey.[89]

This meant, in practice, the end of the delicate balance among the European powers in Turkey in favour of Germany. Britain, with France and Russia, opposed the increasing size and position of the present German military mission, as they saw it a major threat to their ambitions in Turkey and in the East in general. As a result, Britain gained new industrial and military concessions from the Turkish government to maintain the balance with her rival, Germany. Britain's naval link to the Ottoman Empire was still an important industrial and political task, though her share in other industrial enterprises, such as railways, had diminished steadily. Therefore, the naval mission, Britain's major link to Turkey, became an important political issue. Limpus stated that:

> It was and it is the hope and intention of the British government to maintain British influence in at least a small part of Turkish affairs. For example, in the Turkish Navy, and in the *shipbuilding and repairing and supply industries upon which a Navy must depend.* Until quite recently the British Naval Mission has been very successful in this part of its work.[90]

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[89] Grey to the British Ambassador in Istanbul, 9th December, 1913, quoted in R. J. Kerner, "The Mission of Liman von Sanders, III", *Slavonic Review,* (1927-1928), vol. V, p. 545.

Britain increased the size and quality of her mission under Limpus. By 1914, the new mission involved about 72 British officers and engineers, forming the largest British naval mission since it has begun.[91] This was almost as many as in the German military mission.[92] It was not merely the increase in numbers, but also the position and quality of the mission underwent important changes. The British naval advisers and officers gained wider rights and authority to reorganise and control the Ottoman navy. Although Admiral Limpus was called an instructor, he was certainly more than a mere instructor. He had the authority to exercise "an effective control over all warships and naval establishments".[93] The *Sabah* stated that:

> The admiral is not only the Adviser to the Minister of Marine on naval subjects but is also given the actual command of the fleet and his duty is laid down as being the reorganisation of our navy.[94]

Although Britain made an important attempt before WWI to change the situation in her favour, mainly through Limpus' mission and through naval machinery and armament industries, this only had a limited effect on the final outcome. Traditionally, the land defence system was the crucial Ottoman military defence system. As this was in the hands of the German instructors and officers, the increase of general German influence was inevitable. The Ottoman dependence on German military instructors and armament industries was an important factor in the shaping of the German-Ottoman alliance in WWI.

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[90] Admiral Limpus to Sir Lewis Mallet, the British Ambassador, Pera, Istanbul, *NMAG, Limpus Papers, MS79/018,* box. 23, 10th September 1914, (Emphasis added).

[91] A. J. Marder, *From the Dreadnoughts to Scapa Flow,* vol. I, p. 302.

[92] U. Trumpener, *Germany and the Ottoman Empire, 1914-1918,* p. 13.

[93] R. J. Kerner, "The Mission of Liman von Sanders, II", *Slavonic Review,* (1927-1928), vol. VI, p. 343.

[94] See the leading article in the *Sabah,* 13th June, 1912.

5.6 Conclusion

The British naval mission to the Ottoman Empire was not merely aimed at maintaining the Ottoman Empire as the status quo for the sake of the balance of power in Europe. It was an essential part of the British imperial policies in the East. It was the prelude to the establishment of British naval monopoly and industrial expansion, and therefore constituted political and institutional environments as a part of large British naval technological systems in Turkey. British Pashas and their naval engineers, instructors and men provided the Ottoman navy with supervision and technical expertise, which helped to change the traditional Ottoman ignorance of the West and reluctance to adopt their technologies, especially among the Ottoman naval and military elites. In the Ottoman navy many indigenous officers and pashas, under the British instructors, developed interest and admiration for British ways. They became more friendly with the British in general. They later formed the core of the Ottoman-Turkish reformist elite. The British naval mission played an important role in establishing an institutional and infrastructural reconstruction of the Ottoman naval defence, and resulted in eagerness for Western instruction and knowledge. This new outlook was reflected, for instance, in the *Sabah:*

> We wish to progress, and in order to do so we must profit by the experience of the more advanced nations: and until we have reached their level we should not hesitate to ask for and accept the advice of the foreigners.[95]

However, the competition with Germany brought new dimensions to the nature of the British naval mission. From the end of the nineteenth century to WWI the main

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[95] *Ibid.*

objective of the British involvement in the Ottoman naval affairs was to prevent German naval and military expansion. To ensure its position in the Ottoman navy, Britain went further than just providing supervision, technical instruction and training, but moved to control the whole navy, its arsenals and dockyards.

Chapter Six

NAVAL SHIPBUILDING and ARMAMENT TECHNOLOGIES

6.1 Introduction

In this chapter I will examine the introduction of British naval shipping and armament technologies to the Ottoman Empire in the late nineteenth century through the British shipbuilding and armament companies. To increase the defensive power of its navy and army, the Ottoman Empire steadily imported naval ships and arms from Western Europe from the early nineteenth century. Britain, the biggest naval power at the time, was the main trading partner. In the previous chapter, I have shown that British naval enterprise to the Ottoman Empire was accompanied by a naval mission of officers, often appointed by the British Admiralty, and experts advising the Ottoman government on how to restructure the navy along Western lines.

I will argue that British shipbuilders and gun makers, who provided modern ships and guns and technical expertise on how to operate and repair them, were important agents for the transfer and building of an infrastructure for contemporary European military technologies in the Ottoman Empire. I will also argue that this process was shaped by the social and economic conditions of the Ottoman Empire within the wider context of the nineteenth century European political and military structures. The flow of British naval and military machinery was checked by the Ottoman economic difficulties, and the British and other foreign firms gained a great degree of financial control.

6.2 European Shipbuilding in the Nineteenth Century

Ottoman shipbuilding was originally military oriented. Merchant shipbuilding was never given equal attention as in Europe, mainly due to the lack of an indigenous merchant class. Ottoman shipbuilders always included European naval artisans and experts, most of whom were renegades.[1] The Ottoman Empire had built and retained a strong fleet, which had brought her numerous military victories at sea, especially in the Mediterranean, until the late eighteenth century. The Turkish navy at one time had been the terror of the Mediterranean. However, by the early nineteenth century, Ottoman shipbuilding and naval power were in drastic decline in comparison to European shipbuilding. The Ottomans were no longer able to follow the technical improvements made in shipbuilding, particularly in the nineteenth century, when shipbuilding in Europe became relatively more sophisticated and involved a complex organisation and machinery.

In particular, two major technological innovations in engineering and metallurgical sectors transformed European shipping industries and enterprises. First was the application of steam technology to shipping, with the development of the marine engine and its complementary boilers. This became effective after the early nineteenth century. The second was the introduction of iron in shipbuilding, particularly after the mid-nineteenth century, and steel in the late nineteenth century. Thus, the wooden ships were gradually replaced by iron ones, which were in return replaced with steel,

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[1] The Ottomans had been able to keep up with European shipbuilding for centuries. See Bernard Lewis, *The Muslim Discovery of Europe,* London: Weidenfeld and Nicholson, 1982, pp. 223-227.

principally after the 1880's. These changes resulted in a dramatic increase in vessels' size and power, which made shipping relatively more efficient. As a result, ocean-going transportation became a practical and economical system.

Britain, as the first industrial nation, led the world in this transformation by developing new technologies for pig and wrought iron and steel. New production of iron and steel was the basis of new shipping enterprise.[2] By the 1860s Britain was becoming "the workshop of the world" both as the shipowning and shipbuilding center, and monopolised world shipbuilding.[3] British shipbuilding technology was transferred to Europe, the USA, and Japan and other non-Western countries throughout the nineteenth and early twentieth centuries, primarily through the movement of shipbuilding engineers and importation of ships and marine machinery. Europeans were quick to adopt the new steam and iron and, later, steel technologies to naval shipbuilding and machinery. As a result, the whole of naval warfare began to change. Their introduction had a "revolutionary" effect on warship building and design.[4] The power and efficiency of naval warfare increased dramatically. European technological improvements in naval shipbuilding paralleled its technological innovation in the production of more effective armaments. Civilian engineers and entrepreneurs, such as William Armstrong, Joseph Whitworth and Alfred Vickers in Britain and Alfred Krupp in Germany established large firms, which became centers of major

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[2] C. K. Hyde, "Iron and Steel Technologies Moving Between Europe and the United States, before 1914", in D. J. Jeremy (ed.), *International Technology Transfer: Europe, Japan and the USA, 1700-1914*, Edward Elgar, 1991, pp. 51-73.

[3] S. Pollard & P. Robertson, *The British Shipbuilding Industry, 1870-1914*, Harvard University, 1979, pp. 1, 11, 14, 37; C. W. Smith, "Britain's Shipbuilders: 1840-1914", *The Transport History*, vol. 11/3, 1980, pp. 259-272; A. M. Robb, "Shipbuilding", in Singer, vol. 5., pp. 350-390.

[4] For a brief discussion on the influence of steam and iron technologies on warship design, see A. W. H. Pearsall, "Ports and Shipping" in Ian McNeil (ed.) *An Encyclopaedia of the History of Science*, London: Routledge, 1990, pp. 532-38.

innovation in military and naval technologies. These private companies initially provided vessels and arms to their governments, but soon after their establishment they expanded their trade to other countries and overseas, for which they often competed. The Ottoman Empire, though a declining power, was one of the major overseas markets to be exploited.

The Ottomans were very far from introducing new European shipping technologies to their shipbuilding enterprises in the same period, not only because of the financial difficulties, but most importantly because they lacked the European industrial culture. They did not have technology and infrastructure for the production of iron and steel. As a result they could not adopt new iron and steel technologies into their shipping industry. Ottoman seapower, particularly after the battle of Navarino in the early nineteenth century, when most of the Ottoman fleet was destroyed by the European alliance, and later, the Egyptian breakaway with a large portion of the remaining fleet and Ottoman naval engineers in the late 1830s, had been diminished dramatically. The Ottoman shipyards, lacking contemporary European shipping technologies, were unable to build naval vessels and machinery for an effective coastal defence against a European or Russian naval assault. Therefore, the Ottoman government began to order marine machinery from Britain and France before the mid nineteenth century. As early as the mid-1830s there were some steamers, mostly purchased from Britain, in the service of the Sultan, which were initially commanded by British captains and engineers.[5]

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[5] *The Ottoman-Turkish Naval Archives (TNA), Muhasebe, 93/73,* 27th March, 1838; *TNA, Muhasebe, 93/75,* 27th March, 1838.

Robert Napier, the leading Scottish marine engine builder in Glasgow, was one of the early British engineer-entrepreneurs to build marine steam engines for the Ottoman Empire. According to the known records, in 1837 he supplied the Ottoman government with three sets of steam engines of 300 N.H.P.[6] Another four sets of steam engines of the same kind were built and delivered in 1845.[7] They were some of the earliest such engines imported by the Ottoman government from Britain. How those contracts and orders were made is not fully known. It is very likely that this contact was made through the British government and officers of the British naval mission to the Ottoman Empire. The Ottoman government had put itself in the hands of the British government for its naval vessels and arms importation. Stuart Rendel, Armstrongs' powerful overseas agent in the 1860's, wrote that "Turkey had placed herself much in the hands of the British government in respect of the building of an ironclad fleet in England".[8] As the British Admiralty was the principal buyer of Napiers' machinery, the Ottoman authorities would order similar machinery from Napiers.

Even before the Crimean War some modest attempts were made to increase the efficiency of naval power, for instance, by adapting steam engines to the existing wooden naval vessels. Apart from its importance for the new naval power in battles, the application of steam engines to shipping made the transportation of military hardware and soldiers overseas much quicker, safer and more effective. Captain Sir Adolphus Slade, while a British naval adviser to the Ottoman navy, reported in 1859 in Constantinople that:

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[6] James Napier, *Life of Robert Napier of West Shandon,* Edinburgh and London: William Blackwood & Sons, 1904, p. 259.

[7] *Ibid.*

[8] Stuart Rendel, *Personal Papers of Lord Rendel,* London: Ernest Benn Limited, 1931, p. 279.

> In the spring of 1858 a Turkish screw line battleship conveyed in one voyage, from Constantinople to an Adriatic port, six days' steaming, 2400 soldiers, with their arms, accoutrements, and tents, and ten days' provisions to land with; and in the spring of 1859 a Turkish screw frigate conveyed in one voyage from Tripoli to a port in the Archipelago 2200 soldiers.[9]

By the end of the Crimean War, the whole Ottoman fleet had been reduced to a relatively small one for an empire with a very long coastal lane. The Ottoman Empire had ceased to maintain a first class navy. In particular, the complete destruction of a large Turkish squadron at Sinope on the Black Sea in 1853 by Russia was a major blow to Ottoman naval power. To regain its naval power and increase the efficiency of its coastal defence, the post-Crimean war Ottoman naval authorities set out to reconstruct their navy on European models and machinery. Ottoman officials had noticed the effectiveness of British and French naval and military machinery. Furthermore, the Ottoman military alliance with Britain and France stimulated closer relations, and furthered political, military and economic contacts with them. As a result, British and French shipping and armament companies used the advantages of being allies to exploit the Ottoman markets. The Ottoman government employed an important number of Western military experts, such as gunners and arsenal engineers for establishing arsenal and artillery of a European kind. Its military industries, however, were not able to meet the need of the whole army and navy, and it had to import most arms and the latest military equipment. From the mid-1850s onwards, Europeans began to build iron naval ships, to which the Crimean War gave a considerable impetus. France and England in particular acquired more iron naval vessels to replace the

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[9] Sir Adolphus Slade, *Maritime States and Military Navies,* London: James Ridgway, 1859, p. 53.

wooden ones. European shipbuilders gradually ceased to build wooden ships. After the war, the Ottoman Sultan and government initiated a programme to rebuild and strengthen its navy by ironclad warships and vessels, mainly from Britain and France. During the reign of Sultan Abdulaziz (1861-76), who was keen on acquiring European military and naval hardware, the navy was developed into one of the largest in Europe.[10]

6.3 The Ottoman Ironclad Programme

Robert Napier's connection with the Ottoman government continued after the Crimean War. In 1856 Napier provided three steamers of 650 N.H.P, named *Gaywan Bahi, Fethia,* and *Peiki Zafir,* and another one of the same kind in 1857, named *Shadia.*[11] Napier & Sons' most important business with the Ottoman government was yet to come. In the 1860s the Ottoman government began a programme of reconstruction of its navy by ironclads, ocean-going medium size ships, built in Britain by Robert Napier & Sons Co. in Glasgow and the Thames Iron Works in London, and in France by La Seyne.

The new ironclad programme of the 1860s with Napier & Sons Co. and the Thames Shipbuilding Co. for the reconstruction of the Ottoman navy formed the largest naval order from Britain. Robert Napier was by then one of the most prominent

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[10] Erik J. Zurcher, *Turkey: A Modern History,* London & New York: I.B.Tauris & Co. Ltd, 1993, p. 60.

[11] James Napier, *Life of Robert Napier,* p. 269-61. Not much documentation to the details and contracts of these transactions between Napiers and the Ottoman government exists.

shipbuilders on the River Clyde in Glasgow, which is often described as "the Ship-yard of the Empire" in the post 1870s British shipbuilding.[12]

Napier had designed and built steam engines for merchant and naval ships since the 1830s. The British Admiralty was the principal buyer of naval engines, and later other nations, such as the Ottoman Empire and Russia became major customers. In the early 1840s Napier began to build iron steamers, and was commissioned to build the British Navy's paddle-driven iron steamers, an important contract which brought him fame and prestige.[13] By the late 1850s, Napiers were ready to build large iron and armoured war vessels. With the *Black Prince,* one of the earliest ocean-going, armoured fighting ships, for the British government in 1861, Napiers began to receive orders for similar iron fighting ships from the foreign governments, such as Denmark and the Ottoman Empire.[14] The Ottoman government had already purchased many engines and other machinery for their naval ships.

Napier's earliest contact with the Ottoman government most probably came through British government and naval advisers. The Ottoman government was then striving to own the same quality war machinery as the British navy, and Napier & Sons Co. was a supplier of the British naval war machinery. The Ottoman government's order for three large iron-hulled broadside ironclads came in 1862, and in 1863 all three ships were laid down on the Clyde.[15] They were all broadside ironclads, each with

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[12] See, for instance, C. W. Smith & M. N. Wise, *Energy and Empire: A Biographical Study of Lord Kelvin,* Cambridge: Cambridge University, 1989, p. 727.

[13] Hugh B. Peebles, *Warshipbuilding on the Clyde: Naval Orders and the Prosperity of the Clyde Shipbuilding Industry, 1889-1939,* Edinburgh: John Donald Publishers Ltd., 1987, p. 11.

[14] J. Napier, *Life of Napier,* p. 215.

[15] See "Ingiltere'de insa edilmekte olan firkateynler", *TNA, Sura-i Bahri Bolumu, 36A/52A,* 1 Mart 1862; "Donanmanin takviyesi icin Ingiltere'ye siparis edilen sac gemiler", *TNA, Sura-i Bahri Bolumu, 43/63A,* 10th November 1863.

dimensions of 293 x 58 feet, 6400 tons hull, 3735 H.P engine and 900 N.H.S, and named the *Osman Ghazy, Abdulaziz* (the name of the sultan of the time) and *Orkhan.*[16] The *Osman Ghazy* was built in the same style as the *Hector,* constructed by Napier for the British navy and was able to carry 600 men on board.[17] The three ironclad ships were built under the supervision of George Tucker, official inspector, who was employed by the Ottoman government for the purpose.[18] Referring to the orders by the Ottoman government, the *North British Daily Mail* wrote that:

> No better proof could be cited of the high estimation in which our Clyde shipbuilders are held by foreign governments than the fact one foreign power should have employed one of our shipbuilding firms to construct so many war vessels for it in little more than two years.[19]

Around the same time another ironclad of the same type, the *Mahmudieh,* was laid down in London by the Thames Iron Works Co. for the Ottoman government. All four were launched and completed between 1864-66.[20] They were rigged as three-masted barques and had a single telescopic funnel. The *Mahmudieh* was intended to "surpass in offensive and defensive power, as well as in speed, all other ironclad ships".[21] It embodied a similar structure to the British ironclad squadron. At the request of the Sultan, it was designed by the Chief Constructor of the the British navy, Sir Edward James Reed (1830-1906). Sir Edward James Reed was responsible

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[16] Glasgow University Archives, Napier Collection, DC90/4/25 1843-1925: "List of vessels built by Robert Napier, Robert Napier & Sons, Napier Shanks & Bell, Napier & Muter, and Napier & Miller"; J. Napier, *Life of Napier,* pp. 259-161; Peebles, *Warship building,* p. 195.

[17] *The North British Daily Mail,* 27th June, 1865.

[18] *The Morning Herald,* 29tn June, 1865; *Glasgow Herald,* 29th June, 1865; *Morning Journal,* 29th June, 1865.

[19] *The North British Daily Mail,* 27th June, 1865.

[20] *The Illustrated London News,* (20th January, 1866), p. 54.

[21] *The Times,* 1st November, 1865, p. 9.

for designing many warships for Turkey, Japan, Germany, Chile and Brazil. Many Imperial Ottoman ships were designed by him. For these services he was awarded the Ottoman Order of the Medjidie.[22]

Rebuilding and strengthening the navy was an important priority of the Sultan, Abdulaziz II, and his government in the 1860s. Besides buying new armoured vessels, new machinery was bought from Britain and fitted to the existing Ottoman wooden naval ships.[23] Warships were provided with steam engines and additional steamboats, mostly purchased from Britain. The Ottoman Imperial Dockyard, too, began to produce some of the new machinery with the help of British naval engineers.[24] When the Sultan visited Paris and London in 1867, the Ottoman connection with major British naval shipbuilders was already well established. The newly built ironclad steam frigate, the *Osmanieh,* by the Napier & Sons Co., was in attendance to his party to Western Europe.[25]

The Sultan's visit resulted in the enlargement of this naval trade, besides increasing more investments in railways and other works in the Ottoman Empire. The British and the French were in competition to impress the Sultan. The British particularly used the occasion to impress the Sultan about their naval power. For instance, Lord Lyons, the British ambassador at Constantinople urged the Foreign Office that:

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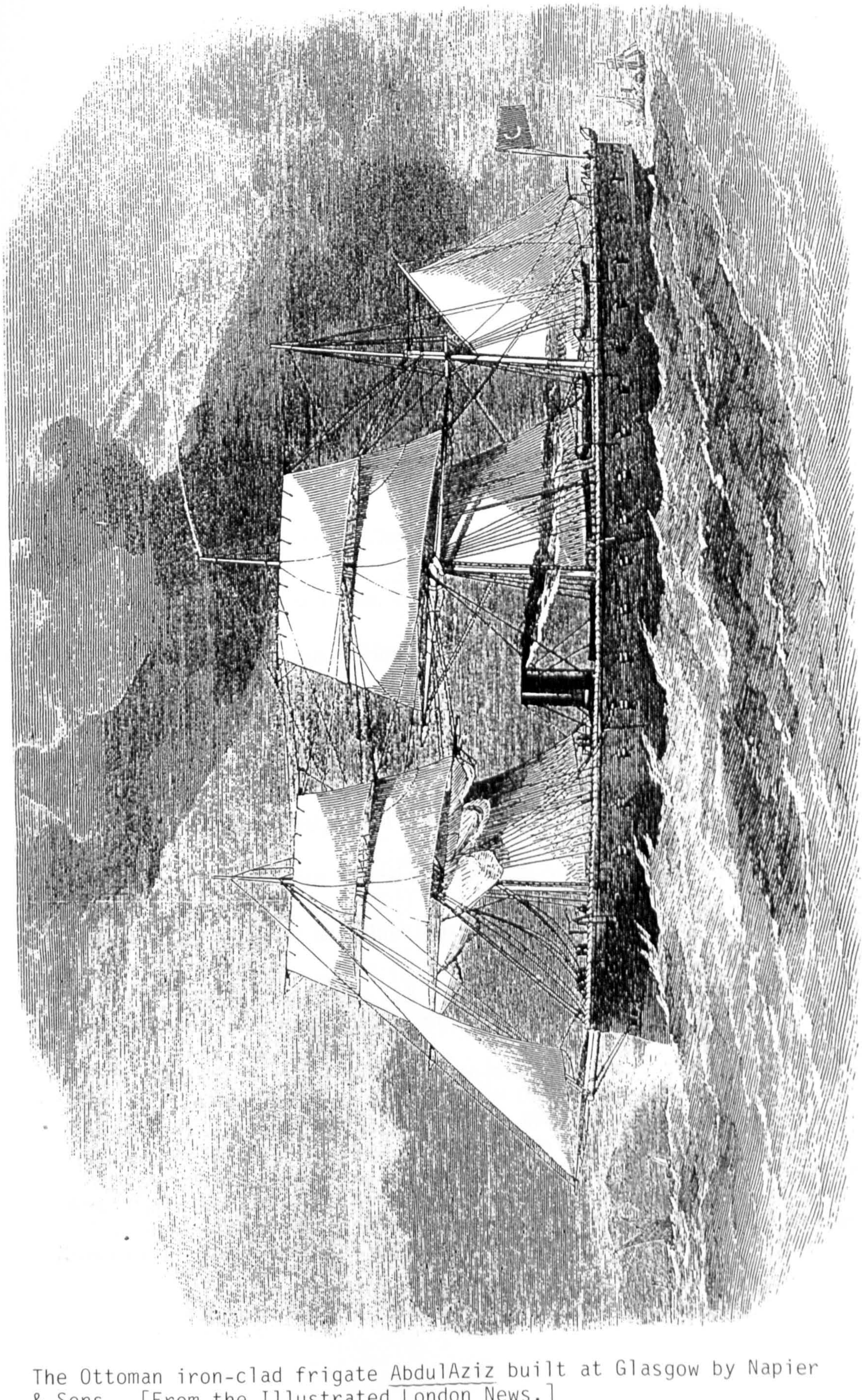
[22] Sir E. J. Reed, *Japan: Its History, Traditions, and Religions with the Narrative of a Visit in 1879,* London: John Murray, 1880, 2 vols., vol. I, p. i.

[23] "Bes adet gemi icin Londra'ya siparis olunan makina", Naval Archives, MKT-61/11, 9th June, 1864.

[24] "Harb gemilerine makinali sandal (steamboat) konmasi", Naval Archives, MKT-75/1, 3, 68, 22nd July, 1868.

[25] Lord Lyons to Lord Stanley, 22nd May 1867, Constantinople, *PRO, FO78/2010, Visit of the Sultan and Viceroy of Egypt to Paris and London, 1867 (May-September).*



The Ottoman iron-clad frigate AbdulAziz built at Glasgow by Napier & Sons. [From the Illustrated London News.]

> We should confirm his impression that we are the first Naval Power and richest Power. If we can give him a great Naval Show, in a place where private vessels, steamers etc., would add to the effect of the display of the military navy, we should do much to convince him of our wealth as well as of our strength on the sea.[26]

Lord Lyons thought that the Sultan, having no knowledge of the languages of the countries he visited, could not be expected to gain some knowledge in depth from a month tour. However, "the effect on his mind of what he sees can hardly be otherwise than good".[27] Thus the British authorities arranged for the Sultan a naval review on a large scale at Portsmouth in mid-July, when the Sultan was expected in Britain.[28] The Sultan and his diplomatic party, and the Viceroy of Egypt watched this major British naval show at the Royal Clarence Yard in Portsmouth Dockyard.[29]

Following the visit of the Sultan, Turkey desired to order more naval and merchant ships from Britain and France. However, this was checked by its weakening financial state. Nevertheless, the Ottomans ordered more ships and ironclads. The Thames Iron Works and Shipbuilding Co. in 1868 built for Turkey the *Fatih,* a large ironclad of 9800 tons, which was designed at Blackwall by Sir E. J. Reed.[30] However, it could not pay for it, so it was first offered to the British Admiralty, and then was sold to the Prussian Navy.[31] A year later three smaller ironclads, two being 2400 tons and the

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[26] Lord Lyons to Lord Stanley, 4th June 1867, Constantinople, (confidential), *PRO, FO78/2010, Visit of the Sultan and Viceroy of Egypt to Paris and London, 1867 (May-September).*

[27] *Ibid.*

[28] The Foreign Office to Lord Lyons, 12th June 1867, Constantinople, *PRO, FO78/2010, Visit of the Sultan and Viceroy of Egypt to Paris and London, 1867 (May-September).*

[29] See *London Illustrated News,* 27th July 1867, pp. 87-88, see also pp. 90-92 on the the embarkation of the Sultan at Clarence-Yard, Portsmouth, for the naval review.

[30] A. G. Credland, *Iron and Steel Shipbuilding on the Humber of Earles of Hull,* (City of Kingston upon Hull Museums and Art Galleries Bulletin, No: 15, 1982), p. 14.

[31] R. Chesneau & E. M. Kolesnik (eds.), *Conway's All the World's Fighting Ships, 1860-1905,* London: Conway Maritime Press, 1979, p. 389.

other 2800 tons, were launched on the Thames by the Thames Iron Works Co. and Samudas & Sons respectively. All three ironclads were completed and delivered to the Ottoman navy in 1870.[32] In the 1860s Napiers on the Clyde, the Thames Iron Works and Samudas & Sons were major British naval shipbuilders both for home and foreign navies. Some iron tugs and barges, particularly for the Euphrates, and some other iron vessels were also built by Earles Shipbuilding and Engineering Co. Ltd. for the Ottoman government from the late 1860s onwards.[33] British naval shipbuilders also provided the Ottoman Navy with a large number of wooden sloops until about 1863, and afterwards, iron-hulled paddle dispatch vessels. Some Ottoman shipyards, such as Istanbul, Izmit and Gemlik, were able to build wooden sloops. However, almost all iron-hulled dispatch vessels came from Britain until the end of the century.

Seeing the expansion of the British naval shipping trade to the Ottoman Empire, France was also making great efforts to win concessions from the Ottoman government for building iron ships. In the late 1860s the Ottoman government ordered an important number of ironclads from France, namely, from Chant. & Atl. de la Mediteranee, La Seyne, and Chant. & Atl. de la Gironde, Bordeaux, the two major shipbuilders. In 1868 they launched three central battery ironclads and two iron coast defence turret ships, respectively, for Turkey.[34]

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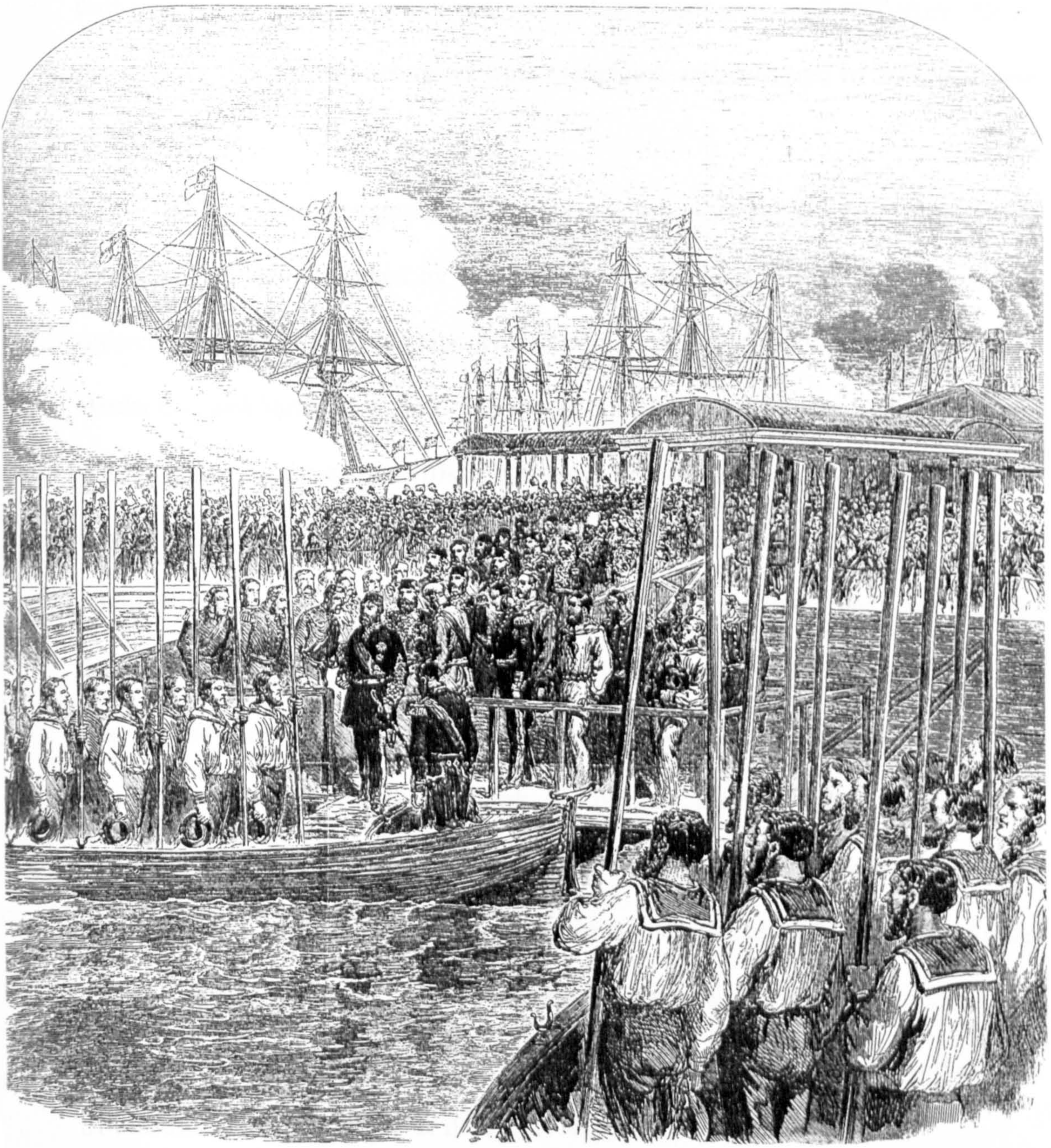
[32] They were named, respectively, *Avni Illah, Muin-i Zafer and Fatih Bulend.* See an unpublished list of "Battleships-Battlecruisers- Ironclads" by Captain Saim Selek at the Turkish Naval Archives Library in Istanbul. (Undated); see also R. Chesneau & E. M. Kolesnik (eds.), *Conway's All the World's Fighting Ships, 1860-1905,* p. 390.

[33] A. G. Credland, *Iron and Steel Shipbuilding on the Humber of Earles of Hull,* (City of Kingston upon Hull Museums and Art Galleries Bulletin, No: 15, 1982), p. 49.

[34] *Conway's Fighting Ships,* pp. 388-394; Also see, Captain Saim Selek, TNA Library, Istanbul.



Embarkation of the Sultan Abdul Aziz at Clarence-Yard, Portsmouth, for the naval review, July 1867. [From the Illustrated London News.]

One of the three central battery ironclads, *the Assari Tewfik,* was 4700 tons and was a reduced version of the French *Trident.*[35] The other two were small iron-hulled ironclads, just more than 2000 tons. The two coast defence turret ships, being about 2550 tons iron hulled, were originally ordered by Egypt, but were sold to Turkey. All of the ships of this first French order were completed and delivered to Turkey in late 1869.

In the 1870s the Ottoman government continued to modernise its naval ships. However, this was again checked by the financial weakness of the Ottoman Empire. It ordered a number of larger ships from Britain, particularly from the Thames Iron Works Co., and Samudas & Sons in London, but it could not pay for all the ships that it had ordered. In the early 1870s, the Thames Iron Works laid down two large iron-hulled vessels for the Ottoman government, the *Messudieh* and *Mahmudieh,* (Mahmudiye) and launched them in 1874 and 1875, respectively. They were again designed by Sir E. J. Reed. They had a ram bow, a raised forecastle and poop, two funnels and three masts, and were rigged as barques. Upon their completion, the Ottoman government could pay for only one of them, the *Messudieh.* The other, the *Hamidieh* (Hamidiye), after the new Sultan, Abdul Hamid, was completed but not delivered to the Ottoman navy. Perhaps due to the negative attitude of the new Sultan towards the navy, and also money problems, the Ottoman government could not fulfill the requirements for the purchase of the vessel. In 1878 it was purchased by Britain and renamed *Superb* for the Royal Navy.

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35 *Conway's Fighting Ships,* pp. 388-394.

The Ottoman government had also ordered two armoured rams from the Samudas & Sons Co. in London. But they could not pay for them. They were again purchased by the British government for the Royal Navy. There are also some records that Robert Napier & Sons Co. projected several other war vessels in the 1870s for the Ottoman government. One of them is the specification for an armour-clad vessel of 3024 tons for the Ottoman government.[36] There are no records that this armour-clad frigate and others were ever built or at least delivered to the Ottoman government.

At the time of the Russo-Turkish War of 1877-78 the Ottoman fleet had been still a major force, as it had commanded the Black Sea.[37] However, after the war, the Ottoman naval power began to diminish steadily. The new Sultan, Abdul Hamid, played a negative role in the improvement and Westernisation of the navy since his accession to power in 1876. He saw the navy as the centre of hostile and a potentially revolutionary power against his autocratic rule. He moved his imperial residency from the Dolmabahce Palace on the Bosphorus to the Yildiz Palace in the interior as he feared potential conspiracies and sudden attacks from his and foreign navies. During his long reign just a few modern warships were built. Indeed, new warship building practically ceased after the mid-1880s.[38] Although the Sultan intended to increase the efficiency of all his armed forces, he compelled himself to emphasise the traditional Ottoman reliance on land power.[39] The Ottoman navy, therefore, fell into a state of relative decline.

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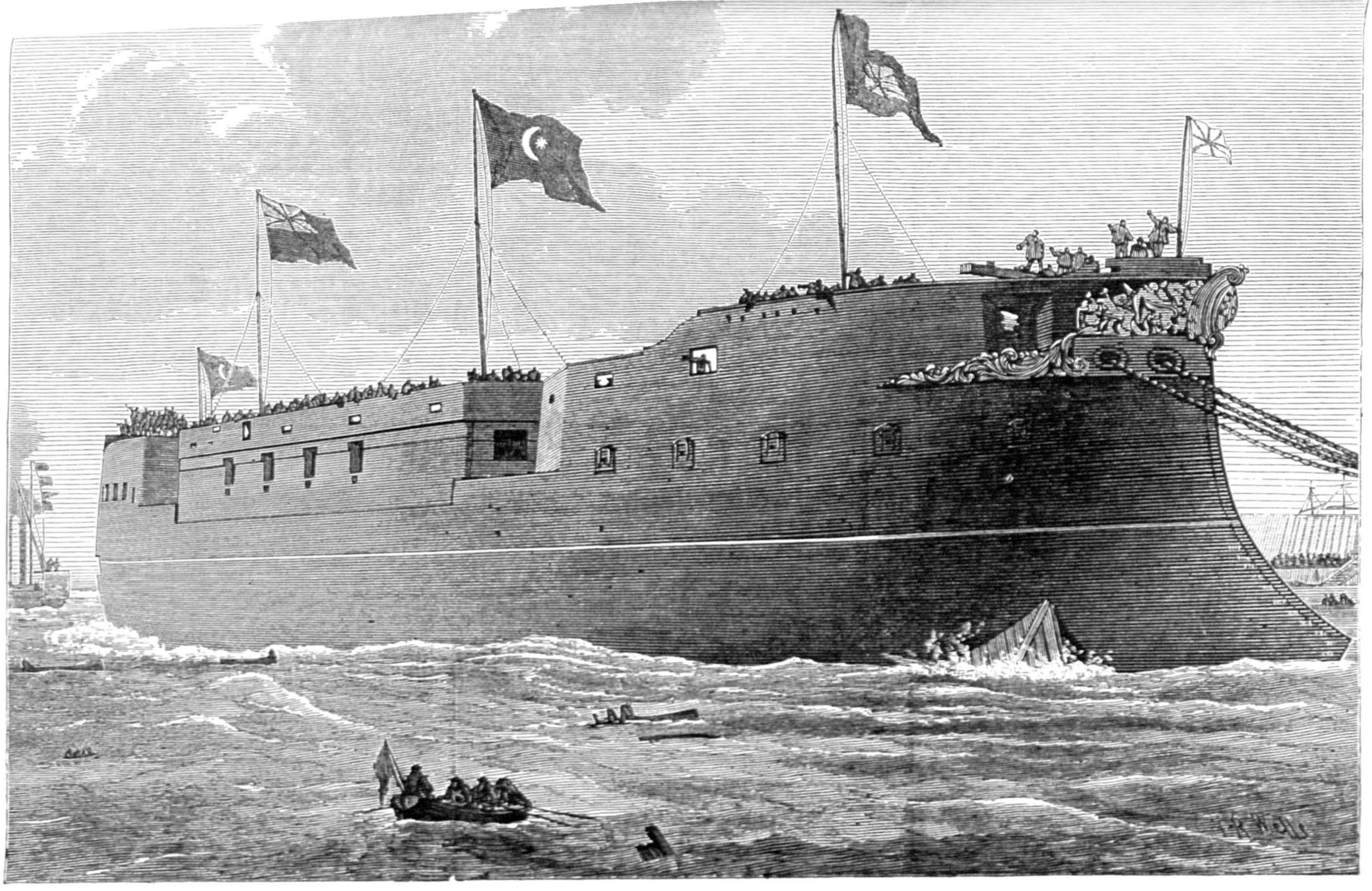
36 *DC90/4/15 1874 Specification for an Armour-clad Vessel for the Turkish government, August 1874, Napier Papers,* Glasgow University Archives.

37 A. J. Marder, *British Naval Policy,* London, Putnam & Company, 1940, p. 153.

38 *Ibid.*

39 S. J. Shaw & E. K. Shaw, *History of the Ottoman Empire and Modern Turkey,* Cambridge: Cambridge University Press, 1977, vol. II, p.245.



LAUNCH OF THE TURKISH IRON-CLAD FRIGATE MES' OUDIYEH AT BLACKWALL.

Mesoudiyeh - built by the Thames Iron Works. Launched in 1874.
[From the Illustrated London News.]

Most of the ships launched were never completed. However, this was not simply because of the Sultan's neglect of the navy alone, but largely due to the difficulties of establishing new shipbuilding technologies and the related problems. All these did not stop overseas suppliers but encouraged them.

Nevertheless, the Ottoman government, besides buying completed ironclads from Britain, made ambitious attempts to build their own iron ships at home. Particularly, the Taskizak Shipyard in Istanbul became a centre for the Ottoman home shipbuilding on European models, with help from British and other Western experts and shipbuilders. Such a move gained considerable impetus in the 1870s, as iron ships from Britain absorbed a large amount of money. In 1873 at the Taskizak Shipyard one of the first Ottoman built iron ships was launched. It was a central battery ironclad, and weighed 2800 tons. A relatively large central battery ironclad, the *Hamidieh,* was laid down in 1874, but was only completed 18 years later, in 1892. It was 6600 tons and modelled on the *Messudieh,* (Mesudiye), built by the Thames Iron Works. Several others were planned to be built but they were not completed. The Ottoman shipyards at Istanbul and Izmit, on the other hand, were able to build wooden frigates and wooden sloops. Until about the 1880s they built several small and medium size wooden frigates and sloops on British models and designs.

6.4 Ottoman Shipbuilding in the Late Nineteenth Century

In the late nineteenth century Ottoman shipbuilding became more dependent on European shipbuilders and their technologies. Even with the help of European naval

engineers, the Ottoman shipyards were not able to construct any significant number of war vessels of European type. When Europeans were building steel war vessels particularly in the 1880s and onwards, Ottoman shipbuilding had not yet recovered from the difficulties of iron shipbuilding. The new steel technology and its application to shipping led to the subsequent changes in size, strength and power of naval vessels. In particular, the destructive power of warships was dramatically increased. To keep up with other naval powers, the Ottoman government, too, initiated a programme to own steel war vessels and guns.

In the early 1890s the Ottoman shipyards at Istanbul and Izmit were keen to build steel-hulled cruisers and sloops, as well as torpedo boats. They had already completed some composite-hulled third class cruisers. The two shipyards laid down a number of steel-hulled cruisers. But they were never completed. By 1904 they were still in frame and partly plated, and were finally abandoned. Mark Kerr, who visited Constantinople in 1904 to inspect and report on the Ottoman fleet, dockyards and defences, observed that:

> Along the north bank of the Golden Horn lies a line of ships -wooden and composite, ironclads and torpedo-boats- all in various stages of decay.[40]

Apart from technical skills and infrastructure, the Ottoman dockyards suffered from inefficient organisation and administration problems. Kerr's report acknowledged the number of workmen in the Imperial Dockyards as 1200, but less than half of them did any work.[41] The situation in the Ismid (Izmit) Dockyard was even worse. It was

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[40] Mark Kerr, *Land, Sea, and Air; Reminiscences of Mark Kerr,* London, Longmans, Green & Co. Ltd, 1927, p. 123.

[41] *Ibid.*

described as a "wilderness" by Kerr:

> Ismid (Izmit) Dockyard in 1904 is a wilderness. The ribs and trucks of two partially built cruisers appear to be lying in a neglected field allowed to decay.[42]

The Imperial Shipyards in Istanbul, nevertheless, were able to lay down and complete a limited number of steel-hulled sloops, torpedo gunboats and destroyers. During the Russo-Turkish war of 1877-78 Russian torpedo boats constantly attacked the Ottoman iron clads and other vessels. Russian torpedo boats were armed with Pole and Harwey, as well as with the new type of the Whitehead torpedoes then invented.[43] The torpedoes caused anxiety and a major threat for the Ottoman naval defence. The Ottoman naval authorities were worried about unexpected torpedo attacks.[44] Thereafter, torpedoes and destroyers became an important part of the Ottoman naval defence programme. A further Russian torpedo threat seemed very likely to the Ottomans. The capital city, Istanbul, could easily become a target for Russian invasion by sea. In the late 1880's the Ottoman government began to set up its torpedo fleet especially for the defence of Istanbul. The earliest contract for such a programme was made with Le Seyne in 1883. At the time France was not as popular a naval shipbuilding center as Britain. The concession was won by France because it had substantially subsidised the contract.[45] In 1886 Le Seyne completed six small

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[42] *Ibid.*, p. 124

[43] Hobart Pasha, who was the British naval adviser to the Ottoman navy at the time, wrote an interesting account of Russian torpedo assault on the Ottoman vessels in the Black Sea. See Hobart Pasha (Hon. Augustus Charles Hobart), *The Torpedo Scare: Experiences During the Turco-Russian War,* Reprinted from: *Blackwood's Magazine,* with additional matter, Edinburgh & London, W. Blackwood & Sons, 1885.

[44] *Ibid.*

[45] A. Guleryuz & B. Langensrepen, *Die Osmanische Marine/The Ottoman Navy, 1839-1923,* Hamburg: Kaumpmeier Druck & Verlag, 1988, pp. 11-12.

torpedo boats for the Ottoman Navy. These torpedo boats were followed by German made ones. By the end of the 1880s the German military impact on the Ottoman Empire's internal and external affairs was becoming tangible. The exportation of German goods and expertise to Turkey increased accordingly. Germany, on the other hand, was trying to reach British industrial and naval arts standards. However, it further began to challenge the British worldwide monopoly, particularly in shipping, engineering and armament industries.

By the late nineteenth century Germany's industrial goods and expertise were becoming as popular as the British ones in international markets. In late 1887, the Ottoman government ordered a large number of torpedo boats from the Germenia shipyard (Schiffts & Maschinenbau Germenia, AG, Kiel), and subsequently, from the Schichau shipyard (Friedric Schichau AG, Elbing). The two firms supplied the Ottoman Navy with a substantial number of torpedo boats, which helped the Ottoman navy to form a powerful torpedo boat fleet for a coastal defence.[46] In the early twentieth century the other two important supplier companies for torpedo boats and destroyers were the Italian Ansaldo in Genoa, and the French Atl. & Contr. de Loire in Canet. Ansaldo, originally a subsidiary of Armstrong & Co., had a more important connection with the Ottoman navy than just building some torpedo boats. Since the 1880s, the modernisation and repair of most Ottoman naval ships was carried out by Ansaldo. When visiting Istanbul in 1904 as an engineer of the Armstrong's Elswick Works, D'Eyncourt stated that "Ansaldo seems to be getting on pretty well with their [Ottoman] ships and the Turks under them".[47]

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[46] *Ibid.*, p. 21.

[47] D'Eyncourt to Armstrong Whitworth Co., *NMAG, DEY/88*, 16th May 1904.

Germany's entry into the Ottoman naval shipping and armament markets did not stop the flow of British naval and armament goods, though there was a sharp decrease in the number of naval vessels and their armaments bought by the Ottoman government, especially in the 1890s. This was not solely due to the expansion of Germany to the Ottoman markets, but was mostly due to the political climate of the period, the lack of Ottoman finance and the Sultan and his officials' neglect of naval power. However, in the early 1900s there was a drastic increase in Ottoman orders for naval ships and armament to British companies, mainly Armstrong-Whitworth and Vickers. This was even extended to the U.S. shipbuilding companies. In 1901 a protected cruiser of 3330 tons, *Mecidiye,* was laid down by the Cramp company in America, and it was completed in three years. The following year, a protected cruiser of 3830 tons, *Hamidiye,* was laid down by Armstrongs and completed 1904. It closely resembled the Cramp built *Mecidiye.* This was followed by other important orders for larger battleships. Before the First World War, the Ottoman government, particularly when the Young Turks took power in 1908, began an ambitious programme to form a modern battleship fleet. Naval shipbuilders did not only provide the Ottoman government with naval vessels and machinery, but also naval arms and guns for the vessels. Naval armament formed a vital part of the British-Ottoman naval link. Armstrongs were the largest suppliers of the Ottoman naval guns since shortly after the Crimean War. Most Ottoman warships were armoured by Armstrongs at their Elswick Naval Yard, which became a centre for the Ottoman naval engineering and armament for the navy. In the next section I will look at Armstrongs' naval armament trade to the Ottoman Empire.

6.5 Armstrong Guns

W. G. Armstrong and J. Whitworth's firms became the two most prominent names in the British armament industry after the Crimean War. Armstrong maintained very close contact with official patronage. He was admitted to Woolwich and there he examined the latest improvements in military machinery.[48] Starting during the war, Armstrong designed new long range guns, which were more destructive and bigger in size.[49] These guns were also applied to the naval ships. After establishing his business at home, his firm expanded its trade abroad, and soon began to receive foreign orders for guns and military machinery .

In the 1860s Armstrongs, now a rapidly expanding company, were anxious to establish permanent connections with foreign governments, such as the Ottoman Empire, Russia and Egypt. Armstrong himself met many representatives from foreign countries, and sent off his agents to deal with the foreign governments personally and directly on the armament trade. These agents won Armstrongs big overseas deals. One of the earliest agents was Stuart Rendel, who later became one of the company's leading men.[50] Between 1864 and 1876, Rendel travelled to many foreign countries, including Turkey, Egypt and Russia, for the purpose of making contacts for arm trades. He played a key role in winning overseas orders for the Armstrongs Elswick Works.[51] Turkey was one of the overseas countries to which Rendel travelled in the

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48 S. Pollard & P. Robertson, *The British Shipbuilding Industry,* p. 269.

49 A. R. Fairbairn, "Elswick: Sir W. G. Armstrong, Whitworth & Company Limited", (unpublished), Vickers Archives (VA), Cambridge, file: 593.

50 See *VA, Rendel Papers, 546,* Cambridge.

51 Kennet Warren, *Armstrongs of Elswick: Growth in Engineering and Armaments to Merger with Vickers,* London: Macmillan, 1989, p. 19.

mid-1860s, and where he was able to get important orders for guns.[52] This was the beginning of a long term connection with the Ottoman Empire, which became a major trade partner in armament with Armstrongs until World War I. The Ottoman government decided to have the guns made upon the British government pattern at Armstrong's Elswick works.[53]

In the early years, Stuart Rendel and Musurus Pasha, the Turkish Ambassador in London, prepared most contracts for Armstrongs armament trade to Turkey.[54] At the same time there were large orders for guns and armament from Egypt, now an independent Ottoman province with its own army and navy. Most Egyptian orders were made through the mediation of Efflatun Bey, representing the Egyptian government in London.[55] Rendel resided in London to deal with foreign orders through their embassies there. The biggest deal with the Ottoman government in the 1860s was arming the vessels of the new Ottoman ironclad programme. Rendel referred to "the very numerous interviews between Musurus Pasha and [himself] during the several years occupied by the building and arming of the vessels".[56] The Ottoman ambassador and Rendel were offered five percent of every order by the Ottoman government as commission.[57] Besides meeting with Armstrongs' agents in London, the Ottoman ambassador and military authorities, sometimes including an Ottoman

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[52] Stuart Rendel, *Personal Papers of Lord Rendel*, p. 280.

[53] *Ibid.*, p. 279.

[54] *Ibid.*, p. 279.

[55] In Armstrong's correspondence, early Ottoman and Egyptian orders are mostly dealt with together. See for example, W. G. Armstrong to S. Rendel, 15th January, 1866, *Rendel Papers, 31/132*, Newcastle; Efflatun Bey to W. G. Armstrong, 3rd November, 1865, 31/362; W. G. Armstrong to S. Rendel, 24th November, 1865, *Rendel Papers, 31/390*, Newcastle.

[56] *Ibid.*

[57] W. G. Armstrong to S. Rendel, 5th October, 1866, *Rendel Papers, 31/348*, Newcastle.

admiral, often personally visited W. G. Armstrong and Elswick Works in Newcastle from the early 1860s for guns and armament deals.[58]

Armstrong's military trade with the Ottoman Empire began in the form of supplying armament and guns to the naval vessels. The ironclad frigates bought from Napier & Sons and Thames Iron Works & Shipbuilding Co. in the early 1860s were all equipped with the Armstrong guns and military hardware.[59] Armstrong guns almost become integral parts for these ironclad vessels. The guns of all the frigates were provided and fitted by Armstrongs. The *Osman Ghazy, Sultan Mahmud, Abdulaziz,* and *Ethem Pasha,* a wooden battleship, were equipped with Armstrong guns and machinery by early 1866.[60] Soon another frigate, *Orkhan,* was ready for its guns aboard by Armstrongs.[61] Thus, as early as 1867, Rendel observed that:

> Turkey ... has adopted our guns so far as she can pay for them. We have supplied very heavy armaments to four ironclad frigates and a few guns for wooden ships.[62]

Indeed, from this date onwards almost all major Ottoman naval ships, whether they were bought from Britain or built at home, were equipped with Armstrong armament.[63] Furthermore, this armament trade did not only consist of supplying armament to the naval ships. It was also expanded to the artillery for the army and navy. From the mid 1860s, the Ottomans ordered large numbers of guns and artillery

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58 W. G. Armstrong to S. Rendel, 7th September, 1864, *Rendel Papers, 31/50,* Newcastle.

59 W. G. Armstrong to S. Rendel, 18th October, 1864, *Rendel Papers, 31/56,* Newcastle.

60 "Abdulaziz zirhli firkateyni icin yirmi adet Armstrong topu", *TNA, Sura-i Bahri Bolumu, 65/80,* 19th December 1865.

61 W. G. Armstrong to S. Rendel, 28th May, 1866, *Rendel Papers, 31/148,* Newcastle.

62 Stuart Rendel to John Hay, *VA, Rendel Papers, 546,* 3rd June 1867.

63 "Zirhli gemiler icin Armstrong'dan getirelecek muhimat ve top edevati", *TNA, Mektubi, 94/5,* 2nd June 1870.

and military machinery from Armstrong & Co.[64] In early 1866, the Ottoman government signed an important contract with Armstrongs for guns and armaments for the navy and army.[65] British and Ottoman proof officers were appointed to certify that guns were made in accordance with the contract.

The Ottomans were also trying to improve their guns and to build Armstrong guns at home. For this purpose, naval officers were sent off to England to master Armstrong guns. In 1869 a group of six naval colonels left for London to receive technical training for the newly invented gun and its usage in the navy.[66] They were trained in the naval dockyards and in the armoured vessels in Britain. Furthermore, some British gunnery experts were employed as the instructors to teach the new guns to the Ottoman naval students.[67] The Ottoman authorities also held meetings with Armstrong and the firm for employment of Elswick engineers in the service of the Ottoman Empire, and also about the possibilities of the establishment of a "gun factory" in Turkey where Armstrong guns could be produced.[68] However, Armstrongs were reluctant to establish a factory in Turkey for this purpose. At the time Armstrongs were very busy with European orders for guns. They, instead, promised the trial of guns would be made in Istanbul.[69]

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64 "Armstrong Sirketine siparis edilen kulliyatli cephane", *TNA, Mektubi, 82/72,* 17th July 1870; Also see "Tersane-i Amire'de imal ve ayrica Ingiltere'ye siparis edilen cephane", *TNA, Mektubi, 141/24,* 20th November 1871.

65 W. G. Armstrong to S. Rendel, 23th January, 1866, Rendel Papers, 31/133; see also, "Turkish Contract" in W. G. Armstrong to S. Rendel, 14th January, 1866, Rendel Papers, 31/132.

66 "Armstrong toplari uzerine egitim gorecek alti deniz subayinin Ingiltere'ye gonderilmesi", *TNA, MKT-87/34,* 16th August 1869.

67 "Bahriye mektebi ogrencilerine topculuk egitimi icin Ingiliz yabanci uzman celbi", *TNA, MKT-90/69,* 12th September 1869.

68 "Yeni icat Armstrong toplarini ogrenmek uzere Ingiltere'ye subay gonderilmesi", 13th August, 18.., *TNA, MKT-563/1;* See also, W. G. Armstrong to S. Rendel, 18th October, 1864, *Rendel Papers, 31/56,* Newcastle.

69 *Ibid.*

Finance was the most important issue for the Ottomans' armament deals. Payments were often delayed. In early 1866, W. G. Armstrong stated that "the Turks are notoriously slow payers".[70] He complained to the Ottoman Embassy personally for the large sum of money that was overdue in connection with armament works, of which he claimed that only left a small profit.[71] By then the account of the Elswick Works for the armament of four Ottoman frigates, *Osman Ghazy, Sultan Mahmud, Abdulaziz, Ethem Pasha,* had amounted to more than ten million pounds.[72] The payments for some naval frigates were long overdue. Being aware of the Ottoman financial state, Armstrongs were most sensitive about the payments by the Ottoman government for arms.[73] The Armstrongs increased their military machinery deals with the Ottomans, although Ottoman finance was in a chronic condition. They often offered credits, loans and a good payment system. For instance, in 1866 they made available for the Ottoman government two million pounds as a loan for arms.[74] Armstrongs even had earlier settled an account of Napier & Sons with the Ottoman government.[75] Armstrongs used the weak Ottoman financial state for their advantage. They, as a result, established firm connections with the Ottomans for armament. The Ottoman Tophane Arsenal, the biggest Ottoman gun-maker, was unable to produce more sophisticated European guns. Though for some time it made some

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[70] W. G. Armstrong to Rendel, 26th January, 1866, *Rendel Papers, 31/134-135.*

[71] W. G. Armstrong to Turkish Embassy, 28th February, 1866, Rendel Papers, 31/463.

[72] Elswick Works to S. Rendel, 7th February, 1866, *Rendel Papers, 31/437.*

[73] A large number of correspondence over the Ottoman orders between W. G. Armstrong and S. Rendel deal with financial matters. See, for instance, W. G. Armstrong to S. Rendel, 7th February, 1866, *Rendel Papers, 31/438;* W. G. Armstrong to S. Rendel, 10th June, 1866, *Rendel Papers, 31/154;* W. G. Armstrong to S. Rendel, 10th July, 1866, *Rendel Papers, 31/163.*

[74] W. G. Armstrong to S. Rendel, 31st July 1866, *Rendel Papers, 31/163.*

[75] Ottoman Consulate General to W. G. Armstrong Co., 11th December, 1865, *Rendel Papers, 31/402.*

2-barrel 1-inch Nordenfelts, their manufacture ceased by 1890.[76]

The Ottomans were heavily dependent on European gun-makers. Armstrongs were the largest supplier. The firm had almost monopolised the military machinery supplies for Ottoman naval ships and large guns. It was only by the late 1870s that Armstrongs saw Krupp, a fast expanding German industrial firm, as a rival in the Ottoman markets.[77] However, as early as the early 1870s, Krupp guns were becoming popular with many European and non-European governments, like China, Egypt and Japan.[78] When in 1873 the Ottoman government decided to order large amounts of armaments for the coastal defences, particularly the coast guns and torpedoes, Krupps formed a real treat to Armstrongs. Seeing the danger for a market which they had monopolised since the Crimean War, Armstrongs sent Noble to Constantinople to compete against Krupps for armaments orders.[79] There he held numerous meetings with the Ottoman Commission for armament orders, the Minister of Marine and many other high rank Ottoman officials and tried to persuade them in favour of Armstrongs.

The commission for Ottoman armament consisted of nine officers. It included a few, such as Husnu Bey, trained in Germany. British agents were wary of these German oriented officers that they might influence the decision-making in favour of Germany.[80] Noble also consulted the British Consulate in Constantinople and Hobart Pasha, the Naval Adviser to the Ottoman navy at the time, and requested their help.[81]

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[76] The Admiralty, *Turkey, Greece and Roumania War Vessels and Torpedo boats,* Intelligence Department, No: 278, London, 1891, p. 8.

[77] A. Noble to Stuart Rendel, *VA, Rendel Papers, 546,* 9th December 1877, Cambridge.

[78] On his visit to Japan in 1879 as a guest of the Japanese Minister of Marine, Sir E. J. Reed, famous British naval architect, reported that the latest European type Japanese naval ships were armed with Krupp guns of "the best pattern". See Sir E. J. Reed, *Japan* vol. I, p. 322.

[79] Noble to Armstrong, 22nd June, 1873, Constantinople, *Rendel Papers, 31/2114,* Newcastle.

[80] *Ibid.*

Armstrongs were ready to offer between 7.5% and 4.5% commission to those officers and agents for any armament orders by the Ottoman government. Armstrongs' authorities, Rendel, Noble and Armstrong, had been discussing the matter for some time.[82] In Constantinople Noble proposed to give them a commission not exceeding 5%.[83]

The Commission delayed to announce the winning firm as they were trying to get a better deal, seeing the competition between the two firms as an opportunity. Noble wrote to Armstrongs that "they [the Commission] have decided to put us in competition with Krupps and they begged us to give our prices for steel guns we make".[84] Noble also appointed a prestigious Ottoman-Christian court in Istanbul as agents for the financial arrangements connected with the Ottoman coastal defence programme if any contract should be signed with the Imperial Ottoman government.[85] He was also put in charge of secretly obtaining the prices of Krupp for the coastal guns and machinery.[86] In return, he was allowed 4.5% commission. In Constantinople, Noble spent months of intensive consultations and negotiations, as he extended his efforts to persuade other Ottoman ministers. He was becoming anxious as he observed the gradually increasing "Prussian influence on the Ottoman Sultan and the Egyptian Viceroy".[87] In his interviews with the Commission and the British Consulate, Noble

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[81] Noble to Armstrongs, 29th-30th June, 1873, *Rendel Papers, 31/2116,* Newcastle.

[82] Noble to Rendel, 12th June, 1872, *Rendel Papers, 31/1057,* Newcastle; Noble to Rendel, 24th June, 1872, *Rendel Papers, 31/2063,* Newcastle; Noble to Armstrong, 22nd June, 1873, Constantinople, *Rendel Papers, 31/2114,* Newcastle.

[83] Noble to Armstrongs, 29th-30th June, 1873, *Rendel Papers, 31/2116,* Newcastle.

[84] *Ibid.*

[85] Noble to Zorando Brothers, 2nd July, 1873, *Rendel Papers, 31/2120,* Newcastle.

[86] Noble to Armstrong, 27-30th July, 1873, Constantinople, *Rendel Papers, 31/2128,* Newcastle.

[87] Noble to Armstrong, 6th July, 1873, *Rendel Papers, 31/2122,* Newcastle.

emphasised that a good system of stationary torpedoes was essential for the defence of the Bosphorus.[88] He thought that his plans for the defence of Constantinople would attract the attentions of the Commission and the government.

Noble's mission in Constantinople was not only involved with competing for a good share of armament as an Armstrongs' agent, but was also involved with providing the Ottoman navy some technical help, particularly with armament of the ironclad fleet. He was invited and instructed by the Ottoman Minister of Marine to check and report on the conditions and armament requirements of the Ottoman war vessels.[89] Noble checked all major Ottoman warships in Constantinople and reported on their armament and guns. For most of the vessels he recommended 9" guns from Armstrongs.[90] The Ottoman Ministry of Marine approved Noble's report on the Ottoman fleet and recommendations for its improvement and efficiency.[91] In addition, they wanted to enter an immediate arrangement and contract with Armstrongs for the Danube gunboats and their large sum of guns. However, the Ottoman Council of Ministers and the Commission for the Armament were determined to order the coast defence guns exclusively from Krupp.[92] In early August, 1873, Noble reported to Armstrong that "the whole order for coast guns is placed with Krupp's hands".[93] But he assured Armstrong that "any order for torpedoes would be first in our hands".[94]

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[88] Noble to Armstrong, 15th July, 1873, Constantinople, *Rendel Papers, 31/2124*, Newcastle.

[89] Noble to Ottoman Minister of Marine, 3rd July, 1873, Constantinople, *Rendel Papers, 31/2121*, Newcastle.

[90] *Ibid.*

[91] Noble to Armstrong, 27-30th July, 1873, Constantinople, *Rendel Papers, 31/2128*, Newcastle.

[92] *Ibid.*

[93] Noble to Armstrong, 5th August, 1873, Constantinople, *Rendel Papers, 31/2129*, Newcastle.

[94] *Ibid.*

Krupp was making a great effort to increase its share in the Ottoman market by offering high quality arms at cheaper prices. The German officers in the service of the Sultan's army and Germany's new industrial and military position in Europe acted as positive factors in German expansion to the Ottoman markets. By the mid 1880s the Ottoman Empire came to rely primarily on German industry for cannons and coast defence guns. The government ordered huge cannons manufactured by Krupp for the defence of the Straits as well as for other coastal defences.[95] Moreover, in the 1890s the Ottoman military authorities began to replace Armstrong muzzle-loading armament by Krupp B.L guns.[96] New contracts with Krupp, including a large sum for Naval Ordnance, were underway. By the early twentieth century Germany became very influential and largely dominated world armament and naval shipping industries and markets. In Turkey, Krupp was absorbing increasing numbers of military and naval armament orders, as the German banks, particularly the Deutsche Bank, were financing Ottoman industrial and military reconstruction upon European models. Germany, thus, began to present one of the greatest treats to British overseas industrial expansion and markets. As a result the British competition with Germany, especially in Turkey, became most serious and dangerous.

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[95] S. J. Shaw & E. K. Shaw, *History of the Ottoman Empire and Modern Turkey,* vol. II, p. 245.

[96] The Admiralty, *Turkey, Greece and Roumania War Vessels and Torpedo boats,* Intelligence Department, No: 278, London, 1891, p. 8; *FO 195/2053,* 22nd May, 1890.

6.6 Conclusion

By the Crimean War the Ottoman naval authorities had long been aware of the importance of adopting European naval technologies and structures for the construction of an effective naval force. The navy had been receiving British naval instruction and advice, and machinery, such as steam engines and later warships and their armament, as early as the 1830's. The military and political climate which developed after the Crimean War allowed a large scale Ottoman naval reconstruction with the help of Europeans, mainly British, at the start. British naval shipbuilders first provided the Ottoman navy with hardware, such as steam engines which were installed in the Ottoman built wooden ships. However, steam engines would entail a new type of naval ship, which the Ottoman industrial capacity was unable to construct. Then British shipbuilders provided more than partial machinery; whole packages, for example, warships with their armament and later fully armoured and equipped naval vessels with their technical instruction. This is a good example of how European naval technology came to dominate the entire Ottoman naval system.

Partial adoption of European machinery was not sufficient for the Ottoman navy to rebuild a naval power on a European model. It entailed the change of the entire Ottoman naval system; not only naval machinery but also its institutional and educational structures. This opened the way for a total dependence on European technology and hence formed the base for their imperial pursuits over the Ottoman Empire. Napier & Sons Co. in Glasgow, which began to provide the Ottoman navy with steam engines as early as 1830s, expanded their business to steamers, and in 1860 to

building an Ottoman ironclad programme. They were soon joined by other British prominent naval shipbuilders, the Thames Iron Works and Samudas & Sons Co. in London.[97] Armstrongs armoured all Ottoman ironclad frigates, as well some wooden frigates, from 1863 onwards. Armstrong guns became an essential part of naval armament. Later, Armstrongs expanded their trade to other military equipment, and warships designed and completely armoured by their Elswick naval shipyard. Elswick became a center not only for the construction of naval vessels and armament but also a centre for technical instruction and training of the Ottoman navy.

The flow of naval shipping and armament technologies to the Ottoman Empire was checked by its declining state of finance, and the international competition between Britain, France and Prussia. The rise of Prussia changed the power balance in Europe. By the 1870's Krupp was an influential armament firm in Turkey, especially when it won the armament deals and reconstruction projects for the Ottoman coastal defence programme. Only to some extent did the Ottoman Empire benefit from the competition between European industrial powers to reconstruct its navy and military, as shipbuilders and armament dealers offered competitive payment systems and loans. However, the Ottoman Empire could not escape from their imperial expansion and the domination of its military, political and economic power structures through industrial activities and financing. The modest ambitions and attempts of the Ottoman naval authorities to build their own vessels and guns failed. Many vessels that were launched were never completed and left to decay. Apart from the Sultan

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[97] There were also other British shipbuilders, including Gourlay Bros. & Co. of Dundee, which built iron and steel passenger steamers and barges at Camperdown Shipyard, see, "Ship-building in Dundee in 1894", *Dundee Year Book*, Dundee, 1894, p. 41-42.

Abdul Hamid's neglect of the navy, Turkey had no industrial, managerial and economic structures as such to construct their own naval vessels and guns. Furthermore, European industrial expansion, which brought in cheaper naval vessels and arms, made the establishment of a genuine Ottoman naval industry all the more difficult.

Chapter Seven

TURKISH NAVAL PROGRAMME and ARMSTRONGS & VICKERS

> The contracts entered into with the Turkish government, [were] part of an important arrangement we successfully negotiated shortly before the war, and as a result of which we obtained, on the one hand, the concession of the constitution of a "Société Impériale Ottomane Co-Intéressée des Docks, Arsenaux at Constructions Navales", entrusted with the reorganisation and management of the naval docks and yards of Turkey, and on the other hand, an order for the execution of the Turkish naval programme, thus securing for the Great Britain the practical control of all the docks, yards and naval constructions of the Ottoman Empire.[1]

7.1 Introduction

While forming an important channel for the transmission of technical knowledge and expertise to the importer countries of their technologies, British armament and naval firms prepared the conditions for British naval and military expansion to those countries. In the Ottoman Empire, where particularly before WWI there was severe competition for armaments and naval vessels among the industrially advanced Western companies, British, German, French and American, the companies of each Western power formed an industrial and political cooperation. British military and naval alliance led by Armstrongs and Vickers in Turkey reached its zenith in the years before the war. This alliance helped to further British naval and military expansion to the Ottoman Empire. As a result, British military and naval influence in the Ottoman Empire increased in spite of the strong German presence. British firms were part of a

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[1] Vickers to the Admiralty, 5th October, 1917, *Ostrorog Opinions- Turkey (2), VA/53*, Cambridge.

more general British foreign policy. Though they were independent, British firms trading with Turkey were providing the British Admiralty with technical and military information of the vessels and armament supplied whenever needed.[2] In return, they were protected and politically assisted by the British government internationally against non-British firms competing for the Ottoman markets. This was the same for the Germans and the French; their embassies in Istanbul made every effort to win Ottoman arm and naval concessions for their home companies.

By the turn of the century, the Ottoman navy had become even more dependent on primarily British naval technology and expertise. The British had provided the Ottoman navy with most of its hardware and technical instruction and supervision since the Crimean War. Apart from an increasing number of British naval instructors on the naval vessels, more engineers were employed especially in the Imperial Dock Yards to improve shipbuilding and the production of arsenals.[3] Besides, the Ottoman naval authorities endeavoured ambitiously to modernise the old vessels and equip them with new technologies, such as new guns. Most of the help came from Armstrongs, Vickers and Ansaldo. From the 1890s onwards, they even brought in compass experts from Britain and adapted the Kelvin or Thomson compasses for their battleships.[4] By the end of the century, most of the principal fighting ships had Kelvin compasses.[5] The Ottoman naval authorities initiated a plan to produce

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[2] See, for example, C. Ottley to D'Eyncourt, 31st December, 1912, *Rendel Papers, 31/7393,* Newcastle.

[3] *Turkish-Ottoman Naval Archives (TNA), MKT-881/71,* 23rd October, 1894; *MKT-874/43,* 17th October, 1894; *MKT-773/10A,* 14th June, 1896.

[4] *TNA, MKT-1138/3,* 29th April, 1898.

[5] For detailed information on Kelvin compasses and their trade, see C. Smith & M. N. Wise, *Energy and Empire,* Cambridge: Cambridge University Press, 1989, pp. 754-798.

Thomson's patent compasses in the Imperial Dock Yards. To pursue this they invited a compass expert from Thomson Co. to take employment in the dock yards in Turkey.[6]

The Sultan Abdul Hamid was known to have shown a mistrust of his navy since his accession in 1876. This was attributed to the fact that the navy was prepared to support Mithat Pasha, a reformist, and the Constitutional party, which the Sultan had dismissed.[7] It was reported that even the propellers were always removed by the Imperial authorities to lessen the risk of a naval revolt against the Sultan.[8] As a result, Ottoman naval power steadily deteriorated after the Russo-Turkish War of 1877-78. In the meantime, Russia had created a strong Black Sea fleet, thus threatening the Ottoman coastal defence. When the power of the despotic Sultan was diminished in early 1900, the Ottoman naval authorities began an ambitious programme of modernisation of the naval structures.

This chapter discusses the British industrial alliance in Turkey in the decade before the First World War, the new Ottoman Naval Programme and the transmission of engineering and technical expertise from Britain to the Ottoman navy through British engineers, agents and instructors, and printed material and guides for the functions and running of the imported naval machinery.

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6 "Tersanede pusula imal etmek uzere Thomson fabrikasindan bir yabanci uzman celbi", *TNA, MKT-1374/5-46,* 18th June, 1901.

7 A. J. Marder, *British Naval Policy, 1880-1905,* London: Putnam & Company, 1940, p. 153.

8 *Ibid.*

7.2 Elswick Naval Construction and Technical Instruction

Armstrongs' Elswick Naval Shipyard, one of the most important naval shipyards of the world from the late nineteenth century, was a main supplier of naval ships and armament to the Ottoman Empire from Britain, at least until the coming of Vickers as a strong rival. As an indigenous infrastructure to operate and maintain their naval vessels and guns hardly existed in the Ottoman navy, they also had to supply engineers, consultants and experts to teach and train local naval officers and engineers, and thus created a new local technical community with a minimum knowledge of the relatively complicated machinery. This was the core of the transmission of technical knowledge to the new environment. For the exporter company, this was not just "missionary" or optional, but an obligation for the export of naval vessels and also a guarantee for the continuation of the flow of naval vessels and guns to this environment. Every trained indigenous naval man either in Britain or at home meant a new agent for the supplier, and in return, this resulted in expansion of their industrial market. For the Ottoman government, it meant the possession of a strong fleet and trained local naval men to operate and maintain the machinery. This helped the formation of an infrastructure to accommodate the new technology. It also raised the hope for the establishment of its own naval and industrial structures, such as shipyards and arsenals.

The Ottoman government itself often employed a large number of British engineers and advisors, either through the agents of the companies concerned, or through their embassy in London. When their naval vessels were built, the Ottoman government sent some naval officers to attend the construction of the vessels. For instance, when

the Ottoman battleships, the *Medjidieh* in America and *Hamidieh* in Elswick, were being built two Ottoman naval officers joined the construction of each ship.[9] On the other hand, the Ottoman government employed naval gun experts to train the local naval men when the vessels were delivered. When Armstrongs delivered the *Hamidieh* cruiser and *Erthougrul* yacht, Elswick naval engineers accompanied the vessels and were employed by the navy. The agreements for such engineers were made between the Ottoman government and H. Vere, Armstrong's agent. Mr Stanberg and Mr Nelson, and Mr King and Mr Alderson were employed as the Engineer in Chief and Assistant Engineer for nine months in the *Hamidieh* and the *Erthougrul* respectively.[10] Their contracts were renewed several times. The engineers Mr King and Mr Alderson were in the Ottoman employment in the *Erthougrul* as chief instructors at least until 1908.[11] The Ottoman government also recruited one of the *Mecidiye's* experts from the William Cramp Co., in America to work as Chief Instructor on the said ship in Turkey, and he was given the status of the "honorary aide-de-camp to the Sultan".[12] The *Erthougrul* was in the service of the Sultan only. Apart from providing engineers, the companies also prepared and delivered to the navy with the naval vessels instruction books or booklets of how to use and maintain guns and engines. These included the technical details and functions of the vessels and their parts.[13]

To illustrate the points here I will look at the mission of an Elswick engineer,

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9 *TNA, MKT-1434/41,* 12th April 1902.

10 *TNA, MKT-1520/16-17,* 51-87, 20th June, 1904.

11 *TNA, Muhasebe-2154/89,* 18th May, 1908.

12 *TNA, MKT-1528/99-131,* 31st August, 1904.

13 *TNA, MKT-1520/16,* 20th June, 1904.

D'Eyncourt, to Istanbul. Sir Eustace Tennyson D'Eyncourt (1868-1951), who later became the director of British Naval Construction, was a leading naval architect of his day. He was trained at Armstrong's yard at Elswick and at the Royal Naval College, Greenwich. After his apprenticeship he remained with Armstrong until 1898 when he became a naval architect to Fairfields on the Clyde. He returned to Armstrongs in 1902, where he made a reputation for both technical competence and skill in securing foreign orders.[14] In 1904 D'Eyncourt was sent to Turkey by the Armstrong & Whitworth Co. primarily to hand over three ships which had been completed for the Turkish government at Elswick.[15] They were an armoured cruiser of about 3,500 tons, the *Hamidieh,* an Imperial yacht, the *Erthougrul,* which was "most lavishly and luxuriously fitted up for the Sultan's personal use", and a well designed state barge for the Sultan's use on ceremonial occasions.[16] Secondly, upon the demand of the Ottoman government, he was to inspect and complete ships which were under construction at the Ottoman shipyards in Turkey, mainly four vessels: one armour clad and one large cruiser at the shipyard on the Golden Horn and two small cruisers at the shipyard in Izmit.[17] Furthermore, an important part of this more or less diplomatic mission was to try to get further orders for warships and guns from the Sultan and his government.[18]

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[14] In 1912 D'Eyncourt was appointed Director of Naval Construction and thus became responsible for the British wartime shipbuilding programme, and also the development of tanks and airships. See his own autobiography, Sir Eustace Tennyson D'Eyncourt, *A Shipbuilder's Yarn; the Record of a Naval Constructor,* London: Hutchison & Co., 1948.

[15] *Ibid.*, p. 48.

[16] *Ibid.*

[17] There is a letter book in the National Maritime Museum at Greenwich, which contains duplicates of letters written between Elswick and Constantinople relating to D'Eyncourt's visit to Turkey. See *National Maritime Museum Archives at Greenwich (NMAG), Letter Book, DEY/88.* See, for instance, D'Eyncourt to Faulkner, *NMAG, DEY/88,* 20th May 1904 and 24th May 1904.

[18] D'Eyncourt, *Shipbuilder's Yarn,* p. 48.

In Turkey he was joined by an Armstrong agent, Mr. Vere, and later, by Mr. Faulkner, the secretary of the firm. D'Eyncourt inspected all the ships that the Ottoman authorities wished to be completed at the Izmit shipyard and at the arsenal on the Golden Horn, the Halic Shipyard. In Izmit he observed that nothing at all had been done at the shipyard for years and that the ships were "completely rotten".[19] Therefore, he thought it would be very difficult and expensive to complete the ships. In his inspections at Golden Horn or Halic, he saw that the *Abdulkadir,* an armour clad of 8,000 tons, was in a very bad state, and concluded that it could not be completed.[20] However, he observed that the other vessel, a cruiser called the *Hudav-endighar,* was in a relatively better condition than all the others he had inspected.[21] But the Turkish authorities were anxious to see the four ships completed.[22] Although, the completion of the four ships at the shipyards in Turkey did not seem totally impossible, he estimated that it would be much more expensive, difficult and more time-consuming:

> It is quite clear that our prices for building these ships out there must be greater than for building the same ships at home, and we should I think impress on the Turks that for the same money we could give four *better* ships, up to date and in a shorter period.[23]

D'Eyncourt was also trying to secure some new orders from the Ottoman government for naval vessels and armament.

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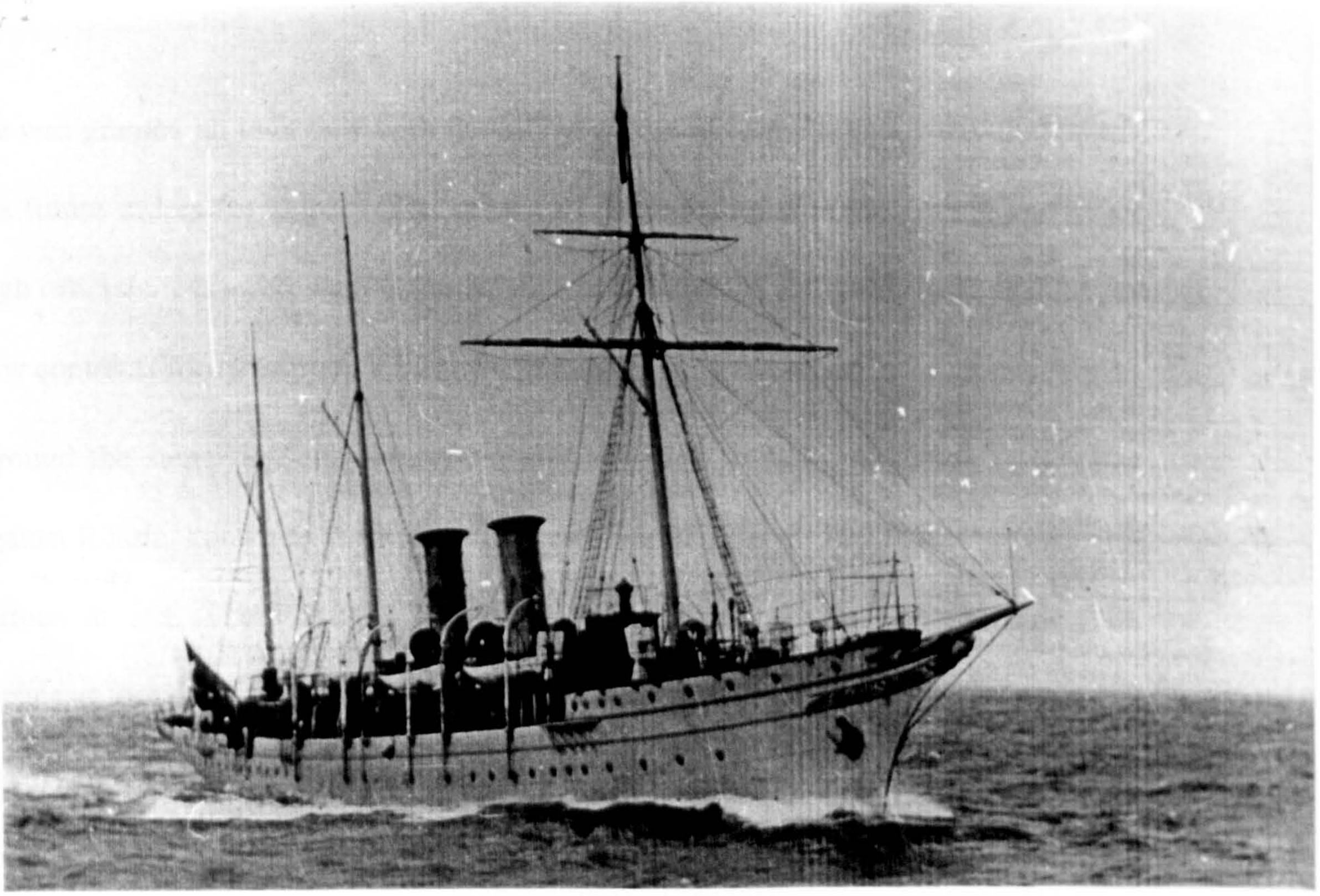
[19] D'Eyncourt to W. Armstrong and Whitworth Co., (Elswick Shipyard), *NMAG, DEY/88,* 16th May 1904.

[20] *Ibid.*

[21] *Ibid.;* See also D'Eyncourt to Mr. Perrett, *NMAG, DEY/88,* 16th May 1904.

[22] D'Eyncourt to W. Armstrong & Withworth, *NMAG, DEY/88,* 19th May 1904.

[23] D'Eyncourt to Faulkner, *NMAG, DEY/88,* 20th May 1904.



H.I.M. THE SULTAN'S

TWIN-SCREW STEAM YACHT

"ERTHOGROUL"

BUILT BY SIR W. G. ARMSTRONG, WHITWORTH & CO., LD.,

NEWCASTLE-ON-TYNE

PRINCIPAL DIMENSIONS.

	FT.	IN.		FT.	IN.
LENGTH (*Between Perpendiculars*)	260	0	DEPTH, MOULDED	15	0
BREADTH, MOULDED	27	6	DRAFT, MEAN	10	0

DISPLACEMENT: 900 TONS.

ARMAMENT.

3-PDR. QUICK-FIRING GUNS.

Launched at Elswick Shipyard, December 1903.

[Tyne and Wear Archives.]

He was granted an interview with the Sultan to discuss the Turkish Navy and possible future orders for ships.[24] The results of the meeting with the Sultan and other high officials, who were anxious to acquire new warships and guns, were fruitful for new contracts for Armstrong's Elswick shipyard.

Around the same time the Japanese were achieving military successes in the war against Russia, known as the Russo-Japanese War of 1904-5. The Japanese were victorious at sea. The Russians lost more than fourteen battleships, whereas, the Japanese lost only a few naval ships. Their triumph depended largely on the good quality naval vessels that she had in her navy. Most of these were built by the British, including all six principal battleships; three built by Armstrong & Whitworth's Elswick yard, two by the Thames Iron Works and Shipbuilding Co., and one by John Brown at the Clydebank.[25] The Russian ships lost in the war had been built in Russia. This became the source of great optimism for the Ottoman authorities, who believed that with a good naval fleet they, too, could defeat the Russians, who were becoming a bigger threat to the Ottoman Empire. Thus, D'Eyncourt observed:

> There is no doubt they [the Ottoman authorities] are greatly excited over the Russo-Japanese war and think that if they get some battleships and cruisers soon they could emulate the success of the Japanese; in rein of the feeling I think we should urge them to order some ships from Elswick, where we could build these much more quickly and better.[26]

This was a very great advantage for the British shipbuilding industry, and also a great opportunity for British shipbuilders to persuade the Ottoman and other foreign

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24 D'Eyncourt, *A Shipbuilder's Yarn*, p. 50.

25 C. Smith & M. N. Wise, *Energy and Empire*, p. 796.

26 D'Eyncourt to W. Armstrong and Whitworth Co., (Elswick Shipyard), *NMAG, DEY/88*, 16th May 1904.

governments to order more battleships and other naval machinery. D'Eyncourt stated a similar view in a later letter:

> The Turks are deeply impressed by the war in the East and think that with good ships they could emulate the Japanese successes. This idea I am endeavouring to foster and to impress upon them that Elswick Ships and Guns are the weapons required.[27]

It seems that the work for the completion of the four ships was never undertaken, in spite of the strong wish of the Ottoman authorities, but instead new orders were made to Armstrong & Whitworth Co. for naval vessels. The Sultan gave orders for some corvettes for coastal guard and general purposes, and also ordered the construction of two submarines.[28]

After the inspection of the four ships, D'Eyncourt was ordered by the Sultan and his government to inspect the entire Turkish Torpedo Boat flotilla, and also to look into the question of repairing them.[29] In the inspections he was helped by two British naval engineers, Mr. Stanger and Mr. Coller. Stanger inspected and reported on the machinery, engines and boilers. Coller assisted him with the inspection of the hulls.[30] Some weeks later D'Eyncourt completed a preliminary survey of the Turkish Torpedo Boat flotilla, and prepared a "Report of Condition and Estimates of Repair of Imperial Ottoman Torpedo Boat Flotilla".[31] In addition, J. B. Hyde Parker, another naval engineer and agent of the company, reported on the torpedo tubes and guns on

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[27] D'Eyncourt to Faulkner, *NMAG, DEY/88,* 20th May 1904.

[28] D'Eyncourt to Armstrong & Withworth Co., *NMAG, DEY/88,* 1st June 1904; D'Eyncourt to Armstrong & Withworth Co., *NMAG, DEY/88,* 4th June 1904.

[29] D'Eyncourt to Mr. Perrett, *NMAG, DEY/88,* 15th June 1904.

[30] D'Eyncourt to Mr. Stanger, *NMAG, DEY/88,* 13th June 1904; D'Eyncourt to J. M. Faulkner, *NMAG, DEY/88,* 20th June 1904.

[31] See a copy the "Report of Condition and Estimates of Repair of Imperial Ottoman Torpedo Boat Flotilla" by D'Eyncourt, *NMAG, DEY/88,* 25th June 1904.

board.[32] Parker saw and inspected some 24 tubes, and concluded that they needed to be repaired and that some parts needed to be renewed. D'Eyncourt's report revealed that many torpedo boats were in poor condition, and required numerous fittings both for the hull and the machinery. Many also needed new boilers.[33] At the end of his service he was ceremonially thanked and also awarded a *Third Class Medjidieh,* for his work for the Imperial Ottoman Navy.[34] Elswick shipyard continued to provide information and instruction for the vessels and arms that they provided to the Ottoman government. Many other Elswick engineers and instructors served in the Ottoman navy for various work, from mere instruction to the repair of the vessels and guns. This mission cannot be separated from the flow of hardware supplied by Armstrongs; it was an integral part of it.

7.3 The British Industrial Alliance in Turkey

After the Young Turk Revolution in 1908, the new Ottoman administration accelerated the Westernisation programme. The reconstruction of a strong naval fleet and armament industry were two important priorities of the Young Turks. Turkey, beside countries like Japan, Spain, Portugal, Brazil and Chile, endeavoured to restructure its naval and military power by buying expensive warships and artillery. Vickers and Armstrongs became the two major British suppliers, which dominated most of the world's armament industries. However, by the end of the nineteenth century, the

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[32] See "Preliminary Report of Condition of Torpedo Tubes & Guns on Board I. O. Torpedo Boats" by J. B. Hyde Parker, *NMAG, DEY/88,* 24th June 1904; see also D'Eyncourt to Armstrong & Withworth Co., and to Mr. Perrett, 27th June 1904.

[33] D'Eyncourt, "Report".

[34] D'Eyncourt, *A Shipbuilder's Yarn,* p. 50.

British monopoly in arsenals was weakened to a great extent by the Germans, and later by the French and the Americans. British industrial firms had to compete with Germans and other foreign rivals for armament deals. To increase their competitive power Vickers and Armstrongs, the two most eminent British armament companies, collaborated in many projects in Turkey.

Armstrongs had enjoyed almost a monopoly in Turkey, as they had in many countries, around the 1870s, and thereafter their connections with the Ottoman government had never ceased. Vickers, on the other hand, had established strong ties with Turkey only since the late nineteenth century by providing armament and naval ships. By the turn of the century, the Ottoman navy rearmoured a considerable number of its battleship with Vickers-Maxim guns.[35] Due to the increasing number of Vickers-Maxim guns purchased, the Ottoman navy had to employ trained naval engineers to teach how to operate and maintain Vickers guns. Therefore, some local engineers were sent to Britain to improve their skills and knowledge of Vickers guns.[36] However, by the early twentieth century, Vickers was gaining firmer ground in Turkey, and also in other countries partly through their free loans. The competition between the two companies for vessels and arms deals became harder. Armstrongs was trying to maintain its former position and esteem. S. W. Noble of Armstrongs stated that:

> I am confident that we are in a much stronger position and held in much higher esteem than Vickers, in these countries who are likely to spend money on warlike material. I refer especially to Italy, Chile, Japan and Brazil. ... Our chances of work from China and Turkey, are I should think

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35 "Gemilerden sekizinin Vickers-Maxim toplari ile techizi", *TNA, MKT-1305/31*, 22nd August 1900.

36 "Zirhli Firkateyn Mesudiye'ye Monte edilecek seri atesli Vickers toplari ve bunlari ogretecek subaylar", *TNA, 719, Gemiler, Erkani Harbiye, Tersane, Limanlar, Daireler Bolumu, p. 26A*, 2nd May 1902.

as good as those of Vickers.[37]

However, by 1911 Vickers had more orders in hand from the Ottoman government. Rendel accepted that Vickers had "stepped past" them. He reckoned this was primarily because Vickers worked in London while they remained at Elswick.[38]

Armstrongs and Vickers were not the only Western industrialists in Turkey. There were many others from Germany, France, America and Italy. The German Krupp was becoming a very influential supplier of military hardware. The competition for military and industrial deals in the Ottoman Empire was becoming harder. This constituted a major impetus for the co-operation of Armstrongs and Vickers under a British industrial umbrella. The idea of an alliance between Armstrongs and Vickers was not new. However, now it was given serious consideration by Armstrongs, who were previously reluctant to negotiate. When in late 1909, Faulkner, who had been to Istanbul frequently since the turn of the century to get work for the company, visited again to expand Armstrongs' market in the Ottoman Empire, he met "a keen struggle" for armament orders.[39] In early 1910, he reported that "the Germans brought their ambassador into play, and are using all the diplomatic pressure they can."[40] It was getting harder for Armstrongs to receive the Ottoman orders, as there were many other companies working for the same orders. He reported that "Nothing can be decided easily in Istanbul", before he left for Rome.[41]

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37 S. W. Noble to S. Rendel, 27th September, 1909, *Rendel Papers, 31/7338,* Newcastle.

38 Rendel to John, 31st August 1911, *Rendel Papers, 31/7668,* Newcastle.

39 S. Noble to Rendel, 26 December, 1909, *Rendel Papers, 31/7342,* Newcastle.

40 Saxton W. Noble to Lord Rendel, 6th April 1910, Letters from S. W. Noble, July 1903-December 1912, *Rendel Papers, 31/7331-7368,* Newcastle.

41 Saxton W. Noble to Lord Rendel, 6th April 1910, *Rendel Papers, 31/7352,* Newcastle.

The German Emperor had been working hard in the Balkans to get the orders given to Germany.[42] The Emperor, Kaiser Wilhelm II, had himself already visited the Sultan and his government in Istanbul twice by the turn of the century. During the second visit in 1898 especially he delivered pro-Ottoman and pro-Islamic speeches, which encouraged German nationalistic groups, particularly the Pan-German League for action to expand German influence in the Ottoman Empire.[43] Apart from the political sphere of influence, from a financial point of view, Krupp was offering very generous loans to the Ottoman Empire and China for arms, and gaining valuable markets as a result.[44] Armstrongs and Vickers reviewed their loan policy and began to offer better terms for payments than the Germans in order to win armament concessions from the Ottoman government. For instance, for the battleship deal in 1910, Vickers permitted the Ottoman government six months free credit and then payment by ten equal instalments.[45] The following year, Vickers bankers guaranteed advances of 6,000,000 pounds to the Ottoman government for payment to Vickers on the warship. F. Barker, the representative of Vickers in Istanbul, reported that "the Germans were furious at our getting the order and Enver being German to the core might not be as favourable as otherwise".[46] Being a leader of the Young Turk Revolution, Enver Bey became a very influential official afterwards. He was strongly pro-German and therefore in favour of using German firms for military hardware. In early

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[42] Saxton Noble to Lord Rendel, 27th September, 1909, *Rendel Papers, 31/7338*, Newcastle.

[43] Ulrich Trumpener, *Germany and the Ottoman Empire, 1914-1918*, Princeton: Princeton University Press, 1968, pp. 4-5.

[44] Jannon to Rendel, 25th September, 1912, *Rendel Papers, 31/7384*, Newcastle.

[45] Vickers to Glyn Mills, 28th July 1911, *Turkish Naval Programme 1908-1914 and Post-War Settlement, Vickers Archives (VA)*, Cambridge.

[46] F. Barker to Dawson, 1st of March 1910, *Turkish Naval Programme 1908-1914 and Post-War Settlement, VA*, Cambridge,

December he was made the Minister of War. He was watched by British agents.[47]

There were demands for a larger British alliance, including major firms. Rendel, for instance, suggested that any serious engagement and negotiation with Albert Vickers for a Vickers-Beardmore-Armstrong-Whitworth combination should be explored.[48] In the meantime, particularly from 1910 onwards, Vickers and Armstrongs made a great effort to expand their trade further, and began to initiate large projects together, including running dockyards, arsenals and factories. The Ottoman navy ordered new armoured vessels from Armstrong and Vickers, including dreadnoughts and gunboats.[49] This included a mining ship to be designed by the Elswick Shipyard, which was to be built with the latest arrangements adapted in the British service for laying and lifting mines.[50] Seeing the need for a technically advanced new shipbuilding industry for Turkey, a country with very long coastlines, Vickers even proposed to build a big shipyard in Istanbul. However, at the time the idea was not met with great sympathy. The Ottoman authorities did not want the establishment of such a shipyard in Istanbul, the centre of the Ottoman administration and Imperial residence.[51] Nevertheless, British export of military and naval hardware to the Ottoman Empire increased dramatically. Thus, for example, in 1913 armament orders in hand for Turkey were equivalent to 84 percent of total British manufactured

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[47] H. W. Stock to Vickers Sons & Maxim Ltd., 18th of February 1910, *Turkish Naval Programme 1908-1914 and Post-War Settlement, VA,* Cambridge.

[48] Rendel to Noble, 31st March, 1910, *Rendel Papers, 31/7384,* Cambridge.

[49] "Armstrong Fabrikasina siparis edilen Drednot tipi harp gemisi", 21st September, 1911, *TNA, MKT-1683/1;* "Gunboats for Turkey", Vickers to A. Vere, 30th December, 1910, *NMAG, DEY/9;* also John Brown & Co. Clydebank to D'Eyncourt, 31st December, 1910, *NMAG, DEY/9.*

[50] See "Proposed Mining Ship for Turkey, design no: 678", J. R. Perrett to D'Eyncourt, 18th December, 1910, *NMAG, DEY/9.*

[51] "Vickers and Danyo fabrikalari tarafindan Istanbul civarinda yapilmasi teklif olunan gemi insa tezgahlari", 10th December, 1911, *TNA, 51, Daireler Bolumu, p. 2-3.*

exports to the Ottoman Empire that year.[52]

Armament concessions were granted to Vickers and Armstrongs often with the help of British agents, and most importantly, naval advisers, such as Gamble Pasha and Admiral Limpus, the high-ranking naval advisors to the Ottoman navy[53] and Captain Algernon Faught, "Chief of the Staff" of the Ottoman navy.[54] Captain Faught wrote to F. Barker about his contact with the Ottoman Minister of Marine and what his firm should do for the arms deals. An important condition was an official guarantee that certified "the ammunition is in every respect similar to that which the firm supplied to the British Admiralty".[55] Admiral Limpus wrote to Vickers and Armstrong & Whitworth Ltd. and their agents in Istanbul, such as Mr. Vere, that skilled British workmen were required to repair the *Hamidieh* and other vessels of the fleet. Because of the Balkan wars most skilled local engineers had left. Therefore, there was a greater need for skilled engineers from Europe. Captain Blake was already employed by the Ottoman government as an engineering officer who was made responsible for repair of naval ships.[56]

Though some kind of cooperation had existed between the two companies in Turkey, an official alliance became a particularly weighty issue in the administrative circles of Armstrongs and Vickers in 1912. Rendel stated that:

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[52] C. Trebilcock, *The Vickers Brothers: Armaments and Enterprise 1854-1914*, London: Europa Publications Limited, 1977, p. 124.

[53] *Ibid.*

[54] F. Barker to Messrs Vickers, Sons & Maxim, Ltd., 1st of March 1910, *Turkish Naval Programme 1908-1914 and Post-War Settlement, VA*, Cambridge.

[55] *Ibid.*

[56] K. Bur to Armstrongs & Whitworth, 18th October 1913, *Turkish Naval Programme 1908-1914 and Post-War Settlement, VA/26*, Cambridge.

> The whole question of the value of an alliance with Vickers should, I think, be gone into very carefully. There appears to be little doubt that if orders are to be obtained from the Balkan States, the British firms concerned must be generally if not closely in touch with financial houses who may be floating the loans necessary for the *British naval and military expansion,* and this presupposes that financial groups will enter the market.[57]

An alliance between the firms was demanded particularly in the Ottoman Empire and the other Balkan States, where the great powers were engaged in a very hard competitive struggle. Rendel stated that:

> If we entered into an alliance with Vickers covering both the Balkan States and the Turkish Empire, it would appear to be in our best interests, if any orders are to be secured from the Balkan States, that the Head Office contemplated by Mr. Vere should be established in London.[58]

Mr Vere, the resident agent in Turkey, had earlier proposed the establishment of the Head office in Constantinople, under the management of his firm, with sub-agents in various Balkan countries.[59] By 1913 Armstrongs and Vickers were ready to carry out co-projects for the Ottoman government. Indeed, they even included several other British firms, such as Beardmores. *Société Impériale Ottomane Co-Intéressée Des Docks, Arsenaux et Constructions Navales, Imperial Ottoman Docks, Arsenal and Naval Construction Company* was established in Istanbul in December 1913 by the two firms to exploit all the state docks and arsenals. A few months later they signed another contract with the Ottoman government for a considerable number of naval vessels and a large amount of armament, known as the *New Turkish Naval Programme.*

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57 S. Rendel, "Memoranda on Turkish and Balkan Business", 27th October, 1912, *Rendel Papers, 31/7616,* Newcastle.

58 *Ibid.*

59 *Ibid.*

7.4 "The Imperial Ottoman Docks, Arsenal and Naval Construction Company" and the New Ottoman Naval Programme

Shortly after the Young Turks took power, Armstrongs and Vickers intensified their efforts to create new markets in the Ottoman Empire for armament and naval vessels, in spite of the strong German political and industrial presence there. W. Stock, the Vickers' agent, was in Constantinople for armament deals in late 1908, where he reported to Vickers about the armament prospects.[60] In early 1909, D. A. Gamble, Vice-Admiral and Naval Adviser to the Ottoman government handed a list to Vickers of various ammunition for the navy and for the cruiser, *Mesudiye,* which was built by Thames Iron Works in 1874 and rebuilt and rearmed by Ansaldo in Istanbul in 1903.[61] Later a contract for *Mesudiye* ammunition was signed by H. W. Stock, representing Vickers Sons & Maxim, and Ibrahim Bey, Director of the Ottoman Marine Contracts Department.[62] Captain Tottenham, artillery officer on Admiral Gamble's staff, supplied the details of the ammunition to Vickers through its agents in Istanbul.[63]

To carry out inspections of the ammunition the Ottoman Embassy in London appointed Admiral McGill to attend the inspection on behalf the Embassy. The other two officers were selected by the British Admiralty.[64] Stock mediated between

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[60] W. Stock to Vickers, 24th September 1908 and 29th September 1908, *VA/26,* Cambridge University Archives.

[61] A. D. Gamble to H. W. Stock, 31st May, 1909, Constantinople, *VA/26, Turkish Naval Programme 1908-1914,* Cambridge University Archives.

[62] Ibrahim Bey to H. W. Stock, 28th November, 1909, Constantinople, *VA/26, Turkish Naval Programme 1908-1914,* Cambridge University Archives; see also H. W. Stock to Vickers, 16th December 1909, *VA/26.*

[63] H. W. Stock to Vickers, 13th January 1910, Constantinople, *VA/26,* Cambridge.

[64] Turkish Embassy (Mr M. Enad) to Vickers, 12th February, 1910, *VA/26,* Cambridge.

Vickers and the Ottoman Ministry of Marine. *Mesudiye's* ammunition boxes were provided by Vickers. Its 9.2 guns were relined.[65] Vickers expanded their work for the *Mesudiye* to other battleships and naval vessels. They ordered some of the ammunition and instruments for the Ottoman navy from various armament firms, such as Barr and Stroud Limited of Glasgow which provided the Ottoman navy 9 "0" rangefinders F.T.8 guns with turret mountings via Vickers Barrow-in-Furness.[66] The competition between Vickers and Armstrong in the Ottoman Empire before the war developed into a collaboration and unity against German and other industrial suppliers. Vickers and Armstrongs were ready to carry out major projects together. In December 1913, the Ottoman government signed with Vickers and Armstrong-Whitworth to establish in Turkey a company for the modernisation and management of the Docks and Arsenals of the Ottoman Empire, with a monopoly of Naval Construction work for a period of 30 years.[67] Earlier that year a British man named Johnson had attempted to build a shipyard at Haydarpasha, a very central district of Istanbul. However, he did not receive the necessary sanctions and the project failed to yield any positive result, partly because the Ottoman officials were not pleased with the establishment of such a shipyard in such a central place to Istanbul and so close to state buildings.[68]

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[65] H. W. Stock to Vickers, 25th August, 1913, VA/27, Cambridge; 3rd April, 1914, *VA/27,* Cambridge.

[66] A. Jackson for Barr & Stroud Ltd. to Vickers, 28th January, 1914, *VA/26, Turkish Naval Programme 1908-1914,* Cambridge.

[67] Sir Mark Webster Jenkinson, Memoranda on "Turkish Accounts", 22nd June, 1928, *VA/57-54,* Cambridge.

[68] "Haydarpasa'da bir Ingiliz tarafindan tesis edilecek tersanenin muvafik olamayacagi hakkinda", 13th June, 1908, *TNA, MKT-1635/75.*

The new enterprise involving joint participation of Armstrongs and Vickers to modernise and expand the yards on the Golden Horn was a large project. It was styled "Société Impériale Ottoman Co-Intéressée des Arsenaux et Constructions Navales". Its headquarters was established in Istanbul. However, the effective control of the company was vested in the London Committee.[69] The Board of Directors was composed of four nominees of the Ottoman government and five nominees of Vickers and Armstrongs. The London Advisory Committee consisted of Vincent Caillard and Francis Barker for Vickers, and Charles Ottley and Percy Girouard for Armstrongs, with J. P. Davison as Secretary.[70] The concession was of great importance both politically and industrially. It involved the Docks, Arsenals and all actual and future naval bases of the Ottoman Empire. In practice this meant a British monopoly on the Turkish fleet. The new company undertook to renovate entirely the arsenals at the Golden Horn and in Ismid and to build floating docks with a capacity to lift 32,000 tons. Sir Basil Zaharoff, "the arms king", the agent of Vickers, played the major role in signing this agreement. His ways of winning concessions for armament and military machinery involved much bribery.[71] The revenues for the company were to be collected by the Administration of the Ottoman Debt. Sir Vincent H. P. Caillard, now a major figure on Vickers Board, had been president of the Commission for the Ottoman Public Debt and Britain's financial representative in Constantinople for fifteen years before he was chosen as a director for Vickers in 1898.[72] As a result he

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69 A. V. Lander, Memoranda on "Imperial Ottoman Docks, Arsenals and Naval Construction Company", 19th March, 1935, *VA/57/54*, Cambridge.

70 *Ibid.*

71 D. McCormic, *Pedlar of Death: the Life of Sir Basil Zaharoff*, London: MacDonald, 1965, p. 105.

72 K. Warren, *Armstrongs of Elswick: Growth in Engineering and Armaments to the Merger with Vickers*, London: Macmillan & University of London, 1989, p. 99.

was influential with the Ottoman orders through his important connections and his previous experience with financial matters. The Turkish Docks involvement carried with it the promise of 10 million pounds worth of orders for armaments.[73]

The company soon began to ship the equipment for the Docks and Arsenals and the general repairs to the fleet.[74] To facilitate the working of the Docks and Arsenals in Istanbul arrangements were made with the National Bank of Turkey for a Bank overdraft up to 300,000 pounds. This deal was soon followed by another one for naval vessels and armament. In April 1914 the Imperial Ottoman government signed a contract with Armstrong Whitworth Co. Ltd. and Vickers Ltd. for naval vessels and armament. The programme included a first class battleship, two scouts, two submarines, destroyers and the floating dock. The total value of the programme was about 4 million pounds, and this was to be followed by further contracts for other vessels to bring the total up to 10 million pounds.[75] Most of the vessels and their ammunition were ordered to be built by some other firms on behalf of the two firms; two fast protected scouts at Armstrong's Elswick, four destroyers by Hawthorn Leslie & Co., two submarines by William Beardmores, the floating dock at F.C.M. at Toulon, the battleship at Vickers' Naval Construction Works, Barrow-in-Furness.[76]

The two companies set up a body, *the Eastern Construction Committee,* to deal with the Turkish Naval Programme. Harry Vere, originally an Armstrong agent, became

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[73] C. Trebilcock, *The Vickers Brothers* p. 135.

[74] When the war broke out, their shipment of material was stopped by the British Customs and their work in Turkey was interrupted. See J. P. Davison, the secretary of the Financial & Technical Committee, to the Secretary General in Constantinople, 19th September, 1914, *VA/27,* Cambridge.

[75] Sir Mark Webster Jenkinson, Memoranda on "Turkish Accounts", 22nd June, 1928, *VA/57-54,* Cambridge.

[76] V. Caillard to J. McKechnie, 14th November 1914, *VA/27,* Cambridge.

the joint armament agent for both companies in Turkey and represented the Eastern Construction Committee in Istanbul.

This was a major contract. It inevitably resulted in transmission of technical knowledge and expertise. The local engineers had to understand and operate the vessels and their equipment. The firms supplied the navy engineers to train local men to deal with complicated machinery. According to the contract, the contractors were obliged to deliver to the Ottoman Ministry of Marine a complete set of general plans on linen showing all the different parts of each vessel.[77] Besides, they had to supply the Ministry with five complete sets of approval plans on linen of the construction of the hull, boilers, engines, auxiliary machinery, of the fittings of the vessels, the war fittings, the electric installations, wireless telegraphy, telephones and of all the other accessories and appurtenances as customary in the British Royal Navy. Furthermore, five complete sets of plans of the pumps and their accessories, of the bulkhead accessories, of the electric installations, the steam pipes, telephonic and telegraphic installations and all the other installations were also to be delivered to the Ottoman navy.[78] The Ottoman government was to nominate a Commission for Inspection at the works of the contractors for the whole of the duration of the contract. This Commission with such British Officers as were nominated by the British Admiralty to form part of such a Commission, had the same rights and could exercise the same mode of inspection of the work as those enjoyed and exercised by the British officers and inspectors

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[77] "Contract concluded at Constantinople between his excellency Ahmed Djemal Pasha, Minister of Marine, acting on behalf of the Imperial Ottoman government of the one part and sir W. G. Armstrong Whitworth & Company Limited and Messrs. Vickers Limited of the other part", 29th April 1914, *VA, 705, VA, 1914 VC R214,* Cambridge.

[78] *Ibid.*

named by the British government. The contractors undertook to supply the Imperial Ottoman Commission with all information, plans and drawings necessary during the inspection.[79] The Ottoman Inspection Commission included local naval engineers, Captain Abdulrahim Bey, (the President), Safet and Aziz Beys, (Hull Inspectors), and electricians Irfan and Celal Beys, (Inspectors).[80] In addition to the local Ottoman inspectors, there were several British inspectors.

The contractors were also to engage a Chief Engineer to serve on board each vessel during the twelve months of the period of guarantee. An inclusive salary of forty pounds per month was to be paid by the Ottoman government to each of the engineers. Furthermore, the contractors consented to procure for the Ottoman government the technical personnel which it might desire to employ upon the vessels.[81] Besides, the Ottoman government sent naval engineers and officers to the builders and the arm dealers to be trained how to use them. However, the political climate in Europe was changing for the worse in mid 1914. Threatened by political and military changes around the Ottoman Empire, the Ottoman government was impatient to have their vessels and ammunition ready in hand. Therefore, they were looking for possibilities of the early delivery of the recent orders from Britain. The British government, on the other hand, was most anxious about increasing German military and financial involvement in the Ottoman Empire, which would force the Ottoman government into an inevitable alliance with Germany. When the war broke out, the British Admiralty asked the companies concerned with the Ottoman Naval Programme to provide

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79 *Ibid.*, p. 5.

80 Harry Vere to the Eastern Construction Committee, VA/27, 31st August, 1914, Cambridge.

81 *Ibid.*, p. 13.

them with "the very earliest date that could be given for delivery of the ships including overtime, night-shifts, weekends, in fact on the strictest emergency conditions".[82]

7.5 The First World War and the Turkish Naval Programme

On the 5th November, 1914, war was declared between Britain and the Ottoman Empire. By a decree of dissolution of the Turkish government, dated 24th November, 1914, the British companies were abolished and their property confiscated.[83] With the outbreak of the war the case of "force majeure" arose, and due to this state of hostilities between Britain and Turkey, the Ottoman government thought fit to cancel the concessions by decree, and notified the cancellation to Armstrongs and Vickers.[84] As a result, the Ottoman Dock Company and the contracts in connection with the Turkish shipbuilding programme ran into difficulties. The Turkish members of the Imperial Ottoman Commission of Inspection were recalled to Istanbul and the Ottoman Ambassador and Naval Attaché in London had been given no instructions up to date.[85] The Ottoman government was at the time signing a secret agreement with Germany. At the same time in Britain, Winston Churchill, who was then the First Sea Lord, stated that the Admiralty naturally determined upon increasing the British sea power to the utmost limit, appropriated by way of purchase or requisition all the

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[82] V. Caillard to F. Dawson, F. Barker, Armstrong Whitworth & co. Ltd., 5th November, 1914, *VA/27*, Cambridge; V. Caillard to J. McKechnie, 5th November, 1914, *VA/27*, Cambridge.

[83] A. V. Lander, Memoranda on "Imperial Ottoman Docks, Arsenals and Naval Construction Company", 19th March, 1935, *VA/57/54*, Cambridge.

[84] Armstrongs & Vickers to Foreign Office, 22nd February, 1927, *Ostrorog Opinions (5)*, *VA/31*, Cambridge.

[85] Armstrongs & Vickers to the Ottoman Minister of Marine, 18th September, 1914, *VA/27*, Cambridge; see also Eastern Construction Committee to Vickers, 19th September, 1914, *Turkish Naval Programme 1908-1914 and Post-War Settlement, VA/27*, Cambridge.

naval units that were then in course of construction for foreign powers.[86] In August, 1914, he announced that the naval ships had been commandeered for use by the British navy.

Indeed, the British Admiralty had, even some years before the war, enquired of Armstrongs, Vickers and J. Brown & Co. about the possible acquisition by Britain of the battleships and vessels that were being constructed for the Ottoman navy. C. Ottley stated to the British admiralty:

> We shall hold ourselves entirely ready to place at the disposal of the British Admiralty all necessary data as the exact position in which this important contract with the Turkish government now stands.[87]

However, it had not attempted to keep any vessels that were being built for the Ottoman navy before the war. The war changed the situation. Now the British government was trying to add all the vessels ordered by the Ottoman government to their navy.

At the time there were several naval vessels in the process of construction and near to completion by the two firms for the Ottoman navy. *Reshadieh,* a battleship of 27,000 tons, was being built and armoured by Vickers at Barrow-in-Furness. However, in August 1914, it was commandeered by the British Admiralty with its ammunition.[88] It was renamed as the *Erin* for the Royal Navy. All the rights in the contract were then vested in the British government by virtue of naval and judicial

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[86] Memoranda on the Ottoman Aeronautical League v. Vickers and Armstrongs, 2nd November, 1928, *VA30,* Cambridge.

[87] C. Ottley to D'Eyncourt, 31st December, 1912, *Rendel Papers, 31/7393,* Newcastle.

[88] W. F. Nicholson, the Secretary of the Admiralty, to Vickers, 5th August, 1914, *Turkish Naval Programme 1908-1914 and Post-War Settlement, VA/26,* Cambridge; V. Caillard to L. Ostrorog, 20th December, 1926, *Ostrorog Opinions, VA/30,* Cambridge.

decisions of an entirely binding and final character as regards the two British companies. The second large battleship of 27,500 tons, the *Osman I,* was ready to be delivered to its Ottoman captains just before the war. This battleship, built by Armstrong, Whitworth & Co. at Walker, had been originally ordered by the Brazilian government. However, it was later sold to the Ottoman government. When the war broke out, it was seized by the British government and was never delivered to the Ottoman navy.[89] It was renamed *Agincourt* for the Royal Navy. Furthermore, the work on the battleship, *Fatih,* which was in the process of construction by Vickers at Barrow was also stopped. The earliest possible delivery of the battleship was stated by Barrow at 21 months.[90] They would have been the largest and most modern battleships of the Ottoman navy. The cost of naval vessels and ammunition ordered from Britain was partly paid by the Ottoman government at the time when they were seized by the British government.[91] The situation opened long discussions and claims between the two companies and the Turkish government. In 1916 L. Ostrorog stated that:

> From the Turks we do not claim simply the money which we have already spent. We claim something much more important: the execution of all the contracts of the whole scheme, in regard to which these preliminary expenses, or expenses incurred by us in the beginning of the performance of the contracts on our side, were made.[92]

Armstrongs and Vickers hoped that a victory for the allies would definitely debar the Turkish government from their claim to an annulation of all legal ties between them.

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89 *TNA, Muhasebe-2654/36,* 13th August, 1914.

90 V. Caillard to J. McKechnie, 14th November, on the Ottoman Naval Programme, *VA/27,* Cambridge.

91 A. Killer to V. Caillard, 29th September, 1914, *VA/27,* Cambridge.

92 L. Ostrorog to J. P. Davison, 8th December, 1916, *Ostrorog Opinions (I), May 1916-February, 1917, VA/52/1-3,* Cambridge.

The Turkish government would then not only be compelled to carry out all their pre-war undertakings, but moreover to bear the burden of all the consequences of the war.[93] For the companies, the victory of the allies would mean a "subsidiary hypothesis", that of some other government replacing Turkey in the new Ottoman dominions. In that case the liabilities would be taken by the succeeding power.[94] After the termination of the War in April 1920 Vickers and Armstrongs again took over the Ottoman Dock Company. When the new Turkish administration under Ataturk took power in 1923, the claims of both sides remained unchanged.

After the war, although there were outstanding problems between them and the Turkish government due to the cancellations of pre-war agreements and restrictions arising from the declaration of the war between Britain and the Ottoman Empire, Vickers and Armstrongs were still eager to reenter the Turkish market. However, the two companies had been supportive of Greece, mainly through the personal ambitions of Zaharoff who openly sided with and provided Greece with military machinery and arms against Turkey for the occupation of Anatolia or Asia Minor after WWI. This harmed their image in the Turkish official circles and public eye. New agents were sent to Ankara, the new capital, to win concessions from the newly established republican government. The new administration cautiously welcomed Vickers and Armstrongs' demands for industrial enterprises to restructure industrial and military infrastructures in post-war Turkey, where the national government was striving to establish its own armament and naval industries. A. V. Lander, the agent for Vickers

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93 L. Ostrorog, "Opinion on the Turkish Programme", 16th February, 1917, *Ostrorog Opinions (II), February 1917-November 1917, VA/53,* Cambridge.

94 *Ibid.*

and Armstrong, observed that:

> Industry in Turkey is in its infancy. Practically every sort of manufactured article from nails and rivets to agricultural and more elaborate machinery has to be imported. Any scheme which would foster and develop industry would find great favour in Angora to-day.[95]

Vickers and Armstrongs were ready to compete for a monopoly for the post-war armament programme in Turkey. Their local agent, A. Vahid, acknowledged that the Turkish army was at present at a "turning point as regards its future armament". A firm which would supply the arms was most likely to be able to supply for a long period. This was practically the case with Krupp guns and ammunition in Turkey before the war.[96] Seeing such an opportunity in advance, Vickers and Armstrongs, which merged as a single company in 1928, dispatched new agents and military engineers to Turkey to negotiate with the Ministry of National Defence. They declared their readiness to offer "extremely favourable terms" of payments for new arms deals with Turkey.[97] To solve the problems between Vickers-Armstrong Ltd. and Turkey, an International Arbitural Tribunal, instituted by the treaty of Lausanne, was set up. Finally, in December 1929, an agreement, known as the "Turkish Settlement", was concluded between Vickers-Armstrong Ltd. and the Turkish government in Ankara. It embodied not only matters relating to the Ottoman Dock Company but also included all matters outstanding between the British companies and the Turkish government.[98] Thereafter, Vickers-Armstrong Ltd. provided material and technical

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[95] A. V. Lander to Eastern Construction Committee, 15th March, 1927, *VA/57-54*, Cambridge.

[96] A. Vahid Bey to Vickers-Armstrongs, 26th March, 1928, Sir Noel Birch, Turkey, October 1927-February, 1931, *VA/K617*, Cambridge.

[97] Vickers-Armstrongs Armament Contract Department to Mr Leveson, 12th July, 1928, Sir Noel Birch, Turkey, October 1927-February, 1931, *VA/K617*, Cambridge.

[98] A. V. Lander, Memoranda on "Imperial Ottoman Docks, Arsenals and Naval Construction Company", 19th March, 1935, *VA/57-54*, Cambridge.

instruction particularly for air defence industries and artillery in Turkey.[99]

7.6 Conclusion

The decade before WWI saw a relatively rapid transformation in naval shipping and armament in the Ottoman Empire primarily through Armstrongs and Vickers enterprises. They provided the main bulk of naval vessels, guns and technical instruction and expertise to the Ottoman navy. As no infrastructure existed in the Ottoman Empire to run relatively sophisticated naval vessels and engines, the companies sent out their experts to instruct the local naval men and also trained some Ottoman naval engineers in their shipyards in Britain. This was the most effective channel for the transmission of limited naval shipping and armament technologies to the Ottoman Empire. However, the number of trained and knowledgeable local naval men remained limited. Unlike Japan, the Ottoman Empire was never able to establish its own industries for naval constructions and armaments. Instead it remained largely dependent on continuous Western technical expertise and machinery.

When the industrial and military competition among Western powers deteriorated, particularly in the years before the war, the companies formed a British industrial alliance, primarily against rapidly rising German industrial and financial power in Turkey. The formation of an Armstrong-Vickers company to exploit all Ottoman naval construction and arsenals, and their major role in the new Turkish Naval Programme was opening the way for a British naval monopoly in the Ottoman Empire.

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[99] Sir Noel Birch, *Turkey, October 1927-February 1931, pp. 1-307, VA/K617, VA/K618*, Cambridge.

Particularly, through their loans, leases and easy payment conditions Armstrongs and Vickers created a financial control on the Ottoman markets, besides the British monopoly of naval technology and technical expertise in the Ottoman Empire since the mid-nineteenth century. Indeed, the British naval mission was to a large extent supplementary to the flow of British naval machinery and also served to expand the sphere of the British influence in Turkey.

The war interrupted the whole process and the new Turkish Naval Programme was largely abandoned by the end of 1914. The British Admiralty took over the vessels and guns that were being built for the Ottoman government in Britain, largely by the joint Armstrongs and Vickers enterprises. The Ottoman naval works were still in an inefficient state, and its naval power, according to Limpus, was even incapable of a major coastal defence.[100] Most Ottoman naval machinery was destroyed or lost during the war.

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100 "State of the Turkish Fleet at the end of the Balkan War" by Admiral Limpus, 24th August, 1914, *Limpus Papers, MS79/018, Letter box. 24, NMAG;* see also an earlier report by Limpus, 1st March, 1914, *Limpus Papers, MS79/018, Letter box. 24, NMAG.*

Chapter Eight

CONCLUSION

Technological systems do not exist in isolation. They develop and operate in large cultural and spatial environments. They are expanding or evolving structures in time and space. The expansion is a process of controlling environment, which embodies a large number of interactive components: artifacts, institutional, educational, political, cultural and spatial structures.[1] Hughes's *large technological system* is a useful metaphor for analysing the social construction and society shaping of technological systems in a wider environment of interactive components. Here I am not testing the validity of Hughes' technological systems. Besides, Hughes did not apply his theory to the establishment of a technological system in a non-Western environment. However, the idea of large technological system encourages us to see the history of technology in larger contexts. When combined with a local contextual approach, it can provide us with a bigger picture.

The transfer of a large technological system from a Western environment, where it is originally created, to a non-Western environment is a complex process. It involves the establishment of a new environment where the technological system can be adopted, developed and expanded. This often means the destruction of the existing systems, which also affects the wider cultural and traditional order. In this thesis I have examined the introduction of technological systems, telegraphy, railways, naval shipbuilding and armament, from Britain to the Ottoman Empire in the post-Crimean

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[1] T. P. Hughes, "The Evolution of Large Technological Systems", in W. E. Bijker, T. P. Hughes, & T. J. Pinch (eds.), *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology,* London: MIT Press, 1987, pp. 51-82.

period, which constituted an alien environment to the Western world. I have attempted to show how the process was contingent upon the unique political, economic, socio-cultural and geographical conditions of the two environments within the wider European power structure in the nineteenth century. The Ottoman-Turkish Westernisation can be defined as the expansion or evolution of technological systems adopted from the West. The systems brought together other components of Western culture, such as industrial, educational and legislative institutions.

The introduction of British technological systems to Turkey was instrumental in British cultural and economic expansion into the Ottoman Empire and its dominions. This functioned as a most effective way of pursuing British political, economic and military objectives in the region. The pattern of technological transfer from Britain to the Ottoman Empire was shaped within the framework of British foreign policy and approach to the Ottoman Empire in general. Especially after the Crimean War, the flow to Turkey of British technologies and industrial enterprises, together with their wider cultural components, was on a large scale, which I have characterised as the technological crusade. The geographical setting and socio-political structure of the Ottoman Empire in the nineteenth century was crucial to British imperial expansion as well as to the security of her dominions and markets in the East. Imperial expansion was spatial. It involved the control of distant places. Communication systems, such as telegraphy, railways and steamships, served their promoters as imperial tools, as described by Headrick.[2] In historical actors' terms, they formed the "scientific frontier" or "civilising" systems.[3] They eliminated or at least dramatically

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[2] Daniel R. Headrick, *The Tools of Empire: Technology and European Imperialism in the Nineteenth century,* New York: Oxford University Press, 1981.

[3] W. P. Andrew, *Our Scientific Frontier,* London: W. H. Allen & Co., 1880.

reduced the importance of the dimension of distance from geographical space. This allowed reconstruction of indifferent or very often culturally hostile environments as new environments where European authority and technological systems could be established and developed.

The primary objective of the British involvement in the establishment of the telegraph system in the Ottoman Empire was to link Britain with India, which would result in the formation of a centrally controlled British Empire. Asia Minor was offering geographically the shortest distance for land telegraphic communication to the East. Britain had also long term objectives in the Ottoman Empire and its dominions. Establishing telegraphic communication meant that Britain would be in closer contact with the Ottoman Empire. It was not merely building a network of telegraphic lines, but it was a matter of political, military and commercial advantages for British expansion as well as privileges over the other European powers intending to penetrate into the region. It involved a spatial control over the places to which the telegraph lines were extended. Although it was mainly an Ottoman state enterprise, British engineers and experts instructed and built the Istanbul to Basra Line, the major telegraph line in the Ottoman Empire and the largest part of Indian telegraphic communication with Europe. One of the two lines was designed for British-Indian communication. The telegraph system was not purely building a system of hardware. The system builders had to confront complex cultural and political problems that faced the establishment of the telegraph, as I have illustrated in Chapter Two.

The construction of railways in the Ottoman Empire presented a different picture. As a large technological system, the railway entailed more complex industrial, technical,

financial and political environments, not comparable to the telegraphic system. The Ottoman Empire did not have industrial structures and financial power to construct its railway system. At the outset, therefore, railways were constructed and operated by foreign companies. Britain took a special interest in railway building in Turkey as a part of its foreign policy towards the Ottoman Empire. Indeed, early railway enterprise in Turkey was a purely British concern. Although a number of grand railways were projected in Britain for Turkey, similar to the trans-continental telegraph lines, such as the Istanbul to Basra Line, none was put into practice before the late 1890s. The Euphrates Valley Railway to link Europe with India, projected as early as the 1840s, aroused serious reactions from the wider public, the commercial and official circles in Europe as well as from railway engineers and entrepreneurs. In Britain, it was presented as a rival project to the Suez Canal, which was promoted by France. It became a very important political matter within the British government, and among the political parties. It was often associated with the whole Eastern Question. France and Russia stood firmly against the undertaking by the British alone. The public and official debates over the project continued until the commencement of the Baghdad Railways by Germany in the early twentieth century. In Chapter Three I have demonstrated the extent of the involvement of politics in establishing railways in Turkey and the changing British power structure in the region that dominated the attitudes towards the Euphrates Railway project.

Apart from intercontinental railway lines projected in Britain, British railway entrepreneurs attempted to construct short railway lines in Turkey, in particular to link the regions of rich agricultural products and raw materials in the interior with seaports allowing overseas transportation. In Chapter Four I have examined the wider

context of the construction of the first line of railway in Asiatic Turkey, the Smyrna to Aidin Railway, as an "experimental" line by the British. The Ottoman Empire was an alien environment not only for establishing a railway system but also for all European enterprises of this kind. The Smyrna to Aidin Railway builders had to deal with various complicated problems: cultural, financial, political and geographical. The enterprise often ran into financial and managerial difficulties. It did not yield the exemplary image that its builders had hoped. The project was delayed for several years. For about a decade the company enjoyed all the privileges of absolute monopoly in railway building in Turkey. However, with encouragement of the Ottoman officials, new British and other European entrepreneurs began to take part in the construction of railways. This provoked competition among the builders. Until the twentieth century the Ottoman railway was entirely dependent on European engineering and finance. Due to the worsening state of the Ottoman military and financial weakness, railway building became a political undertaking.

In addition to telegraphy and railways, I have examined in the last three chapters the efforts of the British government and entrepreneurs to introduce European naval shipping and armament technologies to the Ottoman Empire. The British naval mission to Turkey began in the early nineteenth century originally as an important measure against Russian expansion to the Mediterranean to strengthen Ottoman naval defences by offering skilled officers and machinery. The mission, which continued until WWI, became an essential part of the wider British imperial policy in the East and industrial expansion overseas. I have argued that the British naval mission in the long term helped the creation of a institutionally and politically more suitable environment which allowed the introduction of British naval and armament technologies.

British naval advisors, instructors and officers established good relations with Ottoman naval officers and staff. In particular British pashas were well respected, and their authority was as powerful as indigenous Ottoman pashas. They even had higher authority over the local pashas in technical matters, such as the navy's machinery.

Most British pashas and officers developed friendly, and often personal, relations with the Sultan and his high official elite. Personal relations were very important in making contacts and influencing indigenous men in a highly traditional society. Contacts at personal level were usually more successful in dealing with Ottoman authorities. British officers represented European culture. Their constructed images of humble and energetic personalities, with enthusiastic approaches to Ottoman life, impressed the local people in favour of European culture, which helped to promote the image of the Christian West. Recent science studies have demonstrated that skills and knowledge were transferred from one context to another most effectively through the movement of the skilled personnel themselves. The traditional Ottoman held the view that unless he was shown practically, he was not able to comprehend the nature of the phenomenon or know-how. The skilled person was more effective than the text. This attitude partly originated from the fact that the Ottoman lacked a long literary tradition. Printing culture was not an important part of Turkish-Ottoman society until the late nineteenth century. There were only very few Ottoman printing houses which printed a small number of books in Turkish and Arabic. In this environment, British pashas and their staff provided an effective channel of communication and mediation between the Ottoman navy and British shipping and armament companies. Thus the British naval mission was a major link to Europe and European culture in the Ottoman navy. By the late nineteenth century the Ottoman navy became a

nucleus of the Ottoman Westernisation programme. Even the Sultan Abdul Hamid was afraid of the navy that they might overthrow him for the sake of Europeanising reforms. The British pashas of the Ottoman navy and their work for Ottoman naval defence could be the subject of a much larger study. Ottoman naval and political histories have not yet dealt with these pashas.

Early contacts with British naval shipbuilding and industries came through British naval advisors to the Ottoman navy and the official British representatives in Turkey. Naval advisors and officers were largely responsible for reorganisation of the Ottoman navy on European models. The country to which they turned their attention was Britain, which was looked at as a primary example in naval power in Europe. British companies, expanding their enterprises overseas as a part of British imperial expansion, introduced both naval machinery and its complementary feature, technical instruction and infrastructure for their operation. Napier & Sons provided the Ottoman navy with steam engines from the early 1830s. They were also the engineers of the Ottoman ironclad programme in the early 1860, making the Ottoman ironclad fleet one of the largest in Europe. They were followed by other prominent naval shipbuilders in Britain, such as the Thames Iron Works and Samudas & Sons. Armstrongs' link to Turkey began with armouring naval vessels from about 1863. Armstrong guns became an interactive part of Ottoman naval warfare. Armstrongs expanded their trade to other military equipment. By the early 1880s they were designing and building fully armoured warships at their Elswick naval shipyard. Elswick also became the main center in Britain for instruction and training of the Ottoman navy.

Vickers entered the Ottoman naval and armament trade as a rival company to Armstrongs. From the 1890s they provided the Ottoman navy with its most sophisticated weaponry and large naval ships. However, in the decade before the war, Vickers and Armstrongs began to cooperate, and soon formed a British industrial alliance in Turkey to increase their competitive power against other Europeans, in particular, against Germany, which was dramatically becoming the dominant industrial and financial power in Turkey. They provided the main bulk of machinery and infrastructure for the new Ottoman naval programme. In the years before WWI, the two companies aimed to establish a complete monopoly in naval construction, arsenals and dockyards in Turkey. However, this was met with Germany's increasing military and political presence. By the early twentieth century Britain had lost most of its political and military influence in the Ottoman Empire. This was reflected in the British industrial and technological enterprises in Turkey. Complaining to the Sultan on the current state of affairs in 1905, Sir Nicholas R. O'Conor, the British Ambassador in Istanbul, pointed to "the unsatisfactory impression which had been created in England by the relatively unfavourable treatment occupied in Turkey to the representation of British industry".[4] They lost most railway and other industrial enterprises to Germany or other European powers. By WWI, the Smyrna-Aidin Railway was the only British owned railway in Turkey. The only area where the British maintained their significant influence was the Ottoman navy.

The Ottoman Empire had been a largely closed environment to European-Christian culture and technologies until the nineteenth century. In Chapter One I argued that

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[4] Lord N. R. O'Conor to Lord Landsowne, on the conversation with the Sultan, 24th October, 1905, Therepia, *FO78/5450 Extensions of Smyrna-Aidin Railway, 1902-1905.*

the military channel constituted the nucleus of Ottoman Europeanisation and the opening to the West. I also discussed how a traditional Islamic culture could develop an intellectual framework to accommodate European technologies, which had been formerly considered as infidel. From an Ottoman perspective, they were introduced as a part of a programme to prevent the collapse of the empire. Whether they prevented or encouraged its collapse is a matter of another debate. Technological systems increased the general Ottoman contact with Europe and the West by providing a medium for cultural communication. Technological systems, telegraphy, railways, naval shipbuilding and armament, in Turkey involved the establishment of a new order or environment. Traditional systems were replaced by European ones: the messenger system by the telegraph, camel and horse based transportation by railways, where they were introduced, wooden shipbuilding by iron and steel.

The expansion of these European technological systems to a large environment of political, financial, institutional and legislative structures led to a wider Westernisation programme. Their accommodation within Ottoman society presented a major problem. From a Muslim point of view, the whole process was a new Christian crusade. Military defence and institutions provided the main source of justification. This was often consolidated by the Sultan's authority and sanction for European reforms. Most effectively, the Ottoman Westernising elite developed a new ideology or an intellectual framework, which understood and presented Western technology as a neutral environment. Ottoman intellectuals often admired the way the Japanese adopted Western technology or "practical sciences" (as an historical actors' term), believing that they eliminated cultural values, such as religion and life style. In particular, the Japanese military victory over Russia in 1905 provided the Ottoman elite

with an impressive example that they wished to follow.[5]

Ottoman Turkey and Japan were two of the earliest non-Western countries where an administrative elite undertook a Westernisation programme by adopting Western technology. A comparative study of Japanese and Ottoman-Turkish Westernisation might yield valuable results in evaluating the social and spatial construction of a technological system.[6] The process of Westernisation in both countries began in similar ways and around the same time. Apart from limited contact through a few ports, Japan had been virtually physically closed to the West until the Meiji period in the mid-nineteenth century, when the borders were opened to Western trade. Although never closed to Europe physically, which was simply a geographical impossibility, the core of the Ottoman Empire was largely closed to the Western world culturally, mainly due to its dominant Islamic culture, and religious and military rivalry with Europe. A Westernisation programme or the introduction of Western technological systems have taken very different forms in each environment. While Japan has become one of the most industrial countries, Turkey has remained largely dependent on the West for advanced technologies.

This major contrast originated from cultural and spatial differences between the two environments. Unlike Japan, the Ottoman Empire was never geographically peripheral to the Western world, but stretched over parts of three continents, on the main path of imperialist expansion across Asia. It lacked a racial, linguistic, and religious

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[5] D'Eyncourt to W. Armstrong and Whitworth Co., (Elswick Shipyard), *NMAG, DEY/88,* 16th May 1904; D'Eyncourt to Faulkner, *NMAG, DEY/88,* 20th May 1904.

[6] For a comparative study of the political modernisation of Japan and Turkey, see R. E. Ward & D. A. Rustow (eds), *Political Modernisation in Japan and Turkey,* Princeton: Princeton University Press, 1964.

homogeneity. Japan, on the contrary, was geographically an island, and culturally and ethnically a homogeneous country. It was culturally more receptive to Western technology and general innovations, as no major objections were encountered on religious grounds. The dominant religious culture, that is, Confucianism and Buddhism, was more a philosophical and ethical code, unlike Islam which claimed a political and social system. Most importantly there was religious pluralism and flexibility. For instance, there was not a a clergy class similar to the Ulema in Turkey. A study of the introduction of technological systems, such telegraphy and railways in both countries might provide us with the wider cultural implications of technology transfer to different environments.

Although Ottoman intellectuals desired to present it as value-free and international to the wider public, Western technology was closely linked to a Western cultural environment. Telegraphy, railways, and other industrial enterprises could not be established in Turkey without Western educational, financial, legislative and other social institutions. The electric telegraph brought together Western educational, legislative and postal systems. With railways, naval shipping and armament industries, Western industrial and financial institutions, such as managerial, labour and banking systems, were introduced. This was also reflected on the wider political and social structures of Ottoman society. Its traditional order collapsed. After WWI it developed to a "nation state". The Sultanate was abolished. It became a republic, which initiated adoption of Western style democracy and institutions under the leadership of Atatürk and a small administrative elite, who believed in radical cultural and technological Westernisation.

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