ASIATIC PAPERS

PART II

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BY

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The Ancient History of the Suez Canal from the times of the Ancient Egyptian Kings.

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I.

Introduction.

The present war, especially the development that has taken place in it since Turkey joined the war, has drawn fresh attention of the civilized world to the Suez Canal which forms the highway between Europe and India. At such a time, the ancient history of the canal should interest many. The modern Suez Canal was constructed during the latter half of the last century. So, the title of the paper, *viz.*, " the Ancient History of the Suez Canal" may, perhaps, seem a little strange. But it is known, that there existed long before the Christian era, a great ancient canal which connected the Mediterranean Sea with the Red Sea, just as the modern Suez Canal does. The position of that ancient Canal was, in nearly half its course, well nigh near, and parallel to, the modern Suez Canal. It was specially so at the Suez end of it. So the old canal also may properly be called the Suez Canal. The object of this paper is to give a short history and account of that canal.

My visit of some of the centres of Achæmenian activity in Europe and Africa.

As a Parsee student, I take an interest in the ancient history of the Persians. So, during my visit of Europe in 1889, to attend the 8th Oriental Congress which met at Stockholm in that year, I managed to see some of the most prominent places connected with the history of the Achæmenians. Some of them are places of interest during the present war.

One of such places was Constantinople with the Dardanelles or the Hellespont and the beautiful Bosphorus, to cross which for his invastion of Scythia—the Saka of the Behistun Inscriptions (I, 6),[1] the modern Russian country between the Danube and the Don—Darius had put up a bridge. As said by Herodotus,[2] Darius commemorated this event by erecting two columns there with inscriptions in Persian and Greek.

The next important places I visited were Athens and the classical battlefield of Marathon, where one of the 15 decisive battles of the world, referred to by Creasy[3], was fought, a battle which occupied the same

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[1] Dr. H. C. Tolman's Guide to the Old Persian Inscriptions, p. 118; Spiegel's Inscriptions, p. 5; Oppert, p. 24.

[2] Bk. IV, 87.

[3] Fifteen Decisive Battles by Sir Edwin Creasy.

place in ancient history as the battle of Tours (A.D. 732) in later history. Had Darius won at Marathon, the whole of Europe would have, perhaps, as said by Professor Max Müller, become Zoroastrian, just as, had Abdul Rehman won at Tours, the whole of Europe would have become Mahomedan[1].

The third set of places, which I took an interest in, were in Egypt, the ruins of the old town of Memphis and the Isthmus of Suez. It was from Cairo that I had gone to the town of Suez, and from there, I had about 10 miles' ride towards the site of the old and the modern canals.

Egypt, the great highway of commerce between Europe and Asia.

Egypt has been held, since very ancient times, to be the principal highway of commerce between Europe and India. So, it was, that all great conquerors, who aimed at one kind or another of World-empire, thought of conquering it. The ancient Greeks and Romans, the ancient Persians and the Macedonians, all tried to possess it. Great invaders of India, like Darius the Great and Alexander the Great, first thought of conquering Egypt and then India. Napoleon Bonaparte, that semi-Alexander, who thought of conquering India, thought of conquering it.

II.

Ancient Canals : China.

We learn from various ancient authors and old travellers, that canals existed in many countries long before the Christian era. Ancient China had its inland artificial navigation by means of canals. The Imperial Canal in China, which was completed in 1229, was 1,000 miles long and took about 40 days to navigate from one end to another. It was 30 ells (about 37½ft.) in width. Instead of locks, as in the present canals, it had a system of sluices at which boats were hoisted up. Marco Polo thus describes this great canal of China : "You must understand that the Emperor hath caused a water-communication to be made from this city to Cambaluc in the shape of a wide and deep channel dug between stream and stream, between lake and lake, forming, as it were, a great river on which large vessels can ply. And thus there is a communication all the way from this city of Caiju to Cambaluc ; so that great vessels with their loads can go the whole way. A level road also exists, for the earth dug from those channels has been thrown up so as to form an embanked road on either side."[2]

Col. Yule, quotes Rashiuddin to say, that "Kûblâi caused the sides of the embankments to be rivetted with stones, in order to prevent the

[1] Mahommedanism by Revd. Robinson, p. 7.

[2] The Book of Ser Marco Polo, translated by Sir Henry Yule (1903), Vol. II, pp. 174-75.

earth giving way. Along the side of the canal runs the high road to Machin, extending for a space of 30 days' journey, and thus has been paved throughout, so that travellers and their animals may get along during the rainy season without sinking in the mud . . . . . Shops, taverns and villages line the road on both sides, so that dwelling succeeds dwelling without intermission throughout the whole space of 40 days' journey."[1]

Canals in Persia.

According to the Avesta and Pahlavi books of the Parsees, canals existed in ancient Irân from the early times of the Peshdâdian dynasty. Minocheher (Mânushchihar) was the king of the dynasty, who is credited with the work of canals and such other irrigation works in Mesopotamia, the country of the Euphrates and the Tigris, which is now ruled over by Turkey, and where the modern famous Irrigation Engineer, Sir James Wilcox, made a long survey, a few years ago, to restore the country to its former prosperous state.

The Bundehesh, in its chapter on rivers says : " The sources of the Frât (the Euphrates) river are from the frontier of Arûm, they feed upon it in Suristân, and it flows to the Dijlat (the Tigris) ; and of this Frât it is that they produce irrigation over the land. It is declared that Mânushchihar excavated the sources, and cast back the water all to one place, as it says thus : 'I reverence the Frât, full of fish, which Mânushchihar excavated for the benefit of his own soul and he seized the water and gave to drink.'"[2]

The Pahlavi Minokkerad[3], Zâdsparam[4] and the Dinkard[5] also refer to the irrigation works of the ancient Iranians.

Mirkond[6], in his Rozat-us-Safa, speaks of king Minocheher as one who had dug a canal in connection with the Euphrates. His statement corroborates the Pahlavi Bundehesh.

Egypt, the Land of Canals.

Not only has Egypt been the ancient highway of commerce with Mesopotamia, but it has also been a country of ancient canals. According to Herodotus, Sesostris (Ramses II), was the first Egyptian King, who supplied a large number of canals to Egypt. "The entire face of the country was changed ; for whereas Egypt had formerly been a region suited both for horses and carriages, henceforth it became entirely unfit

[1] Ibid, p. 175, n. 2.
[2] Chapter XX, 10-11, West, S. B. E., Vol. V, p. 78.
[3] Chapter XXVII, 44 ; S. B. E., Vol. XXIV, p. 62.
[4] Chapter XII, 3-4, S. B. G., XLVII, p. 134.
[5] Book VII, Chapter I, 29-30, S. B. E., Vol. XLVII, p. 11.
[6] Mirkhond's Rauzat-us-Safa, translated by Shea, pp. 186-87.

for either. Though a flat country throughout its whole extent, it is now unfit either for horse or carriage, being cut up by the canals, which are extremely numerous and run in all directions. The king's object was to supply Nile water to the inhabitants of the towns situated in the mid-country, and not lying upon the river." [1]

According to Herodotus, it was after this introduction of numerous canals that Sesostris "made a division of the soil of Egypt among the inhabitants, assigning square plots of ground of equal size to all." [2] He was, as it were, the first founder or introducer of a Town-Planning Act. Herodotus thought, that it was "from this practice, that Geometry first came to be known in Egypt, whence it passed into Greece." [3] We know that the proverb-like words, "There is no royal road to learning," were derived from the words of Euclid used in Egypt, while going over a special royal route to the palace, in conversation with one of its kings, who asked him to devise some method of learning Geometry shortly or easily. He said in reply: "There is no royal road to learn Geometry."

The Suez Canal, which forms the subject proper of this paper, was one of such canals in Egypt. Of all the Egyptian canals, this canal has, under different names in the different parts of its length, a long history of nearly 4,000 years. The history of this canal must begin with the history or with an account of the Isthmus of Suez, on a part of which the ancient canal was dug and on which the modern canal runs.

III.

The Isthmus of Suez. Its Physico-Geographical condition.

The Physical Geography of the Isthmus of Suez shows, that the Isthmus was, at one time, covered with sea-water. The seas on both the sides—the Mediterranean and the Red—gradually receded and an Isthmus was formed. The attempts of Man have, therefore, tried to restore the country to, as it were, its original primitive natural state. In old historic times, the Red Sea ended, not at Suez as at present, but higher up at Serapium, where a gulf, called the Gulf of Heropolite, was formed. I give, at the end of this paper, a map of the canal, as reproduced from the one given by M. Menant in his "Stèle de Chalouf." The plan shows, not only the position of a large part of the present canal, but also the position of the old canals of the Egyptian Neco and Persian Darius. The gulf is shown on this map. When the waters of the Red Sea

[1] Herodotus, Bk. II., 108. Rawlinson's Herodotus, Vol. II, p. 178.
[2] *Ibid.*, Bk. II. 109. Vol. II. p. 179.
[3] *Ibid.*

receded, the gulf gradually turned into a lake. This lake is, what is now known as, the Bitter Lake and is situated well nigh in the middle of the canal. Between this lake, which was once a gulf, and the Red Sea, there remained for some time a narrow water-way, but that also was filled up subsequently. By the process of evaporation, and by gradual reclamation by the sand of the surrounding slippery banks and by the sand brought in there by the waves, the lake became shallow and shallower. An occasional big sea-wave from the Red Sea, raised at high tide by the force of winds, forced itself towards the lake and added to its depth; but the more frequent process of evaporation and natural reclamation did its work, and made the lake shallow. The alternate strata of sandy soil and some marine animals show the alternate continuation of this state of affairs in ancient times.

Coming to historical times, we find that the site of the canal, more than once formed an isthmus. It was an isthmus in the time of the very early kings of Egypt. Then, in the time of Neco, its physico-geographical state was changed and it was no longer a perfect isthmus. Then again, in the time of Darius I of the Achæmenian kings of Persia, it assumed the form of a strait or a canal. Then again it reverted to its ancient natural position of an isthmus. Thus Trajan, the Roman king, is said to have again tried to turn its geographical condition. Thus attempts were more than once made to turn the isthmus into a strait or canal, though not always successfully.

The Isthmus of Suez, according to Strabo.

Strabo, while defending Homer against the criticisms made in his time, doubting the truth of the poet's statements, excuses some of the statements, on the ground of their being "fictions,—not the offspring of ignorance,—but for the sake of giving pleasure and enjoyment" [1], and justifies others as true. Among the latter class is included the statement, that Homer's Menelaus "went by sea to Ethiopia." [2] He says: "They who assert that Menelaus went by sea to Ethiopia, tell us he directed his course, past Cadiz into the Indian ocean; [3] with which, say they, the long duration of his wanderings agrees, since he did not arrive there till the eighth year. Others, that he passed through the isthmus [4] which enters the Arabian Gulf; and others

[1] Bk. I, Chap. II, 30. Hamilton and Falconer's Translation (1854), Vol. I, p. 59.

[2] *Ibid*, Chap. II, 31, p. 60.

[3] "That is to say, that he made the entire circuit of Africa, starting from Cardiz, and doubling the Cape of Good Hope. Such was the opinion of Crates. ....Menelaus left the Mediterranean and entered the Atlantic, whence he could easily travel by sea into Ethiopia." (*Ibid* n. 5).

[4] "The Isthmus of Suez. This isthmus they supposed to be covered by the sea, as Strabo explains further on." (*Ibid* n. 6).

again, through one of the canals. . . . . As to the navigation of the isthmus, or one of the canals, if it had been related by Homer himself, we should have counted it a myth, but as he does not relate it, we regard it as entirely extravagant and unworthy of belief. We say unworthy of belief, because at the time of the Trajan war no canal [1] was in existence. It is recorded that Sesostris, who had planned the formation of one, apprehending that the level of the sea was too high to admit of it, desisted from the undertaking." [2]

In another place,[3] Strabo, while saying that Homer was in ignorance of Egypt, Libya (Africa), the risings of the Nile and the Isthmus (Isthmus of Suez), speaks of it (the isthmus) as "separating the Red Sea from the Egyptian Sea." Here we find that he speaks of the Mediterranean as the Egyptian Sea.

The ancient route across Egypt via Heroopolis (near Suez).

According to Strabo [4], the shortest route across Egypt was "towards Heroopolis (near Suez), to which from Pelusium (branch of the Nile) is the shortest road (between the two seas)." Heroopolis is spoken of as "situated in that recess of the Arabian Gulf which is on the side of the Nile." [5] "Arabian Gulf" is here another name of the Erythræn Sea, now known as the Red Sea. The modern Bay of Suez was the ancient bay of Heroopolis. [6]

IV.

Classical Authors.

We will now see, what the ancient classical authors have said about this ancient water way. Before we proceed to do so, in order to follow the old nomenclature about the seas, let us note that the two seas were variously named by the ancients.

The ancient names of the two seas connected by the canal.

The canal connected the Mediterranean with the Red Sea. The Mediterranean Sea was known among the ancients as the Northern Sea, while the Red Sea was spoken of as the Southern Sea or the Erythræn Sea. [7] The Red Sea is spoken of by Arab writers as Daryâ-i-Kalzoum (دريای قلزم [8]). It is so called from the name

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[1] That is to say, the canal on the Isthmus of Suez connecting the Mediterranean with the Red Sea.

[2] Strabo, Bk. I, Chap. II, 31. Hamilton and Falconer's Translation, Vol. I, pp. 60-61.

[3] Bk. VII, Chap. III, 6. Hamilton and Falconer's Translation, Vol. I, p. 458.

[4] Bk. XVI, Chap. II, 30. Hamilton and Falconer's Translation, Vol. III, p. 176.

[5] *Ibid*, XVI, Chap. IV, 2, p. 189. *Vide* also *Ibid*, XVII, Chap. III, 20, p. 291. "The recess of the Arabian Gulf" is the Gulf of Suez (*Ibid*, p. 291, n. 1).

Ibid, Vol. III., p. 203, n. 3.

[7] Herodotus, Bk. II, 158. Rawlinson's Herodotus, Vol. II, p. 244.

[8] The Oriental Geography of Ebn Haukal by Ousley (1800), p. 4.

of the city of Kalzoum situated on the west coast of the Red Sea on the south of Suez.[1] The Mediterranean Sea is spoken of by Arab Geographers as Daryâ-i-Roum (دریای روم [2]).

Herodotus.

Though Herodotus speaks of Sesostris, as the first Egyptian king who gave a number of canals to the Egyptians, he does not, like Pliny, as we will see later on, credit him with a first attempt for the canal connecting the Red and the Mediterranean seas. He attributes the first attempt to Neco or Necos, the son of Psammetichus. He says: "This Prince was the first to attempt the construction of the canal to the Red Sea,—a work completed afterward by Darius the Persian,—the length of which is four days' journey, and the width such as to admit of two triremes being rowed along it abreast. The water is derived from the Nile, which the canal leaves a little above the city of Bubastis, near Patumûs, the Arabian town, being continued thence until it joins the Red Sea. At first it is carried along the Arabian side of the Egyptian plain, as far as the chain of hills opposite Memphis, whereby the plain is bounded, and in which lie the great stone quarries; here it skirts the base of the hills running in a direction from west to east; after which it turns, and enters a narrow pass, trending southwards from this point until it enters the Arabian Gulf. From the northern sea to that which is called the southern or Erythræn,[3] the shortest and quickest passage, which is from Mount Casius, the boundary between Egypt and Syria, to the Gulf of Arabia, is a distance of exactly one thousand furlongs. But the way by the canal is very much longer, on account of the crookedness of its course. A hundred and twenty thousand of the Egyptians, employed upon the work in the reign of Necos, lost their lives in making the excavation. He at length desisted from his undertaking, in consequence of an oracle which warned him 'that he was labouring for the barbarian.' The Egyptians call by the name of barbarians all such as speak a language different from their own. Necos, when he gave up the construction of the canal, turned all his thoughts to war." [4]

Herodotus refers to the abovesaid attempt of Neco later on also.[5] He also refers again to the successful attempt of Darius. Referring to the Arabian Gulf, he says, that therein, "Darius conducted the canal which he made from the Nile."[6]

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[1] *Vide Ibid.* Map in the front, and also p. 13.

[2] *Ibid*, p. 6.

[3] The Red Sea.

[4] Herodotus, Bk. II, 158. Rawlinson's Herodotus, Vol. II, pp. 242-45.

[5] Bk. IV, 42. Rawlinson's Herodotus, Vol. III, p. 34.

[6] *Ibid* IV, 39, p. 32.

The statement of Herodotus about the successful attempt of Darius must be taken as authoritative, because he speaks of what he himself saw. He was in Egypt about 30 years after the death of Darius, and he saw the canal working. He speaks of the canal in the present tense.

Aristotle.

Aristotle was the first to say that Sesostris had planned a canal over the land of the Isthmus of Suez. According to him, his (Sesostris') plan was to connect the Mediterranean and the Red Seas *via* the Pelusiac branch of the Nile. He wanted to take advantage of the river Nile for nearly half the distance and then to connect the Red Sea with the Pelusiac branch of the Nile.

Strabo.

Strabo[1], in his account of Egypt (Book XVII), while speaking of canals, thus refers to the Suez Canal: "There is another canal also, which empties itself into the Red Sea, or Arabian Gulf, near the city Arsinoe, which some call Cleopatris.[2] It flows through the Bitter Lakes, as they are called, which were bitter formerly, but when the above-mentioned canal was cut, the bitter quality was altered by their junction with the river, and at present they contain excellent fish, and abound with aquatic birds.

"The canal was first cut by Sesostris before the Trojan times, but according to other writers, by the son[3] of Psammiticus, who only began the work, and afterwards died; lastly, Darius the first, succeeded to the completion of the undertaking, but he desisted from continuing the work, when it was nearly finished, influenced by an erroneous opinion that the level of the Red Sea was higher than Egypt, and that if the whole of the intervening isthmus were cut through, the country would be overflowed by the sea. The Ptolemaic kings, however, did cut through it, and placed locks upon the canal, so that they sailed, when they pleased, without obstruction into the outer sea, and back again (into the canal).

. . . . "Near Arsinoe are situated in the recess of the Arabian Gulf towards Egypt, Heroopolis and Cleopatris; harbours, suburbs, many canals and lakes are also near. There also is the Phagroriopolite Nome, and the city of Phagroriopolis. The canal which empties itself into the Red Sea, begins at the village Phaccusa, to which the village of Philon is contiguous. The canal is 100 cubits broad, and its depth sufficient to float a vessel of large burden. These places are near the apex of the Delta."

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[1] Bk. XVII, Chapter I, 25. Hamilton and Falconer's Translation, Vol. III, pp. 243-44.

[2] It is the modern Suez. (Ibid. p. 243, n. 2).

[3] Pharaoh Necho. (Ibid. p. 244, n. 1).

Diodorus Seculus.

Diodorus Seculus, who lived in the first century before Christ, thus refers to the canal : " They have made a canal of communication which goes from the Pelusiac Gulf to the Red Sea. Necos, son of Psammeticus commenced it (and) Darius, king of Persia, continued the work ; but he stopped it, following the advice of some Engineers, who told him, that on digging the ground, he will inundate Egypt which was found to be lower than the Red Sea. Ptolemy II, did not let the enterprise to be finished, but he got placed over the most favourable place in the canal, some very ingeniously contrived barriers or sluices which they open when they want to pass through and shut afterwards immediately. It is for this reason that the river takes the name of Ptolemy in the canal which empties itself in the sea at the place where the city of Arsinoe is built."[1]

Pliny.

Pliny, while describing the Geography of the gulfs of the Red Sea, thus speaks on the subject of the canal :—

" We then come to the nation of the Tyri, and the port of the Danei, from which place an attempt has been made to form a navigable canal to the river Nile, at the spot where it enters the Delta previously mentioned, the distance between the river and the Red Sea being sixty-two miles. This was contemplated first of all by Sesostris, king of Egypt, afterwards by Darius, king of the Persians, and still later by Ptolemy II,[2] who also made a canal, one hundred feet in width and forty deep, extending a distance of thirty-seven miles and a half, as far as the Bitter Springs. He was deterred from proceeding any further with this work by apprehensions of an inundation, upon finding that the Red Sea was three cubits[3] higher than the land in the interior of Egypt. Some writers, however, do not allege this as the cause, but say that his reason was, a fear lest, in consequence of introducing the sea, the water of the Nile might be spoilt, that being the only source from which the Egyptians obtain water for drinking."[4]

The omission of the name of Seti I by Classical Writers.

All the Classical authors, named above, have begun with the names of either Sesostris (Rameses II) or Neco. But, as said by Sir G. Wilkinson, the ruins on the bank of the old canal show, that the canal already existed in some form in the time of Rameses II. That being the case, the name of Seti I, who ruled before Rameses II, is

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[1] I give my Translation from the French Translation of M. L'Abbé Terrasson (1753) Tome Premier, pp. 54-55. Diodorus Seculus, Livre I, Section I, XIX. This portion of Diodorus is referred to by other writers as Bk. I, 33.

[2] " Ptolemy Philadelphus, son of Ptolemy Soter or Lagides."

[3] 4½ feet.

[4] Pliny, Natural History, Bk. VI, Chap. 33. Bostock and Riley's Translation. Vol. II, p. 92.

suggested on the authority of recent discoveries as that of the first Egyptian king, who may have possibly built at least a part of the canal. M. Maspero refers to a monument of this kind.[1]

The summary of the different statements of the different Classical Authors.

We see from the above statements of the different Classical authors, that they vary, as to who it was who first successfully completed the canal. Their different statements can be summed up as follows :—

Herodotus.—(*a*) Neco (about B. C. 615) attempted the construction of the canal. About 12,000 Egyptians died on the work. At last he desisted from further work in consequence of an oracle which said that he was labouring for the barbarian.

(*b*) Darius completed the canal, of which the length was 4 days' journey, and width sufficient to admit two triremes abreast. The water of the Nile was admitted at Bubastis.

Aristotle.—Sesostris planned the canal.

Strabo.—(*a*) Sesostris (Rameses II) planned it.

(*b*) Some said Neco began it, but died before completing it.

(*c*) Darius succeeded to complete it, but desisted to open it on account of the erroneous opinion that the level of the Red Sea was higher than the land of Egypt.

(*d*) Ptolemian kings cut it, using locks to prevent inundation from the Red Sea.

Diodorus Seculus.—(*a*) Neco commenced it.

(*b*) Darius continued it, but desisted through fear, lest the Red Sea, being higher in level, may run over the country.

(*c*) Plotemy II finished it with sluices. From his name the canal is called Plotemy's canal.

Pliny.—(*a*) Sesostris contemplated it.

(*b*) Then Darius contemplated it.

(*c*) Ptolemy made the canal 100 feet in width, 40 feet in depth, $37\frac{1}{2}$ miles in length. But he was deterred from opening it through the fear of (*a*) inundating the country and (*b*) spoiling the water of the Nile.

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[1] "Un monument du temps de Seti Ier nous montre le canal en activité dés avant Ramesis II. Histoire Ancienne des Peuples de l'Orient par Maspero, Septièmme edition of 1905, p. 270, n, 7.

V.

Doubts on the authenticity of the statement of Herodotus.

All the vestiges of the canal of Darius, referred to by Herodotus, Strabo and Diodorus, having been lost, some began to doubt the statements. For example, though Herodotus has distinctly stated that Darius had built the canal, subsequent classical authors, though admitting that he built it, added, that he desisted from completing it through some fear of inundating the country with the water of the Nile. Again, as late as 1854, the translators of Strabo—Hamilton and Falconer—said: "About a century after Necho, Darius, the son of Hystaspes, made the undertaking, but desisted under the false impression that the level of the Red Sea was higher than that of the Mediterranean."[1]

The divergence between Herodotus and other writers and the so-called difficulties explained.

As to the question, who was the very first king of Egypt who first dug the Suez Canal completely, or to speak more correctly, who first completed the connection of the Red and the Mediterranean seas, the statements of different classical scholars vary, as seen above.

Sir J. G. Wilkinson[2] thus explains the divergence of statements:—

"Herodotus says Neco (or Necōs) began the canal, and Strabo attributes it to 'Psammiticus, his son'; but the ruins on its banks show that it already existed in the time of Remeses II, and that the statement of Aristotle, Strabo and Pliny, who ascribe its commencement at least to Sesostris[3] is founded on fact. That from its sandy site it would require frequent re-excavating is very evident, and these successive operations may have given to the different kings by whom they were performed the credit of *commencing* the canal. It is certainly inconsistent to suppose that the Egyptians (who of all the people had the greatest experience in making canals, and who even to the late time of Nero, were the people consulted about cutting through the isthmus of Corinth-Lucian) should have been obliged to wait for its completion till the accession of the Ptolemies. The authority of Herodotus suffices to prove that it was completed in his time to the Red Sea; and the monuments of Remeses at a town on its banks prove that it existed in his reign. Neco may have discontinued the re-opening of it; Darius may have completed it, as Herodotus states, both here (Book. II. 158) and in Book IV, Chap. 39; and it may have been re-opened and improved by the Ptolemies and again by the Arabs."

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[1] "The Geography of Strabo, translated by Hamilton and Falconer (1854) p. 61, n. 3.

[2] Rawlinson's Herodotus, Vol. II, p. 242, n. 2.

[3] Or Ramses II.

The so-called difficulty of sluices.

M. Ménant also meets the doubts raised on the ground of the want of sufficient engineering skill in the time of Darius. He says :

"When we can prove to-day the existence of great works of canalization which have been accomplished since the 20th century before Jesus Christ in Egypt and Chaldea, one cannot say that the engineers of the time of Darius did not know the process of the sluices."[1]

The so-called difficulty of Darius in the matter of the level.

Some Classical writers subsequent to Herodotus said, that Darius left the canal unfinished on account of the difficulty of the level of the Red Sea being higher than that of the land where the canal ran. The same difficulty is said to have, later on, deterred Ptolemy from completing it. The difficulty was not real, and even if it existed, it was one which could be easily surmounted in those times which were not without their irrigation experts. Wilkinson thus disposes of this supposed difficulty.

"The difference of 13 feet between the levels of the Red Sea and Mediterranean is now proved to be an error. Pliny says, that Ptolemy desisted from the work, finding the Red Sea was 3 cubits ($4\frac{1}{2}$ feet) higher than the land of Egypt ; but, independent of our knowing that it was already finished in Herodotus' time, it is obvious that a people accustomed to sluices, and every contrivance necessary for water of various levels, would not be deterred by this, or a far greater, difference in the height of the sea and the Nile, and Diodorus expressly states that sluices were constructed at its mouth. If so, these were on account of the different levels, which varied materially at high and low Nile, and at each tide, of 5 to 6 feet, in the Red Sea, and to prevent the sea-water from tainting that of the canal. The city of Eels, Phagroriopolis, was evidently founded on its banks to insure the maintenance of the canal. The place of the sluices appears to be traceable near Suez, where a channel in the rock has been cut, to form the mouth of the canal."[2]

The connection of the canal in different places.

We saw above, that according to different Classical authors, the Red Sea was connected by different kings with the Mediterranean through the Nile. But it was not at the same place on the Nile that the different kings connected the canal with the river. Sir J. G. Wilkinson says on this point :

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[1] Lorsque nous pouvons constater aujourd'hui les grands travaux de canalisation qui ont été accomplis dés le XX siécle av. J. C. en Ègypt et en Chaldée, on ne saurait dire que les ingénieurs de l'époque de Darius ne connaissaient pas les procédés des écluses ? (La Stèle de Chalouf, p. 10).

[2] Sir J. Wilkinson in Rawlinson's Herodotus, Vol. II. p. 243, n. 4.

"The commencement of the Red Sea Canal was in different places at various periods. In the time of Herodotus, it left the Pelusiac branch, a little above Bubastis ; it was afterwards supplied with water by the Amnis Trajanus, which left the Nile at Babylon (near old Cairo), and the portion of it that remains now begins a short distance from Belbays, which is about 11 miles south of Bubastis. Strabo must be wrong in saying it was at Phacusa, which is too low down the stream." [1]

VI.

The dynasties of the different builders and repairers. The early Egyptian kings.

Let us here take a brief look into the history of the ancient ruling dynasties of Egypt, so that we may thereby better understand the times of the different builders and repairers of the Canal. Leaving aside the very remote periods, Egypt was governed, about 2000 years before the Christian era, by a line of kings, known as "the Shepherd Kings," who belonged to the shepherd tribes that had gone to Egypt from Chaldea and Phœnecia. They founded the 17th dynasty of the rulers of Egypt. Rameses II, supposed to be known as Sesostris by the Greeks, ruled in the 14th century before Christ. He belonged to the 19th dynasty. He is said to have made an attempt to convert the Mediterranean and the Red seas *via* a branch of the Nile, but failed. Neco, who was more successful in building the canal, ruled in Egypt in the 7th century B. C. His canal began at Bubastis and finished at Heroopolis upto which the Red Sea then ran. His canal is said to have still left some traces of its existence.

The Persian dynasty in Egypt.

The Persians formed the 27th ruling dynasty of Egypt.[2] Cyrus the Great, who fought against, and subdued, Crœsus of Lydia, was enraged against Amesis II, of Egypt, because he had sympathised with Crœsus. So, his son Cambyses, who was known by the Egyptians as Mesutrâ Kambathet, invaded Egypt, to avenge the wrong done to his father. He conquered Egypt and became the first king of the 27th dynasty. The ancient town of Cambysu, situated on the Gulf of Suez, derived its name for Cambyses, because he founded the city to keep there the invalids of his army.[3] His policy in Egypt was, like that of his father Cyrus, that of toleration. He got his name written in the cartouche, a fact symbolising his sovereignty. After him, there ruled in Egypt his successors, Darius, Xerxes, Artaxerxes, Darius II (Darius Nothas), Artaxerxes II. The Egyptians then overthrew the Persian rule and

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[1] Sir J. Wilkinson in Rawlinson's Herodotus, Vol. II, p. 243, n. 4.

[2] A History of the Egyptian people by Budge, p. 144. *Vide* pp. 144-49, for the Persian kings of Egypt.

[3] Pliny's Bk. VI, Chap. 33. Bostock and Rile's Translation, Vol. II, p. 92.

became independent. After a few years, Artaxerxes III (Ochus), reconquered Egypt in 340 B. C. Then, Alexander the Great defeated his successor Darius and conquered Egypt. Afterwards during the rule of the Romans, during the reign of Anastasius I (A. D. 491 to 518), the Persians again invaded Egypt (A. D. 502-5), but they did not remain there long. On being paid a ransom, they restored Egypt to Anastasius.

The Persians, the Middlemen between the West and the East.

Mr. Dalton, while speaking of the influence of Persian Art upon the Western Byzantine Empire, says that "the Persians were the middlemen who traded with the Farther East; they introduced figured silk textiles into the Byzantine Empire."[1] But, it seems, that Persia supplied its people as middlemen in trade even before the flourishing times of the Byzantine Empire.

Darius and India.

Darius the Great, had a great hand in making Persians the middlemen in trade with the Further East. He was the first Persian monarch who aimed at the advancement of the knowledge of Geography during his various military expeditions. He had ordered his admiral, Scylax, to sail down the Indus from Cashmere and Punjab to the Arabian Sea and then to sail across the coast to Persia. This exploring naval expedition seems to have had for its object the development of trade between India and the West.

Thus, it is natural that Darius, wanting to develop trade between the East and the West, should undertake the work of a great canal in his newly conquered country of Egypt.

Ptolemies. Ptolemy II.

Some writers say, that Ptolemy II (about B. C. 270) was the first Egyptian king, who completed the canal. We see from our above examination of the statements of old Classical authors, that this is not correct. As said by M. Ménant, he only repaired the canal which had fallen out of use by being filled up with silt. There was a further change before his time in the geographical condition of that part of the Red Sea, and that change had led to its disuse. When Queen Cleopatra (about B. C. 30) wanted to take her ships down the Red Sea through the canal, she could not do so, as the canal was silted up.

The Romans. The Canal in the times of Trajan and Hadrian.

The canal, as completed by Darius and repaired by Ptolemy II (Ptolemy Philadelphus) and by some subsequent rulers of Egypt, existed in the times of the Roman Emperors Trajan (A. D. 98-117) and Hadrian (A. D. 117-138).

[1] "Byzantine Art and Archæology," by O. M. Dalton, p. 54.

The Calips. The canal in the times of Caliphs Omar and Al-Mansour Abou Gafer.

The canal, which was open till the time of the Roman occupation of Egypt, was latterly silted. The silt was removed and the canal was repaired and reopened by Caliph Omar, who saw the necessity of doing so, in order to send Egyptian corn to Arabia. His services in this direction were recognized by the Mahomedan community by conferring upon him the title of Amiru-'l-mu'-minin, *i.e.*, Commander of the Faithful. This title, enjoyed by all the subsequent Khalifs, had an origin in this event. Omar got this work done in Hijri 20, *i.e.*, 640 A. D. through Amron-Ben-Al.-As.[1]

One Caliph re-opened the canal for feeding his co-religionists, and another Caliph closed it for starving his co-religionists who happened to oppose him. It is said, that the second Abasside Caliph al-Mansour Abou Gâfer or Abou-Giafer-al-Mansour, who ruled in Persia, got this canal closed in 770 A.D. about 134 years after Caliph Omar. He had a quarrel with one of the descendents of Ali, who possessed Medina. This descendent drew his supply of corn from Egypt *via* this canal. The Caliph therefore asked his Governor in Egypt to close the canal, so that no grain could go from Egypt through the canal to Medina. The canal thus filled up has never been re-opened and the subsequent ravages of time and weather have left only traces here and there of its former existence.[2] One faint attempt was latterly made to make it navigable. That was done by Al-Hakim in A. D. 1000. This was done for a passage of small boats, but that even, not along the whole line to the Red Sea. Mahomed Ali[3] shut it up altogether.[4]

The Arabian and Mahomedan names of Suez.

The old Arabian name of Suez was Soea.[5] Later Mahomedan authors speak of the Gulf of Suez as Bahr-el-Soueys, *i.e.*, the Sea of Suez.[6] The old Greek name of the city whose site is now occupied by modern Suez was Arsinoe.[7]

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[1] Sir J. Wilkinson in Rawlinson's Herodotus, Vol. II, p. 243, n.4. La Stèle de Chalouf, par M Ménant, p. 10.

[2] La Stèle de Chalouf, par M. Ménant, p. 10. Sir J. Wilkinson in Rawlinson's Herodotus, Vol. II., 243, n. 4.

[3] Sir G. Wilkinson in Rawlinson's Herodotus, Vol. II, p. 243, n. 4.

[4] The above Caliph Al-Mansour Abou Gáfar seems to be the Abu Jafur of the Pahlavi Shatroi-hâ-Airân (s. 60.) *Vide* my Aiyádgár-i-Zarirán, Shatroiha-i-Airán, &c., p. 121.

[5] Pliny, Bk. VI, Chap. 33. Bostock and Riley's Translation, Vol. II, p. 92.

[6] Pliny, Bostock and Riley's Edition, Vol. I, p. 423, n. 1.

[7] Pliny, Bk. v, Chap. 13. *Ibid*, p. 423, n. 6.

VII.

Some recent discoveries about the canal of Darius.

We have referred above to some recent scholars who have tried to explain the divergence between Herodotus and other classical writers, and who have replied to the objections raised against the successful attempts of Darius. We will now refer to some recent discoveries of the stelæ or pillars of king Darius near the site of the modern canal, which settle, once for all, the doubts about the statement of Herodotus, *viz.*, that Darius had completed the canal.

The practice of Darius to erect commemorative columns.

It was the practice of the Achæmenian Kings of Persia to inscribe on stones some events of their reign. The oldest inscription of that kind hitherto discovered is that of Cyrus the Great, the founder of the dynasty, and the latest is that of Artaxerxes Ochus.

Darius the Great was most known for such inscriptions. He inscribed both on the sides of mountains and on columns. Among his mountain inscriptions, the best known is that on the rock of the mountain Behistun [*lit.* the place (*stana*) of God (baga)], a rock rising perpendicularly from the plain to a height of about 1,700 ft. In this inscription, he gives, as it were, his short autobiography, describing the principal events of his reign. He was fond of erecting stelæ or pillars in the countries which he conquered. On these pillars he inscribed the principal deeds which he accomplished. For example, we learn from Herodotus, that during his expedition against Scythia, in his march to the Istri, he built his pillars on the Bosphorus. Herodotus[1] says: "He likewise surveyed the Bosphorus, and erected upon its shores two pillars of white marble, whereupon he inscribed the names of all the nations which formed his army,—on the one pillar in Greek, on the other in Assyrian characters. [2]

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[1] Bk. IV, 87, Rawlinson's Herodotus, Vol. III, p. 80.

[2] Herodotus mistakes the Persian for Assyrian. George Rawlinson corrects him in his following observations: "It was natural that the Persians who set up trilingual inscriptions in the central provinces for the benefit of their Arian, Semetic, and Tatar populations, should leave bilingual records in other places. Thus in Egypt they would have their inscriptions in the hieroglyphic as well as the Persian character, of which the vase in St. Mark's, at Venice, is a specimen. In Greece they would use, besides their own, the Greek language and character. Herodotus, however, is no doubt inaccurate when he speaks here of *Assyrian* letters. The language and character used in the inscription would be the Persian, and not the Assyrian. But as moderns, till recently, have been accustomed to speak of the *cuneiform language*, not distinguishing between one sort of cuneiform writing and another, so, Herodotus appears to have been ignorant that in the arrow-headed inscriptions which he saw, both the letters and the languages varied. There are, in point of fact, at least six different types of cuneiform writing, *viz.*, the old Scythic, Babylonian, the Susianian, the Armenian, the Scythic of the trilingual tablets, the Assyrian, and the Achæmenian Persian. Of these the first four are to a certain extent connected; but the Assyrian and Achæmenian Persian differ totally from them and from each other (Rawlinson's Herodotus, Vol. III, p. 80, n. 5).

". . . . Some time afterwards, the Byzantines removed these pillars to their own city, and used them for an altar which they erected to Orthesian Diana.[1] One block remained behind : it lay near the temple of Bacchus at Byzantium and was covered with Assyrian writing. The spot where Darius bridged the Bosphorus was, I think, but I speak only from conjecture, half way between the city of Byzantium and the temple at the mouth of the strait.

" Darius was so pleased with the bridge thrown across the strait by the Samian Mandrocles, that he not only bestowed upon him all the customary presents, but gave him ten of every kind. Mandrocles, by way of offering first fruits from these presents, caused a picture to be painted which showed the whole of the bridge, with King Darius sitting in a seat of honour and his army engaged in the passage. This painting he dedicated in the temple of Juno at Samos, attaching to it the inscription following :—

> ' The fish-fraught Bosphorus bridged, to Juno's fane
> Did Mandrocles this proud memorial bring ;
> When for himself a crown he'd, skill to gain,
> For Samos praise, contesting the Great King.

"Such was the memorial of his work which was left by the architect of the bridge."

The discovery of two Parseipolitan monuments near the canal at the end of the eighteenth century.

Following his above practice, Darius had erected several pillars in Egypt to commemorate his achievement of digging successfully the canal connecting the Red and the Mediterranean seas. Relics of several such monuments were found near the modern Suez Canal. M. Ménant, in his learned and interesting paper, entitled, La Stéle de Chalouf, refers to their discoveries.

It was in 1799, that a pillar was for the first time discovered by M. Rozièrre on the north of Suez, at about 6½ hours' march from it. M. Rozièrre had, when he saw the pillar, copied as a specimen a few words of the inscription. These words read : Daryavus Khshäyathiya vazarka, *i.e.*, Darius the great king.

M. Devilliers, who accompanied M. Rozièrre in the expedition of Egypt from France, had come across the relic of another Parseipolitan pillar near Serapium.

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[1] " That is, Diana, who had established or preserved their City." (*Ibid* n. 6.)

For nearly more than half a century, the subject of the discovery of the Parseipolitan monuments of Darius near the present canal was forgotten. But in 1866, it was again revived. The operations of M. Lesseps for digging the modern canal, the rough idea of which was first conceived by Napoleon I, revived the subject.

The discovery of the third monument of Darius in the canal. The pillar of Chalouf.

In March 1866, the attention of M. Charles de Lesseps, the son of M. Ferdinand de Lesseps, was, while looking after the work of digging the present Suez Canal, drawn to a Parseipolitan monument near the village of Chalouf. He sent a sketch of one of the stones of the monument, drawn by the Suez Canal Company's doctor, M. Terrier, to Paris, to M. Mariette, who thereupon asked for further information and particulars. So, M. Fred. de Lesseps sent his son Charles de Lesseps with the Canal Company's two other officers to the spot to make further researches. M. Charles de Lesseps carried on the work of excavation. He found that some of the blocks of stone were blackened by fire, which some one had, at one time, ignited under the shadow of the pillar. He found some blocks with cuneiform inscriptions and some with Egyptian hieroglyphics. He took to the village of Chalouf those blocks that could be easily carried and covered again with earth those, about 15, that could not be carried away easily, so that they may be preserved from destruction.

M. Mariette then sent M. Luigi Vassalli to take prints or stamps of the fragments that were collected and to make further report after further observations.

Discovery of three more monuments.

In June 1866, M. Fred. de Lesseps communicated to M. Mariette the discovery of the relics of two other Parseipolitan monuments, one of which was near Serapium.

In July 1887, M. E. Naville communicated to M. Ménant the news of the discovery of another monument at Tell-el-Maskhutah, about 18 kilometers from Ismailia.

Thus we have in all references to six monuments. But M. Ménant thinks that the one referred to by M. Fred de Lesseps, as found at Serapium, is, perhaps, the same as that referred to above, as found by M. Devilliers in about 1799. From the different positions of the monuments, M. Ménant thinks, that Darius's monuments were on both the banks of his canal. Writing in 1887, about 20 years after the discovery of the monuments seen by M. Fred. de Lesseps while digging the Suez Canal, M. Ménant expressed a fear, that the monuments may not

be in the same condition, as they were in, when seen in 1866. Now in 1915 their condition must be much more worse.

Of all these, the one found at Chalouf, was the only one which had, when discovered, presented itself in a comparatively pretty good state to be examined and deciphered. Its condition at present must be perhaps bad. Some of the fragments of this column are, as said above, preserved at the village of Chalouf, but of others that were again covered over with sand by M. F. de Lessep's, one cannot say what their present condition is.

Value of the discovery of the monument of Chalouf.

The discovery of the monument of Chalouf has a historical value, because its inscription determines the question, whether Darius had successfully completed the canal or not. Herodotus said, that he did. As said above, as he had travelled in Egypt a few years after the death of Darius, he must have seen the canal working. So, his statement must be authoritative. But the statements of other classical writers after him threw some doubts upon the veracity of his assertion. This inscription, which commemorates Darius's work of the canal, confirms the statement of Herodotus and decides the question that Darius did complete the canal successfully.

VIII.

The Text and the Translation of the Chalouf Inscription.

M. Mènant has given in his paper, La Stéle de Chalouf, the Text of the Inscription, as deciphered by him, from the sketch received in Paris. I give here the translation from his French translation :

"Ormuzd is a great God ; He has created the Heaven ; He has created this Earth ; He has created Man ; He has given to man good principle (*Siatish*) ; He has made Darius king ; He has given to king Darius a great Empire.

"I am Darius, great king, king of kings, king of these countries (well populated), king of this vast land, who commands afar and near, son of Hystaspes of the Achimenedes.

"Darius, the king, says : I am a Parsi (Persian) ; (As a) Persian, I govern Egypt. I have ordered to dig this canal starting from the Nile ; it is the name of the river which runs in Egypt up to the sea which comes from Persia.

"Thus the canal has been dug here.

I have ordered this canal and I have said: Commence from . . . . this canal up to the shores of the sea . . . . Such is my wish."

The latter part of the inscription is much mutilated. But the first part is well preserved. It appears, that this first part of the inscription of this great worshipper of Ahura Mazda is in line with a passage of the Avesta. The first part of the inscription on the monument, as given by M. Ménant, runs thus :

An Avesta parallel of a part of the inscription.

Baga vazarka Aura mazdaâ hiya açmânam adâ hya imâm bumim adaâ hya martiyam adâ

Translation—Ormuzd is a great God. He has created the Heaven. He has created this Earth. He has created Man.

Now compare this with the following words of yaçna (Chap.XXXVII, 1,) which form the daily Parsee prayer to say 'grace at meals.

Ithâ âat yazamaidê Ahurem Mazdâm yé gâmchâ ashemchâ dât apaschâ dât uravrâoschâ vanghuhish raochaschâ dât bumimchâ vispâchâ vôhû.

Translation.—We thus invoke here Ahura Mazda, who created animals and corn, who created water, good trees and light, who created earth and all good things.

IX.

I have referred above to the help given by the Lesseps, father and son, to the cause of the discovery of the monuments of Darius. It was while working at the excavation of the present Canal, that they and the other officers of the Suez Canal Company came across the relics of the monuments. So, I will finish my paper by a very brief account of the present successful attempt of the Suez Canal, hoping that it would interest many at the present juncture of war, when the Canal is one of the seats of fight between the belligerents.

A brief History of the Modern Canal.

Napoleon Bonaparte, who is spoken of as semi-Alexander for his attempts and aims at what is now spoken of as World-empire, was drawn towards Egypt by well-nigh the same view with which Alexander the Great and Darius the Great were drawn, *viz.*, to be master of the East as well as of the West.

The first conception of the Modern Canal by Napoleon.

It is said, that it was he (Napoleon), who first conceived the idea of connecting the Mediterranean and the Red seas by a canal of the

modern type. At the end of the 18th century, he had asked M. Lepire, a great Engineer, to submit a scheme, but that movement had no result. It is now said, that, even had Napoleon succeeded in digging the Suez Canal, his enterprize would have been a great financial failure, because his were the times of sailing ships, which would not have dared to withstand the difficulties of the shoals, calms and contrary winds met with in the canal. They were not the times of steamers which have the steam power to control these difficulties. The old route between Europe and India, *viz.*, that *via* the Cape of Good Hope was 11,739 miles, but the present route *via* the Suez Canal is 7,628 miles. Still, the sailing ships of Napoleon's time would have preferred the long circuitous way of the Cape of Good Hope to the comparative more risky passage of the Suez Canal.

For various reasons Napoleon's conception of the canal did not take any practical shape. In 1830, General Chesney of England is said to have made a favourable report of the practicability of the canal, and said, that it can be built by any one nation. But it was left to M. Lesseps to undertake the work. He matured the scheme during the period of 1849 to 1854. On 30th November 1854, Mahomed Said, the then Pasha or Khedive of Egypt, asked M. Lesseps to form a Commission to float a Universal Suez Canal Company.

M. Lesseps appointed a Commission of Engineers to design the Canal, and of Directors to float the Company. The Commission met in 1855 and finished its work in 1856. They considered over the different systems of canals.

Modern Canals are of three kinds :—

" (*a*) Canals with locks to raise boats from one level to another.

(*b*) Canals in low-lying districts with an uniform level from one end to another. When connected with the sea, they have works at both ends defending them against encroachments by the sea.

(*c*) Canals without locks and having unchecked communication with the sea."

The Suez Canal, as it is constructed now, is of the third class. It draws its water both from the Mediterranean and the Red seas, whose levels are nearly equal.

The English Engineers of the above Commission preferred the first class, *viz.*, one with locks, suggesting that the canal itself may be about 25 feet above the sea level. The foreign engineers preferred the

third class, suggesting the level of 27 feet below sea level. In June 1856, the recommendation of the foreign Engineers was approved. When the Company was floated, half the number of shares were taken by the Pasha (Khedive) of Egypt. The other half were taken by others, among whom the principal portion was held by the French. The work commenced in 1860. Among the conditions arranged with the Pasha, were the following :—

"(*a*) That side by side with the canal there must be built a fresh water canal for the workmen.

(*b*) That the Pasha was to supply forced labour for the canal.

(*c*) That the land on the banks of the canal may belong to the Company."

After the work commenced, the Pasha of Egypt asked Sir John Hawkshaw to make a report on the work, but he died before the report came in. He was succeeded by Ismail Padsha, who refused to confirm the concessions made by his predecessor. Lord Palmerston had no liking for the Canal. So, it is possible, that he suggested the refusal. The reason of Palmerston's opposition to the canal was this : If the canal was built, Britain, as the principal Power trading with the East, would be the most interested party in the work of the canal. That interest would lead to some kind of interference in the affairs of Egypt. That interference may lead to friction with France. Later events showed that Palmerston's fears were true to some extent.

The dispute between the new Pasha and the Canal Company was referred to the arbitration of the French Emperor, Napoleon III, who decided, that as a return for the withdrawal of the concessions, the Company may be given a sum of about £ 900,000.

Later on, when the Canal was finished and began working pretty well, Lord Salisbury saw the necessity of having a great hand in the administration of the canal. So, he quietly worked in the matter and purchased a large number of shares from Egypt.

The Suez Canal, both ancient and modern, is, from the point of view of the sandy desert tract through which it passed and passes, a great engineering work. But otherwise its construction is simple. It is about 100 miles in length. It has an average depth of about 26 feet. Its width is about 72 feet at the bottom, and 200 to 300 at its topmost banks. On an average it takes about 16 hours to cross it.