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THE LITTLE-KNOWN AUTOBIOGRAPHY OF SIR JOHN STOKES, THE FIRST BRITISH REPRESENTATIVE IN THE EUROPEAN COMMISSION OF THE DANUBE (1856 – 1871) – PART ONE –

Sir John Stokes, the first British representative in the European Commission of the Danube, wrote a little known account of his life. Besides a brief presentation of the career of Lt. – General John Stokes, Royal Engineers, the paper contains some excerpts from two chapters of the memories, dealing with the works of the international institution in the early period of its activity (1856 – 1859).

The technical works of the European Danube Commission, the international body established by the 1856 Treaty of Paris with the purpose of improving navigation at the mouths of the Danube and on the fluvial sector up to the point of Isaktcha, had a crucial importance for the development of the Romanian economy, facilitating the inclusion of the Danubian ports of Ibraila and Galatz into the great routes of the international commerce.

The disproportionate interest of modern historiographers for the more spectacular aspects of the so-called "Danube Question" (diplomatic controversies, political conflicts, juridical implications etc.), as much as Romania's resistance, in the inter-war period, against an institution considered "an unbelievable anachronism" and a lesion to the national sovereignty, have strongly shadowed the positive activity of the European Commission of the Danube (E. C. D.). Thus, the beneficial results of the Commission's actions should also be recognised, as the complex and difficult works at the Sulina bar, one of the decisive factors for the permanent prolongation of the E.C.D. (besides the political, military, and economic importance of the Danube mouths for the Great Powers), could not have been done in that period by the Romanians, lacking the financial and technical resources for fulfilling such a task and more concerned with establishing the basis of the modern national, independent state[1].

[1] Cf. Charles Hartley, *Description of the Delta of the Danube and of works recently executed at the Sulina Mouth*, in "Minutes and Proceedings, Institutions of Civil Engineers", vol 21 (1862), pp. 277 – 308; E. Engelhardt, *Etudes sur les embouchures du Danube*, Galatz, 1862; Commission Européene du Danube, *Memoire sur le Travaux d'Amelioration executes aux bouches du*

One of the persons who had an enormous contribution to the good functioning of the E.C.D., striving to carry out the provisions imposed by the Treaty of Paris, was John Stokes, for fifteen years the British delegate in the European institution headed in Galatz (1856 – 1871). His little known memories, never used for scientific purposes, are thus a first hand source for the early history of the European Commission of the Danube[2]. Corroborated with archive documents and other published contemporary materials regarding the works for the improvement of navigation at the Lower Danube, the excerpts from Sir John Stokes' autobiography published below would undoubtedly contribute to the better understanding of the technical priorities of the E.C.D. at the beginning of its activity, as well as for having the intimate, private views of a sincere adept of a stronger British commercial expansion in the Danubian area.

Although his name appears repeatedly in many works analysing the activity of the European Commission of the Danube or dedicated to the evolution of the Anglo-Romanian relations in the third quarter of the 19th century[3], no account of his life or career has been attempted so far. Far beyond our intention in this paper, due to obvious limitations, the necessity to make an extended, detailed and unitary portray of John Stokes remains one of our priorities. We shall try instead, in the pages below, to sketch the principal events that marked the human and professional formation of the British officer and, as much, to bring into wider scientific circulation an absolutely remarkable presentation of the early activity of the European Commission of the Danube seen from the inside.

Danube, Galatz, 1865; Bey Voisin, *Notices sur les travaux d'amélioration du Danube et du bras de Soulina (1857 – 1891),* Paris, 1893; Démètre A. Sturdza, *Les Travaux de la Commission Européenne des Bouches du Danube, 1859 – 1911,* Vienna, 1913; *La Commission Européene du Danube et son œuvre de 1856 à 1931*, Imprimerie Nationale, Paris, 1931; David Turnock, *Sir Charles Hartley and the Development of Romania's Lower Danube – Black Sea Commerce in the Late Nineteenth Century*, in vol. *Anglo – Romanian Relations after 1821*, Iaşi, 1983.

[2] The autobiography was published "for personal use" (without ISBN or publishing house) in 1994, in Australia, by Ken Stokes, an elderly descendent of the author. We have permission to use the text for scientific purposes, a beneficial action taking into account the fact that the autobiography is no more available at the Internet site, where it was published online: www.odyssey.apana.org.au/~charlesp/j_stokes.htm (site consulted October 3rd , 2003).

[3] Cf. Spiridon G. Focas, *The Lower Danube River,* East European Monographs, Boulder, 1987; Ştefan Stanciu, *România şi Comisia Europeană a Dunării. Diplomaţie. Suveranitate. Cooperare internaţională,* Galaţi, 2002; Paul Cernovodeanu, *Relaţiile comerciale româno – engleze în contextul politicii orientale a Marii Britanii (1803 - 1878)*, Cluj – Napoca, 1986; Beatrice, Marinescu, *Romanian – British Political Relations*, *1848 – 1877*, Bucureşti, 1983.

Lieutenant General, Royal Engineers, John Stokes (1825 – 1902)[4] was the second son of John Stokes, an Oxford graduate in mathematics (later to become an Anglican vicar in Kent), and of Elizabeth Arabella Franks, "a lady of great personal attraction, and accomplished in music and painting". Born on June 17th, 1825, John Stokes inherited his father's turn for mathematics, ability that helped him join, in August 1841, the Royal Military Academy at Woolwich. Besides the theoretical study, the young cadet "learnt all practical military work, being exercised in firing heavy guns and going through the work-shops to learn how guns were made and ammunition prepared, and also learning to survey and throw up field-works". His seriousness and hard working character assured his admission at the Military Engineering School at Chatham, where, until the end of 1844, John Stokes went "through the practical military course of drill, surveying, field works, pontooning, &c".

In February 1845, Lieut. Stokes joined the 9th Company of Royal Sappers and Miners, ordered for the Cape of Good Hope. In South Africa, the young officer took parts in the Seventh Zulu War, fighting against the "Kaffirs" and showing "such energy, dash and administrative efficiency that he was soon taken onto the staff and was highly commended"[5]. Slightly wounded in repeated times, John Stokes had to remain in Grahamstown, where, during his recovery, he became very intimate and eventually engaged, in the summer of 1847, to Henrietta Maynard. In September 1847, ordered to the front again, the British officer went to King William's Town, where he witnessed the end of the war and the establishment in the region of a Protectorate called the "British Kaffraria". For the following three years, Stokes and the other English Engineers were employed in securing the new conquered territory through building a chain of posts, linking "British Kaffraria" to the "Old Colony". In December 1850, when the Eighth Zulu War broke out, Lieut. Stokes proved again his "ability in his own Military Branch", "higher talents" and "gallantry". Ultimately, he was recalled home, as he was a member of the Royal Engineers, not of the Army, and in October 1851, accompanied by his wife and two children, the British officer returned to England.

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[4] Presentations of his life and activity - *Stokes, Sir John*, în *The Dictionary of National Biography: 1901 – 1911,* editor Sindey Lee, Oxford University Press, 1912, p. 424 – 426 and *Who Was Who,* Volume 1*, 1897 – 1916,* Adam and Charles Black, London, 1920, p. 681.

[5] C. W. S. Hartley, *A Biography of Sir Charles Harltey, Civil Engineer (1825 – 1915). The Father of the Danube*, 2 volumes, Edwin Mellen Press, Lampeter, 1989, p. 93.

Appointed Assistant Instructor in Surveying and Field Works at the Royal Marines Academy, Stokes had to teach these subjects to the Cadets of the Practical Class in the Royal Arsenal at Woolwich. Promoted to the rank of Captain, Stokes volunteered for the East, after the British involvement in the Crimean War. In 1855, for his "staff ability", Lord Panmure, the British Secretary of State for War, entrusted him with forming an Engineer Corps to go to the frontline[6]. In three months, he established the nucleus of the British Engineer force, composed of both military and civil engineers, to give assistance to the new Turkish Contingent prepared to fight against Russia. The British detachment landed to Kertch, but was then ordered to establish a camp at Yenikale, a key position leading into the Sea of Azoff.

The signing of the Paris peace treaty made it necessary to disband the Turkish Contingent and to sell off important quantities of military material, mission granted to Captain Stokes. His exact and careful mastering of responsibilities, "his integrity, energy and administrative efficiency"[7] brought him the appreciation of Lord Panmure and of Lord Stratford de Redcliffe, the influential British Ambassador at Constantinople. In this context, in the summer of 1856, Stokes was appointed British Delegate on the European Commission established under the Treaty of Paris for the improvement of the Mouths of the Danube River. It was a decision that "changed his whole life", as he remained in the position for fifteen years and became one of the most reputed British specialists in problems related to navigation along the Danube[8]. One of his first demands, as British Commissioner, was that regarding the nomination of Charles Hartley in his staff. A long and fruitful friendship and professional collaboration established between John Stokes and the young civil engineer, whose contribution, along the decades in function as engineer-in-chief and consulting engineer of the E.C.D., deserved him the title "the father of the Danube".

Proving "an unflinching loyalty to his friends, great kindness of heart, exceptional capacity for work, and inflexible uprightness", and "possessed of consummate tact", Stokes had the best qualities for engaging upon such a difficult task, as he "represented the principal commercial interest in the Danube, the tonnage of the English ships being now superior to that of all the other

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[6] *Ibidem*, p. 93.
[7] *Ibidem*, p. 100.
[8] Cf. his published works: *Notes on the Lower Danube,* in "Royal Geographical Society Journal", London, 1860 and *The Danube and its Trade,* in "Journal of the Society of Arts", XXXVIII (1890), No. 1954 (2 May), pp. 559 – 583.

vessels trading there". During the years, Stokes gained "a preponderating influence", "the affairs of the Commission" being mostly in his hands.

John Stokes was deeply involved in drafting the articles embodying the rules for the maintenance of the Danube control, which stood at the basis of the London Treaty of 1871. Since this period, Stokes became the official consultant of the Foreign Office in problems related to navigation on the Danube, his vast experience being used all along the forthcoming decades by the British diplomats in shaping London's Danubian policy. His testimony, in relation to the 1871 London Conference is also to be considered valid for the following years: "All matters connected with the Danube were constantly referred to me by the Government, and I attended meetings of the Committee of the Cabinet which was considering the Danube questions in relation to the Conference. My services were privately acknowledged in a most gratifying manner by Lord Granville and by other members of the Cabinet. I was in constant communication with the different Ambassadors, and the special Plenipotentiaries sent over to this country for the Conference".

Bringing matters at the Lower Danube "to a satisfactory conclusion" for the British interests, and eager to return to the military duty, as his continuous residence on the Danube implied a loss of promotion, at the end of 1871 Colonel Gordon, Royal Engineer, replaced Colonel John Stokes in his post at Galatz.

His credo, exposed in the autobiography written two decades later, is relevant for explaining his actions in the period spent at the Lower Danube: "My object had always been to ensure this [English] predominance and I had succeeded. It was an influence which was for the good of all countries, for, although we took the lead in the work, we did not arrogate to ourselves any of the advantages. It was by ensuring English influence and direction that we had things done honestly and well, and that was a matter which I considered of primary importance in everything connected with this international work.

In January 1872, Lieut. – Colonel John Stokes is ordered at Chatham, and in May was appointed Commanding Engineer in South Wales, the headquarters being at Pembroke Dock. But the experience gained on the Lower Danube was useful again in a region vital for British interests. In 1873, Stokes became a member of the International Commission assembled at Constantinople for the purpose of solving the problem with the Suez Canal Company, issue related to the dues that ought to be collected on vessels passing through the Canal. The report, in whose drafting Stokes played an important part, was adopted as the Tonnage Law of Turkey. He also advocated a more deep British involvement in

the settling out of navigation rules for the Suez region. In the following decades, Stokes mixed his military obligations with diplomatic and technical missions, as he was to become one of the best reputed connoisseurs of the situation in the Orient, in a period in which the British government engaged in taking crucial actions for gaining control in Egypt.

Appointed Commanding Engineer at Chatham, in January 1875, Stokes was later put in position as British Representative on Board of Suez Canal Company. As a recognition of the great services he did for the promotion of British interests, in August 1877 John Stokes received knighthood for Queen Victoria (Knight Commander of the Order of Bath)[9]. His technical qualifications were useful again, as he became involved in a Commission to improve Alexandria Harbour and, also, at the beginning of 1882, when he became a member of a committee investigating the construction of a Channel Tunnel between England and France.

Promoted to the rank of Major General, Royal Engineers, in 1885, Stokes was appointed, two years later, Vice President of the Suez Canal Company Board and, in 1894, was sent to Egypt as the British Government representative. On November 17, 1902, at the age of 77, John Stokes died in Ewell, Surrey[10], after a long and prodigious life and activity, of whom a big part was dedicated to improving navigation at the Lower Danube.

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The fragments published below, taken from chapters VII ("The Danube Commission") and VIII ("The Work of the Commission") of John Stokes' autobiography, cover the first four years of activity of the European Commission of the Danube (1856 – 1859). Besides interesting presentations of his fellow Commissioners and of the administrative and technical staff engaged by the E.C.D., the excerpts provide detailed information about the early meetings of the international institution, the difficult conditions found at the Sulina mouth and the first works to improve navigation at the Lower Danube, where natural problems were doubled by well organised piracy. The author's technical competence and his close collaboration with the engineer-in-chief, Charles Hartley, made the pages below a first hand source for the early history of the European Commission of the Danube.

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[9] C. W. S. Hartley, *op. cit.,* p. 425 – 426.

[10] *Obituary of Sir John Stokes,* in "Minutes of Proceedings – Institution of Civil Engineers", volume 151, 1902, p. 437.

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Appendix

"On the 20th July I was summoned to the Embassy. When I got there, the Ambassador was at dinner, and I had to wait for some time. Presently His Excellency came into the room and told me that he was directed to offer me the appointment of Her Majesty's Delegate on the European Commission appointed under the Treaty of Paris for the improvement of the Mouths of the Danube.

I looked at him in some astonishment, as I had not the very faintest notion what the Commission was or what it had to do. Lord Stratford said, looking at m in his fixed way, "You don't mean to refuse?" to which I replied that I did not know what was being offered to me. He said, "There is a copy of the Treaty of Paris; you had better look it over and let me know in the morning what your decision is." I had not of course the slightest intention of refusing, but I really did not know what lay before me.

By perusal of the Treaty I learnt that this Commission was charged, by virtue of its stipulations, to employ Engineers for the purpose of removing the sand-banks which, by the silting up due to the floods of this large river, obstructed the navigation between Isaktcha at the head of the Delta and the Black Sea. The members appointed by the seven Powers represented, were authorized to levy tolls on shipping to cover the expense of the work. I went to my friend, Colonel, - now Field-Marshal, Sir Lintorn-Simmons who agreed with me that this was a thing to accept although our examination of the Treaty showed that the post offered to me, - an-important and responsible one, - was likely to present great difficulties.

The next morning I went to the Ambassador to say that I was ready to accept the offer of H.M.'s Government. This decision, in fact, changed my whole life. The term allotted by the Treaty to the Commission was apparently for a period of two years. I remained on it for more than fifteen years, and the work is still going on! […]

Early in August Lord Lyons, who was in command, gave me a gun-boat to visit the Danube, so as to enable me to form some idea of the locality where I was to carry on my duties, and to make arrangements for my family when they should come out. […]

The Sulina, which is the smallest of the three main mouths, bringing to the sea but 2/27 of the water of the river, was at this time the only one used for navigation, as the depth over its bar varied from 7 to 10 feet, according to the season, while the Kilia to the north bearing 10/27, and the St George to the south, with 8/27, had a depth rarely exceeding 6 feet.

We went up the Sulina branch accordingly, and on as far as the town of Galatz, the future headquarters of the Commission. There I made the acquaintance of Mr Cunningham, H.B.M.'s Vice Consul, a very hospitable old gentleman, but of rugged exterior and of somewhat intemperate habits. On our return we went down to the St.

George's branch, - a much finer one than the Sulina. I had applied to the Government for the assistance of an of finer of engineers and a small number of sappers to enable me to carry out my duties on the Danube; accordingly Corporal Isaac and two sappers, with surveying instruments had been assigned to me at Constantinople. These I had taken with me, and I left them at the mouth of the St. George with instructions to take daily observations of the winds and river currents until my return. Mr. Cunningham, who had accompanied us to the St. George's mouth, strongly recommended me to take up land for the Government in case that mouth should be selected for improvement. This I did, and instructed my sappers to erect a hut for themselves upon it.

As there was insufficient water over the bar of the St. George to allow us to proceed to sea, we returned via the St. George and Sulina branches, to the Sulina mouth, whence we crossed to Serpent's Island. There we found two or three of H.M.S. ships keeping guard […] On my return to the Bosphorus I made my report to the Ambassador, and remained there according to his recommendation, waiting for news of my colleagues. […]

In September I was warned of the early assembling of the Commission, and proceeded again to Galatz […]

Shortly after I returned from Constantinople, my colleagues on the Danube Commission assembled, and we held our first meetings on the 4th November and the following days. We then resolved to make an inspection of the river, which it was our duty to render navigable. For this purpose we embarked on the "Albricht", a river gun-boat which was placed at our disposal by our Austrian colleagues and which had plenty of accommodation. We steamed successively down the St. George's branch, the Sulina Branch, as far as the Argagni shoal, and the Kilia branches. The weather was getting cold and rough but we were much interested in all that we saw, and began to form some idea of the magnitude and complexity of the task that lay before us.

Lying outside the mouth of the Kilia we found H.M.S. "Medina", the officers of which were employed in surveying the Kilia mouths under the direction of Capt. Spratt R.N. This vessel had been sent up from the fleet by Lord Lyons for the purpose of making surveys of the several mouths of the Danube, and Capt. Spratt had, during the autumn been making valuable surveys of the Kilia and the St. George, and these he placed at the disposal of the Commission […]

I have not said a word about my companions. Omar Feizy Pascha, a Turk and the President of the Commission, was a dapper little man, a General who had, however, seen but little military service; M. Englehardt, the Frenchman, was a young man of some ability, belonging to the Consular service. The Austrian, M. Becke, was a very able man, and was also Consul of his country at Galatz. We found it an advantage that he understood English, and also spoke it a little. M. Bitter, who represented Prussia, was a Civil servant of the State; a very bureaucratic, self-opinionated gentleman, hardworking and thorough in all that he did, like most Germans, but very much inclined to take the Prussian view of everything.

Baron d'Offenberg, who represented Russia, was a military man in the diplomatic service; he had been through the Crimean war, and had represented the Russian Foreign Office at the head-quarters of the Generals, Prince Menschikoff and, subsequently, Prince Gortchakoff. Sardinia was represented by the Marquis d'Aste, a captain in the Sardinian Navy, a very jolly, pleasant fellow.

One of the first matters which occupied the attention of the Commission, was the obstruction existing at a shoal about 40 miles above Sulina. At this point a small stream called the Papadia left the Sulina to join the Kilia branch. This stream, together with an abnormal width at this section of the river, caused a check to the current and consequent deposit of solid matter over a large area called the Argagni. Our visit to the shoal showed us what a difficult waterway it was, as many vessels were aground.

Altogether this voyage down the different branches of the river convinced us that not only had we before us a great Engineering problem, but also that of grappling with the state of complete, and seemingly endless, confusion which prevailed in the navigation of the river.

Although my own instructions consisted only in a copy of the Treaty of Paris, without a single word of direction as to what I was to do, I found that my colleagues had, many of them, specific directions as to the part which the Commission ought to take in regulating the navigation of the river and providing for the organization of such a river police as would put a stop to the endless abuses of all kinds which we found thriving there. Five of the Commissioners, indeed were provided with regular diplomatic credentials and full powers to represent their Governments. The French Commissioner had only a letter of instructions; I not even so much as that. Our colleagues demanded that we should call upon our Governments to accredit us properly, but raised no objection to our acting as if they had already done so […]

The principal and most important duty of the Commission was to make a navigable channel from the sea to the deep water above the head of the Delta. The difficulty that opposed itself to this was the small depth of water on the bars at the entrances to the river and upon the different shoals, which compelled vessels to discharge their cargo into lighters whether to get into or out of the river, or to pass over these shoals. Their difficulties in this respect were innumerable. Pilots, most of them Greeks, were in league with the lightermen, also Greeks, and they combined to run vessels ashore and thus force upon the Captains the necessity of lightening at exorbitant charges. They often robbed vessels of the grain or goods lightened from them and acts of violence and piracy were frequent. We had therefore before us not only the question of the proper engineering works to deepen the river, and the decision as to which mouth and branch it was the best to improve, but the equally difficult one of bringing into order this piratical population. The towns of Sulina and Tultcha, which were their headquarters, were under the lax government of Turkish officials from whom no help was to be expected. The Treaty of Paris, under which we were acting, provided that each Power might have two light vessels of war in the river, and it was to them that we

looked to enable us to control this floating population. Our gun-boat, H.M.S. "Boxer", Lieutenant Patrick Townshend R.N., arrived before the winter, and enabled me personally to inspect the river a little more closely than I had done in company with my colleagues. On our return to Galatz from our inspection on the Austrian gun-boat, my colleagues requested me to obtain the services of an Englishman to act as the engineer of the Commission. My thoughts immediately turned to Capt. Hartley who had rendered such good service in the Turkish Contingent of Engineers. He was one of the four engineers to whom Lord Panmure had authorized me to give a Captain's commission. I supposed that if he were promised emoluments about equal to those which I had obtained for him on a former occasion, he would be prepared to undertake the great work which I was now I able to offer him. I therefore wrote to him and to Sir John Burgoyne, the Inspector General of Fortifications, whom I requested to examine his testimonials. Hartley was at that time employed on railway work in Devonshire, where, however, he had formerly had experience of hydrotechnic work. He was pleased to undertake the duties proposed to him, and was able to satisfy Sir John Burgoyne as to his fitness for the post.

The winter was passed in frequent meetings of the Commission. Galatz had been chosen as its head-quarters, although lying beyond its scope, a hundred miles up the river. It was the nearest town with any pretensions to western civilization, Sulina being little more than a collection of mean huts, stretching between the river and the trackless swamp, while Tultcha, a Turkish town on the right bank, was hardly more practicable We took offices and proceeded to organize our staff. The secretary General was a Frenchman, M. Mohler; a German, Herr Ruthling, was the head of our Cash Office; a German colonel, Malinofski by name, in the Turkish service, was placed in charge of an establishment at Tulcha for obtaining supplies of timber and stone; and several other employees were engaged.

Our finances were not in a very satisfactory state, as they depended on the supplies of money which the Turkish Government had engaged to furnish for the work. At first, however, the money was forthcoming with sufficient regularity, and we were able to make all these preliminary arrangements. […]

Towards the end of February, Hartley arrived, bringing with him two surveyors, whom we had authorized him to engage. They had had several adventures on the way, the principal of which was that H.M.S. "Sphynx", in which Lord Lyons had kindly given them a passage from Constantinople to Sulina, on arrival at that place found that the navigation had been stopped by the ice, and it was necessary for them to go on to Odessa and travel from thence overland to Galatz, a journey which, in those days was a matter of considerable difficulty and some danger. However they arrived safely, and were very welcome. One of the surveyors, Mr. Hansford, proved a most valuable acquisition to the Commission, for he was an accurate and trustworthy surveyor of water-ways. His companion Mr. Mein, was as inefficient, however, as Mr Hansford was excellent, and we very soon had to get rid of him. Hartley met with a cordial greeting

from my colleagues, and was installed as the Engineer-in-Chief of the Commission. As soon as the river navigation began, he repaired to Sulina with his assistants in order to begin the study of the engineering problem before us. I, also in company with Baron D'Offenberg, went down to Tultcha, where Colonel Malinovski had been placed in charge of our depots. […]

The duties of the Commission consisted of frequent meetings for the purpose of discussing reports upon the navigation which we received from different agents, in endeavouring, by temporary works, to improve certain portions of the Sulina branch, especially the Argagni shoal, and in drawing up regulations by which we endeavoured to bring vessels navigating the river, the pilots, the lighters and so on, under control.

During the spring our hands were strengthened by the arrival of some of the gun-boats which the Governments were entitled to send up. H.M.S. "Weser" under the command of Capt. Wise, was one of these. A French gun-boat had arrived before Christmas, and the Austrian boat had been there ever since the occupation. In Capt. Wise I found a very charming companion and friend, and a valuable ally in carrying out any measures that we asked him to undertake. […]

The position was one of great independence, for I was virtually acting on my own unaided responsibility. I absolutely did not receive from the Government at home any instructions for many months after I had taken up the work. My only guide was a copy of the Treaty, which simply defined the character of the duties, but without indicating the manner in which they were to be performed. I had written constantly and fully upon every matter that came under the consideration of the Commission, but up to that time, that is six months after joining my colleagues, I had no answer from the Foreign office to any despatch, and I was naturally anxious on the subject. I had, however, the comfort of knowing that Lord Stratford approved of all that I had done, and from him I got a despatch from time to time; but I was not supposed to receive instructions from him.

During this year of 1857, I had much intimate intercourse with Hartley, who was busily engaged in making surveys of the Danube, and taking the measurement of the volume of water in the main river and in its branches; in gauging the strength of its currents, studying all its climatic conditions, and endeavouring to ascertain which would be the best mouth to deepen for navigation and what would be the best class of works for the purpose.

The Commission had also engaged a Prussian engineer, M. Richrath, to assist Hartley in carrying out the works. The Prussian Commissioner had also requested his Government to send an engineer of distinction to advise him personally on matters of a technical nature. M. Nobiling, arrived early in the spring, and proved a thorn in the sides of Hartley and myself, for he was a gentleman of cut and dried notions, who immediately, without any sufficient data, framed projects for the different engineering works, which he declared to be necessary for the improvement of the Danube. Hartley, on the contrary, declined to make any project until he had satisfied himself as to the

general conditions and the correctness of the surveys of the river. The nautical surveys made by Capt. Spratt, though excellent for navigating purposes, were not of sufficient accuracy to enable an engineer to base his calculations of quantities upon them. Hartley therefore insisted upon having Mr. Hansford's soundings of the mouths of the river before he would undertake to make any proposals. Of course M. Nobiling's reports and plans appeared very enticing to the untechnical gentleman who knew nothing at all about engineering, and who had to decide upon these great questions. The result was that some of the Commissioners reported to their Governments that unnecessary delays were being made by myself and Hartley in issuing the report upon our work.

I ought to say here, that the Treaty of Paris, while creating the European Commission of the Danube for dealing with the delta, had also instituted a Riverine Commission, whose duties were to control and improve the river above that point. The Treaty of Paris had supposed that the European Commission would finish its task in two years, when it was to hand the work over to the Riverine Commission. This supposition was founded on the reports which Mr. Cunningham, the British Consul at Galatz had made to our Foreign Office during the years previous to the war.

He had maintained that the difficulties at the mouth of the river (the only navigable one - the Sulina mouth) were due to the malign influence of Russia, which was then in possession of the Danube mouths, and to that Power having neglected to dredge the Sulina, which in former years, in the time of the Turks, had, he asserted been kept open by the simple expedient of making each vessel that went out, tow a heavy iron harrow behind it, which stirred up the muddy deposits and deepened the channel. The legend on which this was based entirely omitted to say how the harrow got back again into the port! The idea, therefore, prevailing at Paris when the Treaty was signed, was that some simple combination of dredging and harrow-towing would open the river, and that all could be arranged in a couple of years. When engineers on the spot took the question in hand, they soon found the fallacy of these suppositions. In fact we did give a trial to the system by towing the harrow that we found at Sulina backwards and forwards over the bar, but we found that, although the channel might be deepened by a few inches in the course of several weeks towing, it was constantly filled in again by the wash of the sea and that this method could never have exercised any real influence on the state of the river. Dredging was also tried with equally ineffectual results, and it became evident to us that the only method of improving the river was by works which would require several years and much money for their construction. We would not therefore undertake any works or make any proposals, until we had the proper data, and, as I have said, we were obtaining these as quickly as possible, and were determined not to accept hastily drawn projects put forward by this Prussian engineer.

During the summer of 1857 therefore, I received more than one enquiry from home as to when Hartley's reports would be sent in, and had to write very strongly on the subject.

I am glad to say that when the Foreign Office referred the matter to Sir John Burgoyne, who was at the head of the Royal Engineers, he entirely agreed that we ought not to be hurried in the matter. Still, there was a constant pressure by the other Commissioners upon Hartley for his report, and it cost me a great deal of worry and anxiety, which ended in my getting an attack of Danube fever some time about the month of September. […]

On my return to Galatz I found that nothing of importance had occurred, and by October Hartley had got together sufficient data to enable him to make his report to the Commission. This report was most complete and clear, comparing very favourably in its conciseness with the long-winded productions of Mr. Nobiling. One great disadvantage under which Hartley then laboured was that he knew little of French, and that his report had to be translated into that language. I applied myself to this matter, but no doubt the result was most puzzling even to Frenchmen, as I had not then acquired the facility of writing French which long experience has since given me. It was an immense advantage, therefore, that Mr. Becke, the Austrian was able to read the report in English, and from him we had the very warmest support in favour of Hartley's conclusions.

These were in favour of opening the St. George's mouth of the river, - conclusions at which Hartley had arrived after long and constant discussions with myself. In fact throughout the whole of our connection there, he and I were constantly in touch, and I found him most willing to submit first to my judgement the proposals which from time to time he brought before the Commission. I need hardly say that he received from me the steadfast and warm support to which his genius and energy entitled him.

Our discussions of this Report naturally lasted for a very long period, extending from December 1857 to April 1858. The Commissioners were divided. The Austrian, Sardinian and Turkish Commissioners, with myself, were strongly in favour of opening the St. George's branch, the French and Prussian Commissioners being in favour of the Sulina, and the Russian, whilst preferring the Kilia, would rather open the Sulina than the St. George's. It meant this, that the Russian and his supporters of Prussia and France, wished that the mouth nearest to the Russian frontier should be opened, with a view to its control by Russia. As I was the only technical member of the European Commission the issue of this division of opinion was the appointment of a Technical Commission that was assembled at Paris to decide upon our reports and on the various reports of Hartley, M. Nobiling, and M. Richrath, which had been laid before us, and sent to the several Governments.

This Technical Commission was composed of Capt. Fowke. of the R.E., Col. Menabrea of Sardinia, a distinguished engineer, M. Postaip a French engineer, and M. Leutze of the Prussian Public Works. In April 1858 the European Commission recognized that, whatever mouth might be eventually chosen for permanent improvement, something must be done at once temporarily for the Sulina, and Hartley was directed to submit a project for that purpose.

In his proposal for the permanent improvement of the river he had suggested works which should be applied at the Sulina mouth on the same principle as those he had recommended for the St. George's, namely, the projection of piers over the bar which would carry the river current across it into deep water, so that the force of the current, contracted between the piers, would sweep away the bar, and maintain a deep channel. He now proposed works in the same direction but constructed in a temporary manner. The piers were to be a combination of timber piling and heavy timber cribs, which were to be sunk and filled with stone on the line of the piers. The first project for these provisional works contemplated an expenditure of £ 40,000 only.

Our examination of all these questions had of course led to the consideration of the resources of the country in timber and stone, as the materials for the work […]

On our return, Hartley set to work to repair damage caused by the weather to the north pier at Sulina, and shortly floated out and sank a new crib, which, however, was soon swept away by a storm. He came then to the conclusion that it was better to trust to only piling, and thence-forward made rapid progress with the pier on this system.

During the summer, acting on the advice of Capt. Fowke, our Government twice telegraphed directing me to discontinue the works, but I evaded compliance, on the ground that having formally assented to the project approved by my colleagues I could not draw back. […]

We heard during this summer that the Technical Commission assembled at Paris, was fully discussing the question of the Danube works, and in the autumn I received from the Government a copy of their report. This supported the majority of our Commissioners in the choice of the St. George's branch for permanent improvement but made a recommendation of a system which appeared to me and to Hartley to be inadequate and almost certain to fail in its object. This consisted in a proposal that a lateral canal should be dredged from a point in the St. George above the bar, and led so far out into the sea that deposits from the river would not be likely to choke it. The upper end of this canal was to be shut off from the river, and entered by gates closing over a sill only 16 ft. below the level of the sea. We considered that this entrance would become speedily choked by the deposits from the river, and that even if the system should prove successful, no vessel drawing more than 36 ft. of water could ever enter The Technical Commission cited in support of their recommendation the works at the mouth of the Vistula, and at the mouths of the Elbe, the Rhone, and the Ebre. I therefore applied to the Foreign Office, of which the Earl of Malmesbury was the head. as Principal Secretary of State for Foreign Affairs, for permission to go home and lay before him the objections to the scheme, visiting the Vistula and the Elbe on the way. I received permission to do this early in December and the navigation of the river being now closed, I had to make my journey in a post-waggon from Galatz, by Transylvania and Hungary to Vienna [and then to Berlin].

When at last I had an interview with Lord Malmesbury he received me very graciously and seemed greatly impressed with the result of my inquiries. He was

disposed to grant my request that I should be sent to Paris, Berlin and Turin, to endeavour to confirm my theory that the report of the Technical Commission was based on erroneous information.

I had an interview with Capt. Fowke, and was rather surprised to find him offering as disingenuous defence of the Commission, the fact that, for his part, he had not based his recommendations on the examples which I had been criticizing, but that it was his opinion independently that a lateral canal was the proper system by which to open such a river as the Danube.

On the 1st of January, 1859 the Emperor Napoleon made his famous speech to Count Hubner, the Austrian Ambassador, which foreshadowed the coming war between France and Austria in Italy. This upset the chances of international agreement upon any subject at that time. Lord Malmesbury sent for me, and said that, he could not now enter into my suggestion that I should endeavour to upset the-agreement which had been come to between the Powers. I had better return to my post and abide by my instructions As I considered that it would be fatal to the improvement of the river to carry out these instructions, I begged for permission to continue the provisional works at Sulina, to carry them to their proper termination, and to leave the other question in suspense until our experience should show the best system. I asked to be allowed to put forward officially my strong objections to the inconclusive evidence given by the Technical Commission. Lord Malmesbury allowed me to do this, and also to remain in England until there was greater convenience for travelling, so that I need not return to Galatz by the difficult overland journey by which I had come […]

This was my first opportunity of personal intercourse with the Foreign of fine and I was not very favourably impressed by the Staff. They seemed to know very little about my work, and to be apprehensive of committing the Government to any expenditure in aid of it, altho' it was likely to prove of such importance to the trade of the country. […]

I got back to Galatz early in March. During the winter months the actual work in the river was always at a stand-still; the ice formed, as a rule, early in January, and attaining a thickness of several feet remained till, in the spring, the melting snows of the mountains brought down floods causing a debacle in which the ice disappeared with wonderful quickness, setting free the frozen-in vessels and restoring the river, after a little time, to its normal condition. Two of my colleagues, Bitter and Englehardt. accompanied by Hartley, had followed my footsteps in visiting and inspecting the Vistula; they returned very shortly to the scene of our duties, and the works were resumed as soon as the state of the river permitted, and went on developing through the year 1859. […]

The principal matters which occupied the attention of the Commission this year, in addition to continuing the work, were the rules which we passed for various branches of the navigation, such as regulations for the pilots, lighters and so on, and the condition of our finances. The Sublime Porte, which had begun by claiming the right to furnish

funds for our works, and which had repudiated all offers of assistance from Austria, was beginning to feel the pinch of its resources and was very backward in sending us remittances. The result was that the works were frequently brought nearly to a standstill. Under these circumstances the Branch of the Ottoman Bank at Galatz, the directors of which were English, advanced the necessary funds in 1860 to enable the Commission to complete the provisional works, to the extent of £30,000, on security of dues to be raised on shipping. The terms were onerous, 12 per cent, *per annum*, and a commission of one per cent on the loan; but without this money we must have discontinued the works just as success was within reach. […]"

Galați