

BRITISH SURVEYORS IN PALESTINE AND SYRIA, 1840-1841

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Yoland Jones had published in 1973 a paper describing the most important, and until then almost unknown, early project of measuring and mapping sites and areas in Syria and Palestine. A group of British army officers trained in surveying accompanied the troops that were dispatched to Syria in the summer 1840, as part of a European task-force aiming to end Egyptian rule and reinstate the Ottoman regime. The fruits of their work, including more than twenty maps, many of them of no military value, had never been thoroughly studied.

In this presentation, I intend to present the sketches and maps, many of them probably for the first time. I would argue that, in addition to its military importance, this project had been of crucial value, so far rarely acknowledged, to the development of the modern cartography of the region.

In 1988, Gary Dunbar wrote about 'the compass following the flag'. A long list of geographers, historians and historical-geographers, as well as scholars of other disciplines, have studied the data and presented papers showing the almost all-encompassing connection between imperialism, colonialism and geographical research, comprising both fieldwork and theoretical studies. Cartographers, travelers, and armchair geographers have all contributed to their countries' expansion, and immigration movements, as well as to their economic, diplomatic and military interests. In these aspects, neither the period – the nineteenth century, nor the place – the Near East, with which I deal, were any exception.

One of the questions widely studied has been the participation of military personnel in the gathering of geographical data, a practice which probably reached its climax in the eighteenth-nineteenth century ordnance surveys. This is clearly understandable, taking into account the necessity of accurate measuring maps and other geographical descriptions for any government and any modern army. Here, too, the Near East was no exception. As illustrated in detail by Anne Godlewska, it was the surveyors of the French army under Napoleon who took the first trigonometrically based measurements of the region, which also included parts of Palestine. Pierre Jacotin, who, at some point, commanded the geographer-engineers in Cairo, and in the 1799 campaign in Palestine, was also responsible for the publication of the maps, including six sheets that cover areas within the territory of Palestine. The measurements that he and his team managed to take in the course of the brief campaign were rather incomplete and they certainly did not produce survey maps worthy of the title, at least concerning Palestine.

Mapping projects based on systematic, on-site measurement of Palestine during the nineteenth century reached their peak with the 'Survey of Western Palestine', conducted between 1871 and 1877 by a team headed by officers of the Royal Engineering Corps for the Palestine Exploration Fund, established in 1865. As Moscrop has lately shown, all necessary support and finance for this project was received from the War Office.

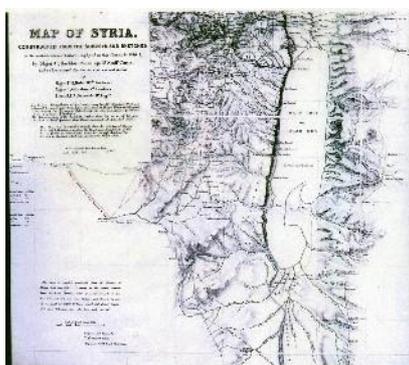
I would like to present the results of another military mapping project of Syria and Palestine, carried out in the 1840s. I have recently tried to examine the reasons which led these military representatives to show such great interest in 'civilian' topics, and historical and archaeological relics, and include them in their work. In this presentation, I intend to exhibit the sketches and maps, many of them probably shown for the first time. I would argue that, in addition to its military importance, this project was of crucial value, so far rarely acknowledged, to the development of the modern cartography of Palestine, Syria and Lebanon.

The modern cartographic revelation of the countries bordering the Eastern shores of the Mediterranean followed, and was actually part of their scientific 'rediscovery' (to borrow a term used by Yehoshua Ben-Arieh). Both were strongly affected by the geopolitical processes and

developments in the region, and were an important component of the European-Christian penetration. The level of interest that a variety of European forces demonstrated in the region, as well as the sheer clout of their intervention, whether diplomatic, military, economic, or religious, directly affected their involvement in the scientific, mainly geographic, study of the countries bordering the Mediterranean to the east. One of the best case studies of this process occurred in the early 1840s. The new era's second large-scale European military intervention in the Near East, beginning in 1840, brought with it the second military survey project, as well. Yoland Jones (today: Hodson) published her paper more than thirty years ago, describing this most important, and until then almost unknown, early project of measuring and mapping sites and areas on the eastern shores of the Mediterranean.

1840 was an exceptionally turbulent year, even in an area that had been accustomed to unrest and struggle. Muhammed 'Ali, the Egyptian ruler, had conquered Syria from the Ottomans in 1832, and had been blocked from continuing into Asia Minor only by strong European political intervention. Seven years later, the humiliated Sultan, Mahmud II, sought revenge against the Egyptian army, only to be defeated at Nisib (located today on the border between Syria and Turkey) on June 24th 1839. The Sultan's sudden death six days later was followed by the desertion of the Ottoman fleet to Alexandria. Foreign Secretary Palmerston was understandably anxious to maintain British interests in the Near East, particularly to retain control of the Mediterranean and to protect the routes to India. (It should be noted that the late thirties were the years of great debate concerning an easier route to India, following Chesney's Euphrates Expedition and the beginnings of regular mail transport through Suez.) As always, deeply suspicious of Russian plans in Asia as well, Palmerston ordered his fleet to disconnect all sea routes between Egypt and Syria. London began to serve as the center of intensive political negotiations in an attempt to alleviate the crisis. Muhammed 'Ali's refusal to accept the ultimatum of European forces and to withdraw to Egypt led to European intervention. Beirut was bombarded mainly by the British fleet on September 11th, and conquered a month later with the aid of British and Austrian Marines. Acre fell following heavy naval bombardment, which, using explosive bombs for the first time in Palestine, hit the main Egyptian explosives storage depot and destroyed a large part of the city. Gaza, the last Egyptian stronghold, was evacuated on February 18th, 1841.

A group of English army officers, Royal Sappers and Miners, Royal Engineers and additional officers trained in surveying, accompanied the troops who were dispatched to Syria. They measured and mapped the fortifications of several coastal towns and villages. Subsequent to visiting Jerusalem in the winter of 1841, they measured and drafted one of the first measuring-maps of the city, on a scale of 1:4,800, and then started to carry out a trigonometric measurement of Palestine and the southern areas of Syria. This task was never completed, but the Board of Ordnance in London consequently succeeded in publishing a three-sheet map on a scale of 1:253,440. I have neither the time nor do I intend to describe their work, the problems they faced, including insufficient instruments for a trigonometric survey, and the difficulties in collecting the material and issuing the final map. This has largely been skillfully done by Jones, although adequate answers to some of the questions are still pending.



Most of the original maps are kept in the National Archives in London. A closer look at the various maps that these officers drew reveals that military-aimed projects did not suffice the surveyors, all of them military officers. In addition to data gathered for military purposes, they 'sinned' in sketching maps that could have only scientific value. Short as they had been in means, manpower and time, some of them could not avoid dealing with the historical-religious significance of what they had seen. This fact is quite understandable, taking into account the nature of their cartographical training in the

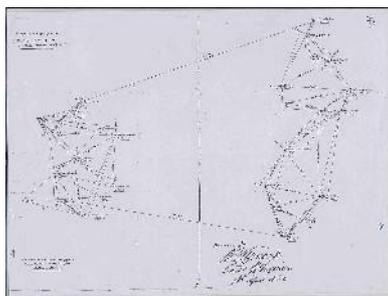
various British military academies (The Royal Military Academy, Woolwich; The Royal Military College, 1813 Great Marlow and then Sandhurst), as well as those of the East India Company (The East India Company's College, Haileybury, 1809, and Military Seminar, Addiscombe). They worked according to the 'Manual of Scientific Enquiry for the use of Officers in Her Majesty's Navy, and Travellers in General', based on the surveying tradition of Darlymple, Beaufort and others, and published regularly from 1849 by the Admiralty, which asserted:

...it would be the honour and advantage of the Navy, and conduce the general interests of Science, if new facilities and encouragement were given to the collection of information upon scientific subjects by the officers... of Her Majesty's Navy, when upon foreign service....

As mentioned above, Jones has already described the course of events. The first to land were the Royal Engineers Lieutenant Edward Aldrich and Major Ralph Carr Alderson, who took command, joined by Lieutenants Charles Francis Skyring and John Frederick Anthony Symonds as heads of the groups of field surveyors. They were later joined by some staff officers, Majors Frederick Holt Robe, Richard Wilbraham and Charles Rochfort Scott. The idea of conducting a general measurement of Palestine was brought up in a letter from Lieutenant Symonds to his father, Admiral Sir William Symonds, the Surveyor of the Navy. With the support and assistance of the Foreign Secretary, Lord Palmerston, who had been solicited by Symonds' father, the measurement began in May 1841.

The mission in Syria ended in late 1841, before the officers could manage to complete the work. In January 1842, they were all on their way to other tasks throughout the British Empire. Rochfort Scott, who undertook the collection of the sketches and the completion of the map, was transferred to Gibraltar, from where he sent some of the sheets of maps to the Quarter Master General, in April 1844 and February 1845, and then to Wales, where he finished the work and submitted the final maps and report on November 1846.

Nineteen sheets of the original maps are to be found in the British Archives (PRO) in London. They do not include the finished three-sheet map, as well as other products of the survey, such as Robe's sketch of the sources of the Jordan, which were published by Ritter and by Robinson in their periodicals. Various maps of Acre, as well as those of Jaffa and Gaza, were published in 1843 by Alderson in his detailed 'Notes on Acre and Some Coast Defences of Syria', a highly illuminating and important, yet neglected, source. One of the sketches shows Symond's triangulations, which have been discussed, as the first hypsometric measurement of the Jordan Valley and the Dead Sea, reaching a relatively accurate result for the latter, but a very erroneous measurement for the Sea of Galilee. In addition, it was not surprising to find this original sketch in the collections of August Petermann in Perthes' Geographical Institute and publishing house in Gotha, as well.



A group of military professionals, all of them non-academics, reached the region for a very obvious mission, to use their instruments and skills and to produce maps for military use. They received no clear instructions from the military, nor from the political authorities. The local commanders were those who decided to begin a mission of a military nature: mapping the coastal defense systems. Their own initiative led them to produce a map of Jerusalem, which had no military significance for that period. For their next idea, the triangulation of the whole country, they needed help from the authorities. However, while performing this task, they continued producing other, smaller maps, which were certainly of no interest to the army, but of huge importance in the disclosure of the geography of the region.

I would argue that, in addition to its military importance, this project has been of crucial value, so far rarely acknowledged, to the development of the modern cartography of the region, until the 1880s

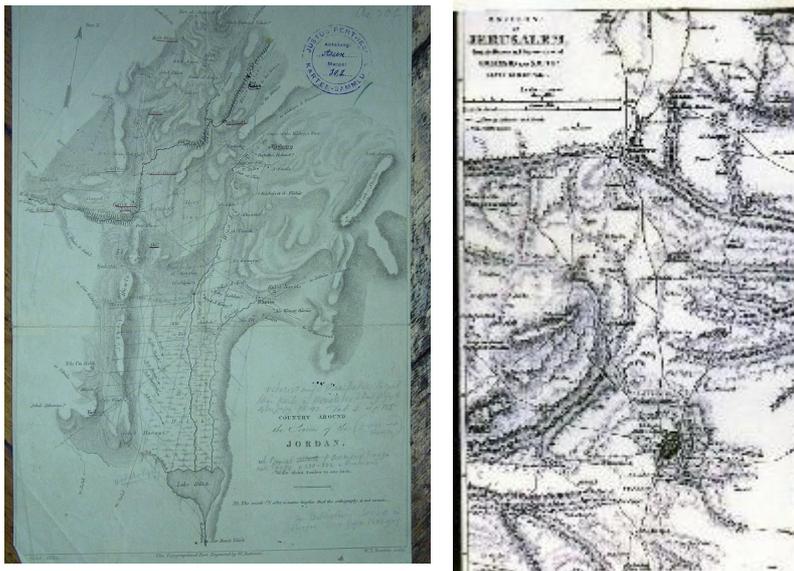
publication of the 26 sheets of the Survey of Western Palestine conducted by the Palestine Exploration Fund. I base this estimation relying on some of the best contemporary, as well as modern, authorities.

The European scientific world, the wide circle of scholars connected with Palestine research, awaited the disclosure of the results of the project to the public. Edward Robinson (1794-1863), one of the leading figures in nineteenth century Palestine study, commented in 1843 that 'some of these gentlemen are members of the Royal Geographical Society of London; and when the English government shall have made the use it chooses of the results of their labours, it is understood that they will be given to the world'. The publication in 1845 of a relief map of Palestine or the Holy Land, dedicated to the queen, constructed by the Board of Ordnance in 1845, that is, prior to the publication of the two-dimensional maps, also gave further hope of publication for the public. Portions of the survey, as well as some of its results, did begin to appear in the 'civilian' market. But the scholars continued to wait – and to express expectations and hopes for further publication of the material. The leading Berlin geographer, Carl Ritter, who had already been deeply involved in Palestine research, wrote in the second volume of his *Comparative Geography of Palestine and the Sinaitic Peninsula*, published in 1851:

The publication of the Admiralty survey of Syria would revolutionize the existing state of knowledge, and would make it necessary to reconstruct the maps of Palestine *de novo*. It is to be hoped that that event will take place, and that the world will be enabled to enjoy the valuable results of that expedition which owes so much to the liberality of the English Government.

Until his death in 1859 Ritter continued, in vain, to hope that 'the event would take place'.

Still, this fact did not prevent many scholars from making great use of the only partially published British survey. As mentioned above, Alderson was the first to publish some of the maps, though in a military publication. Robe's sketch of the region of the sources of the Jordan was published by Ritter and Robinson in geographical periodicals. In a former paper, I have already pointed out its important contributions to Palestine's cartographical knowledge, as well as its use by other cartographers. This small sketch had been used as almost the only source for maps of that region until the publication of SWP.



The cartographer Heinrich Kiepert of Berlin, Ritter's student and successor, had since 1840, been deeply involved in Holy Land cartography, working closely with Robinson. In 1842, he issued an updated map of Palestine, 'based on the new sources', and the similarity of some details is the best proof of the fact that he had Robe's sketch, still unpublished, before him. Van de Velde, to whom I will refer later, wrote that he used 'the small sketch from the *Bibliotheca sacra*' for the compilation of

his map of Palestine. Karl Zimmermann, another cartographer from Berlin, made much use of the sketch for the compilation of a map of the Galilee published in 1861, based mainly on routes and field studies conducted between 1845 and 1848 by Ernst Gustav Schultz (1811-1851), the first Prussian consul to Jerusalem. Robe's sketch was also used by Ludwig Noack, who, aided by his brother Friedrich, issued an experimental map of the Galilee in 1868, a region which remained problematic for the map-makers.



Symonds' trigonometric and hypsometric sketch, mainly his results concerning the levels of the Sea of Galilee and the Dead Sea, received intensive attention and use. Symonds, himself, already a captain, received the Gold Medal of the RGS for his achievements in 1843. But the results of his measurements aroused much controversy. Symonds' triangulations were based on two lines, the first from Acre to Lake Tiberias via Safed, the second from Jaffa to the Dead Sea via Jerusalem, connected by various intermediate points. In a letter to John Washington, then Secretary of the RGS and later the Hydrographer of the Navy, he admits that the southern baseline had been taken with better equipment, a seven inch Theodolite, than the northern one, 'which I commenced with a five inch instrument'.

What were his results? Symonds wrote in the spring of 1842 to Washington:

I enclose a small diagram with the distances and heights of the principal stations used in computing the levels, [...] from which it will be seen that the lake of Tabarie is 328.1 and the Dead Sea 1311.9 feet below the mean tidal mark of the Mediterranean at Acre and Jaffa which I have assured to be on the same level.

The RGS had to request the loan of 'Symond's triangulation in Palestine' from the Navy. The first report, in the *JRGS* of 1842, which gives 1311.9 feet (probably Parisian, 426.4 m), corresponds with the data on the sketch of the triangulation which is in the RGS Archive. Robinson, who had already suggested in 1840 that 'the question [of the level, H.G.] can never be decided with exactness, until the intervening country has been surveyed, and the relative level of the two seas trigonometrically ascertained', was happy to announce in the first volume of his new periodical, *Bibliotheka sacra*, that the fulfillment of this wish was near at hand. The level, according to the information he had received from his companion, the American Presbyterian missionary from Beirut Eli Smith, as given to him personally by Symonds, was 1312.2 feet (426.5 m).

This was accepted as Symond's result, and repeated in other places. The accuracy of the measurements was later questioned, by his fellow officers as well as by other scholars. The confusion was compounded when the scholars began to suspect that Symonds had failed to determine the level of the Sea of Galilee. He had given a result of -328.1 feet (-106.6 m), almost exactly half of the correct level. This failure led the disappointed Robinson to totally discredit all of Symonds' measurements, disguised in the gentle words:

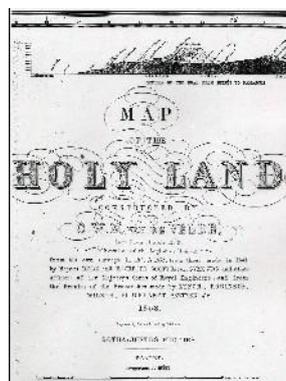
I venture to suggest – not, certainly, in a spirit of doubt or want of confidence in the distinguished engineer, but solely in behalf of the interests of science – whether, after all, there may not be a possibility that some slight element of defect or inaccuracy may have entered into the observations or calculations, and thus have affected the correctness of the result?

Seven more years passed until the riddle of the exact level of both lakes, as well as that of the course of the Jordan between them, was solved. The most energetic advocates of this research, who repeatedly raised the question and called for its solution, were the officials of the RGS, mainly its secretaries, who had Symonds' triangulations in their possession. The issue is mentioned in almost every 'Anniversary Address' between 1839 and 1848, and was solved only by the ill-fated English Naval Lieutenant Thomas Howard Molyneux. In his report of sailing on the Jordan and the Dead Sea in summer 1847, published in the consecutive year, Molyneux established the meandering nature of the Jordan. The exact level had been established by the hypsometrical measurements of the American Expedition to the Dead Sea under Lieutenant William Francis Lynch. Needless to say, Symonds has played a major role in all these discussions and developments.

The significance of the map of Jerusalem has already been demonstrated by Yehoshua Ben-Arieh in his 1973 paper concerning the first modern maps of Jerusalem. This map was used by later cartographers of the city, as well as by other scholars in their books. George Williams (1814-1878), who served for more than two and half years as chaplain of the church of the first Protestant Bishop in Jerusalem, was the first to reveal this map to the public. In his book, published in 1849, he dedicated a long supplement to the map entitled 'Memoir on the Map of Jerusalem'. 'The principal advantage derived to the world from the operations of the British fleet on the coast of Syria', he writes, '[...] was the opportunity afforded to the Royal Engineers of making an accurate Survey of the country'. Their work, he adds, was 'of inestimable importance to Sacred Literature'. Although the results of these labours have so far been given to the world only in fragments, they have already been used in order to decide about many important questions concerning the geography and topography of the Holy Land, and 'to stimulate the desire for the whole survey, the value of which it is impossible to calculate'.

Charles Franz Zimpel (1801-1880), a German man of science and railroad engineer who turned to religion in the 1850s, was one of the strongest Christian advocates of the 'restoration of the Jews'. In 1853 he published a book, attempting to newly identify the Holy sites, mainly those connected with Christ's suffering. His map of the city is 'based on the plan of the English naval lieutenants Aldrich and Symonds, [and] the historian Josephus Flavius and A. C. Emmerich', to which he added corrections which he made 'on the spot'. This is a unique combination even for 'Palestine Literature', which has almost always been affected by geo-religious connotations. Even in this context, the combination of the British naval officers, the historian Josephus Flavius, and the ecstatic Anna Katharina Emmerick, 'the nun from Dülmen', whose book served as a geographical guide for Palestine pilgrims, is very exceptional.

Some of the maps of the coastal cities were also used in later publications such as Ruth Kark's paper dealing with cartographical sources for the study of Jaffa.



Many of the later Palestine cartographers acknowledged the contribution of the British officers to their works. The best proof would probably be the intensive use of the British officers' material and maps by the Dutch naval officer, Carel Willem Meredith van de Velde, who accumulated his cartographic experience as head of the Dutch Royal Hydrographer's Office in Batavia. He visited Palestine in the early 1850s and again in the early 1860s, since, in his words, "the study of the Holy Scriptures has made me deeply feel the want of a correct and sufficiently detailed map of the land to which they preeminently call our attention". In the opening comments to the memoirs accompanying his map of Palestine, he wrote expressly that "it laid beyond my power to set off for Syria with the

necessary instruments, and, with the aid of competent assistants, to make what may be termed a complete triangular survey; nor was I aware of any individual who, thrown on his own resources, had ever accomplished such a work." Van de Velde had intended to perform a trigonometric survey of the country and to construct a map of the Holy Land, but realized that it was an impossible task for a single man. He became acquainted with the works of the British officers, and made the best use of them in all his maps. At first, he regretted the fact that he was not able to obtain their material while going to Syria, because he expected it to be the best possible 'base to work upon'. But on his return to London in 1852, he was 'kindly allowed by the authorities access to these documents at the Board of Ordnance'. He adds that this turned out to become an advantage, 'as it had given to my own survey a perfect independent character, and its agreement with the survey of the British Engineers was now a source of much satisfaction'. Van de Velde had in his possession the three sheets of the officer's 'Map of Syria', and also Symond's original triangulations, and he made a point of mentioning it in the title of his map.

The map of Jerusalem was also studied by Titus Tobler, the leading German scholar of Holy Land studies. 'Their work lasted not less than six months', wrote the time-conscious, money-saving and efficient scholar, 'and the result is known to me, not only through Williams' edition, which is certainly not faithful and reliable on all points, but also through the copy which Mr. C. W. M. van de Velde took at the Board of Ordnance in London'. Tobler, as always strongly critical, writes cynically that 'When informed that so great a number of engineers unitis viribus have employed so much time in constructing a ground-plan, one cannot help feeling favourably predisposed towards it, and naturally inclined to the belief that no errors, or at least no important errors, could have found their way into it.' Although Tobler adds a detailed discussion of four pages full of inaccuracies he found in the map, he still approves of van de Velde's use of it for his map of Jerusalem.

I am presently at work on a research project, dealing with the geographical study of Palestine and its connection to British imperialism in the Near East during the 1830s and 1840s. Naturally, the story of these maps plays an important part in this study. It is important to take note that this one case study of many confirms my argument that nineteenth century geographical knowledge of Syria and Palestine was mainly constructed by non-professional geographers and that military surveyors played a significant role. Much of the work of the British officers, although for the most part not officially published, did find its way to the public and scientific markets, affecting much of the cartographical work performed in Palestine for the next forty years, until the publication of the SWP. Unfortunately, scholars have so far failed to acknowledge the importance of their maps for the development of the cartography of Palestine, as well as for the two other regions dealt with in the maps: Lebanon and the southern parts of Syria.

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Biography.

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