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RIVERS AND EMPIRE

This chapter presents a comprehensive alternative to the interpretations of the partition of Africa and the Nile basin that have dominated historical literature for a century. Mainstream diplomatic history has regarded European rivalry as the main reason for Partition, concluding that Britain ended up as an imperial power in the Nile basin because London feared French and other European actors' activity there. The British established their Nile empire more or less by default; they did not plan for it but were forced to move up the Nile because of the fear created by France's activity in the region. Many books have also been written arguing that the British march up the Nile was primarily religiously motivated; it should be interpreted by and large as London's revenge for the brutal murder of the Christian martyr Charles Gordon in Khartoum in 1885 by Islamic fanatics. The Sudan campaign is from this perspective seen simply as a forerunner to current conflicts between Islamism and the West. It has also been used as a case proving theories about the inherent imperial drive of modern capitalism. Finally, a more abstract model explains European colonialism in general as a hunt for African riches or as a form of capital export in disguise.

This source-based narrative will argue that all these explanations miss out the most crucial factor in British strategy in north-east Africa: they overlook the fundamental importance of the way the River Nile runs in the African landscape and how geographical and hydrological factors and specific water-society systems influenced and framed British strategies and actions. The combination of the particular confluences between river and society and the hydraulic design for the Nile implemented by the British imperialists must be understood. Appreciating the importance of the above factors does not imply paying less attention to traditional diplomatic correspondence or to the role of individual missionaries or imperial entrepreneurs, but it begs for analyses that are more inclusive, more empirical and more interested in the 'places' and hydro-geopolitical contexts in

which policies are implemented and in how the actors interpreted these places.

WATER IMPERIALISM ON THE NILE

In the voluminous literature on the partition of Africa and the role of the Nile quest in this context, European rivalry has by and large been interpreted as a necessary and sufficient cause of British expansionism in the Nile basin.¹ The most influential theory has been that suggested by Robinson and Gallagher in their famous and very influential study of Victorian imperialism. The occupation of Egypt began a domino process which led Britain into Uganda, Kenya and ultimately to the conquest of the Sudan. Britain was primarily concerned to prevent other European powers, particularly Germany and France, from muscling into London's spheres of interest. As a result of this fear or concern, the argument goes, during the last 10 years of the nineteenth century, Britain occupied or annexed the Sudan and Uganda. The prime object was defensive: the prevention of serious inroads being made on British power. Britain was not an instigator of the scramble for Africa, but responded to the actions of other forces. The British were not really interested in the areas where they took control; they became an imperial power there without really wanting it or without having a plan for what to do with their new territories.

In reality, however, and this chapter will show that this was the case, British well-considered Nile imperialism shows that the British advances into tropical Africa from Egypt were informed by a kind of expansionism that went far beyond fear of European rivals or conventional commercial expansion. Its aims were long-term and strategic, indeed, and were essentially related to taking control of the Nile as the region's defining water resource to control it for political means and to further British strategic and economic interests in Egypt, the country harbouring the Suez Canal. One might argue that what are here called London's 'hydraulic calculations' made a British Nile empire a rational strategy. The partition therefore did not accompany, but rather preceded, the invasion of tropical Africa by the trader and the official. It was not regional commercial expansion that required the extension of territorial claims, as one school of interpretation of colonialism has argued is typical for imperial policies, but the extension of territorial claims which in due course required commercial expansion. African resistance and collaboration did not to any important extent influence the direction of the partition of East Africa and the Nile basin. Rather, it was the nature of the Nile itself that conditioned the direction British imperial expansion

took and it was its hydrology that particularly influenced the build-up of imperial institutions and imperial organisation.

This chapter argues that although the European 'fear-factor' was an element in British diplomacy in the region, it cannot explain the continuities and shifts in British Sudan policy in the 1880s and 1890s, nor make intelligible the historical documents that clearly demonstrate the existence of persistent plans for British hydro-imperialism in the Nile valley, regardless of what other European states were up to. It was primarily the combined impact of the importance and potential of Egypt's irrigation economy under British leadership after 1882, the repercussions of a growing water crisis in Egypt in the late 1880s and 1890s, and the structuring character of the regional water system that shaped the destiny of the Sudan and the rest of the Upper Nile in the late 1890s.²

While it has usually been claimed that the '*frontiers of fear*' on the move motivated the British march upstream,³ this chapter argues that the *limited irrigation water* available in Egypt on the one hand and the abundance of Nile waters upstream of Aswan waiting to be controlled for the benefit of Egypt and cotton cultivation on the other, made expansion up the Nile a very rational and, as will be documented, a well-planned imperial strategy. This chapter will argue that the Southern Sudan was regarded by the British strategists as a *barrel filled with water* and not as the 'bottom of the barrel', as this region has frequently been described in the historical literature on the occupation.⁴ This region possessed huge amounts of water that could very profitably be used to enlarge cotton farms in Egypt, and the waters of the White Nile running through one of the biggest wetlands in the world were described by leading water planners as being as valuable as gold.⁵ The Sudan was the very key to the planned development of Egypt and its cotton industry, due to its geographical location in the Nile basin – this was the country where the two Niles meet. To conceive and portray the Sudan as a 'buffer state' between European rivals is therefore for this reason misleading (Robinson and Gallagher 1981: 475). The British had grandiose schemes for controlling the waters of the longest and most famous river in the world with the most modern technology available at the time. These plans were not grounded in a 'defensive psychology' but in feelings of imperial strength and modernising confidence. Instead of a theory that 'suggests the kind of defensive imperialism that extends beyond the areas of expanding economy but acts for their strategic protection' (Robinson and Gallagher, 1981: 474–5), this analysis suggests that the British Nile policy was a kind of promethean hydro-political river imperialism, and an imperialism that extended beyond the area of an expanding economy and that acted for Egypt's continued agricultural and economic development by exploiting the region's most important resource and geopolitical factor.

In order to understand why the British were so obsessed with control of the Nile, why they were more interested in the modest White Nile than in the mighty Blue Nile, or why they thought it was just a question of time before they had to occupy the Sudan, we need to understand the character of the regional water situation. Egypt, lying well downstream on a river running through three climatic zones and what are now 10 countries before it reaches its borders, was basically a desert. About 97 per cent of the people lived along the banks of the river, and the economy was totally dependent on river water and river control in some form or another. Egypt had been the granary of the Roman Empire and was now the enormous cotton farm of the British Empire. The need to even out the annual and especially the seasonal variations of river discharges was obvious, since about two-thirds of the entire annual flow flushed down during some three months in autumn while the last third reached the dry lands during the remaining nine months. The profitable cotton season was in summer, when the natural river flow was at its lowest. Almost all the water, about 80 per cent, during this *sefi* season came from the White Nile, mostly thanks to the natural storage provided by the *Sudd*, the immense swamps of the Southern Sudan and the relatively regular outflow of the Central African Lakes. The British were aware of these factors due to the findings of previous hydrological studies, and thus understood that the White Nile, or the *Bahr al-Jabal* and *Bahr al-Zaraf*, as the tributaries that formed the White Nile south of Kosti were called in Arabic, was the most important tributary. The Blue Nile and the other Ethiopian tributaries contributed more than 80 per cent of the average annual flow at Aswan, but at that time it was not technologically possible to tame them, mostly due to the huge amount of silt in the floodwater which would threaten to destroy the reservoir and sluice gates. Since the watering of the fields in Egypt and the flood security and economic stability of the country depended on control of the Nile, few questions were of greater importance to the British administration than knowledge of how much water would flow into Egypt at any time of the year before it reached the border and the plots of the *fellahin*.

The water-system approach's emphasis on human modification of waterscapes and thus on water management on the Nile focuses on a whole new class of historical sources and documents. Archives in Khartoum, Durham, Cairo and London hold a vast number of records that deal with the Nile and Nile control. The annual reports written by Lord Cromer, Her Majesty's Agent in Egypt between 1883 and 1907 and the 'puppet-master' of Egyptian politics during a couple of decades, letters and minutes of discussions between Cromer and the Foreign Office and ministers in London, the private papers of the leading British actors in the Nile valley living along the river from Alexandra to Entebbe and

the extensive Nile discourse and number of Nile plans and Nile actions all clearly show that the Nile campaign of the 1890s was no step in the dark. The British strategists were knowledgeable about the hydrology and geology of the Nile valley, and their expansionist policies were driven by a complex mixture of economic and political considerations, basically influenced by the structuring capabilities of the Nile's geographical, physical and hydrological characteristics which they understood.

'THE EGYPTIAN QUESTION IS THE IRRIGATION QUESTION'

By the early 1890s, the Government in London and Lord Cromer and his administration in Egypt had for some years already understood the consequences of governing a hydraulic society whose development was totally dependent on the waters of the Nile. Every ruler of Egypt had found that the provision of sufficient water for irrigation had been fundamental in achieving political stability and economic prosperity. The British realised that security and stability hinged on their ability to develop the Nile. Egypt had also become more and more important as a source of cotton for the still crucial Lancashire textile industry, partly because of the repercussions of the American Civil War, and partly because of the high quality of the cotton produced in the 'land of the Nile'. The then Egyptian prime minister Nubar Pasha (1884–8 and 1894–5) summarised the situation in a famous one-liner: 'The Egyptian question is the irrigation question' (quoted in Willcocks 1936: 67). Words and deeds show that the British concurred and understood the implications of this Nile dependency; they knew that a downstream hydraulic state on one of the longest rivers in the world simply had to develop its life artery, both in Egypt itself and upstream of its borders in order to survive and thrive.

The British administration under Lord Cromer understood the importance of the Nile from the very beginning and soon they also acquired quite good knowledge about the workings of its hydrological system. One of the first actions Lord Cromer took was to bring experienced water engineers from India, where river control works had long been a priority of the British administration. The demand for more summer water in the 1880s and early 1890s was heard from all levels of Egyptian society, as well as from influential pressure groups, such as the cotton lobby, in Britain. In Egypt, the most powerful foreign trade agencies dealt in cotton (Tignor 1966: 234). The big landowners owned about two-thirds of the cotton harvest. The population doubled during a few decades and reached almost 10 million in 1897, and the growing number of poor peasants put pressure on the Government to provide more reliable water supplies. In England, the Lancashire cotton industry was searching for

ways to reduce their dependence on American cotton, and imports of cheaper but very good-quality cotton from Egypt became more and more important. Furthermore, British banks had a strong and growing interest in a thriving Egyptian economy, mainly because in 1882 Egypt's foreign debt had risen to £100 million, and annual debt servicing came to £5 million (Crouchley 1938: 145), much of which went to Britain. Egypt's ability to repay its debts to British banks depended to a large extent on cotton exports and the value of agricultural land. A telling contemporary reflection of this 'Nile water awareness' in London was the fact that *The Times* reported regularly on the water discharges of the Nile! Thus the general political and economic development and the changes in the world trade patterns of cotton led to mounting pressure on the British rulers in Cairo to provide more water to the fertile but dry lands along the banks of the Nile.

The British had barely planted their flag on the banks of the Nile before they were met by vigorous demands for large hydraulic enterprises (Scott-Moncrieff 1895: 414–15). With a growing demand for water on the one hand, and a river far from being harnessed on the other, any administration in Egypt in the late nineteenth century would have been obliged to make increased water control a top priority. The overarching questions became: How to increase the Nile yield in the 'timely season', that is, during the summer season, when cotton was grown and the natural discharge was at its lowest? How to protect agricultural lands against devastating floods? How to dam the excess water in September, October and November for utilisation in the season of water scarcity? How to construct dams which could reduce annual discharge fluctuations? How to narrow the gap between the availability and demand for water was a permanent source of worry to the British. The complexities of this task increased as perennial irrigation spread and demonstrated its economic potential. As the British faced rising expectations, their legitimacy as rulers of an irrigation society required that they should succeed in narrowing the growing gap between supply and demand. At first, the hydraulic engineers concentrated on what could be done by improving existing irrigation facilities and building some new water-control structures within the borders of Egypt.

BRITAIN AND THE NILE IN EGYPT

Thanks to a revolution in irrigation methods, Egyptian agriculture had undergone important transformations in the decades prior to the British invasion in 1882. The old system of flood-irrigation had been replaced by all-year irrigation. Perennial irrigation on a larger scale had started under Mohammed Ali, who developed an agricultural strategy based on

an assessment of Egypt as having the perfect climate, fertile soil and an abundance of people; the problem being the lack of water. In 1820, cotton production and exports were negligible, whereas after the delta barrages had been built and new canals dug in the middle of the nineteenth century, cotton made up about 80 per cent of Egypt's total exports from the 1860s onwards. For a number of reasons, these waterworks fell into disrepair in the following decades, and they were further damaged during the failed nationalist rebellion against the British. Not until after the occupation, and under Cromer's watchful eye, did the priority become repair and improvement of the existing irrigation system (see, for example, Scott-Moncrieff 1895; Willcocks 1889 and Willcocks and Craig 1913).

A series of important though smaller projects included the remodelling of the Upper Egypt basin, clearing silt deposits from the canals and starting operations at the Mex Pumping Station in Lower Egypt. Altogether, these works, more efficient management of the irrigation sector and an improved system of drainage and crop rotation contributed to the doubling of cotton production from 1888 to 1892 (Crouchley 1938: 148). In 1891, the British repaired and made operable the delta-barrage system just north of Cairo. It extended the area on which cotton could be grown and it reduced the amount of labour required to bring water to the field. Perennial irrigation was now possible over the entire cultivated area of the Delta. This brought great material advantage to Egypt, and it also led to the abolition of the *corvée*.⁶ As long as this work within the borders of Egypt was a priority of the Ministry of Public Works, and the Government was in grave financial difficulties, there was neither capacity nor any need to look upstream of Egypt for a more efficient way of using the Nile waters.

By the early 1890s, however, the upper limit for expansion within the existing Nile control system had been reached. The natural character of the annual and seasonal discharge fluctuations and the human efforts to modify and control the way the Nile waters ran in the fields after the floods had created an irrigation system that was clearly insufficient for the current and growing needs of water. In spite of British efforts to improve it, it did not even always satisfy actual demand, with grave economic consequences for the cotton industry. In 1888, for instance, about 250,000 acres in Upper Egypt received no irrigation water whatsoever.⁷ The irrigation officers reported to Cromer in that year that the spirit of resistance to the British presence was 'stronger now than ever'.⁸ In other years the seasonal autumn flood was bigger and more violent than usual, and caused great damage to the harvest and the economy in general: the British flood control system was in the 1890s not greatly different from what it had been for centuries.

The combination of the great potential of the irrigation economy and ambitious plans for more profitable cotton farms on the one hand

and the combined danger of devastating floods and the actual growing water gap during the summer season on the other hand, asked for more revolutionary initiatives and developments in water control. In the early 1890s, a modernising Egyptian Nile discourse developed; speeches were made and plans put forward and debated, reflecting the growing ambitions and a feeling of a deepening water crisis in Egypt. J. C. P. Ross, former Inspector-General of the Egyptian Irrigation Service, summarised this attitude, when he wrote in 1893: 'We have now arrived at a stage in the summer irrigation of Egypt where the available natural supply has been completely exhausted, and there still remains more land to grow cotton' (Ross 1893: 188). Both 1889 and 1890 had experienced an exceptionally bad summer supply due to low natural river discharges, immediately causing great falls in profits and increasing the danger of political unrest. Waterworks of an altogether new type and technology were required, and were considered. It became increasingly evident that the age-old system of flood irrigation, or basin irrigation, and the primitive system of summer irrigation, basically being a clever adaptation to the seasonal fluctuations of the Nile, had become inadequate, and that these hydrological fluctuations would have to be controlled and evened out. Scott-Moncrieff, the Under-secretary of the Egyptian Ministry of Public Works, decided that a detailed study of reservoir sites should be a top priority. In 1894, the *Report on Perennial Irrigation and Flood Protection of Egypt* was published by the Government, after having been confidentially circulated in 1893.⁹ It estimated the future annual need for summer water at 3,610,000 cubic metres (Willcocks 1893: 9). It asserted that if irrigation were introduced in Upper Egypt, where agriculture still depended on the basin system, and improved in Lower Egypt, the annual income would rise from £E(Egyptian pounds)32,315,000 to £E38,540,000.¹⁰ This report, that was produced the year before the occupation of Uganda in 1894, posed the overarching political and administrative question: How to secure over 3.5 billion cubic metres of irrigation water in the summer season, creating an estimated annual net gain of £6,225,000 for the country? And, at the same time, how could the country be defended against devastating floods?

The most concrete suggestion contained in the 1894 report was to build the reservoir at Aswan in Upper Egypt that had already been discussed by the Government. However, this reservoir, in spite of the fact that it would have been by far the biggest in the world at the time, was seen as a temporary solution only, because the planned capacity satisfied only half of Egypt's estimated needs. At a meeting on 3 June 1894, for example, the Egyptian Council of Ministers discussed other possible dam sites, but this time in the Sudan as if building dams on the river in another country was no noticeable obstacle.¹¹ In line with this, in the same year Cromer wrote that the Aswan Dam within Egypt's borders may 'at some future time, [...]

perhaps be supplemented by another dam south of Wady Halfa',¹² that is, in the Sudan. And William Garstin, Cromer's right-hand man, underlined in his annual report (1894) that the 'construction of a second [...] [dam] [...] to the south will be merely a question of time'.¹³ He further wrote that 'we may confidently predict' that the Egyptian dam will be 'only one of a chain which will eventually extend from the First Cataract to the junction of the White and Blue Niles'.¹⁴ William Willcocks, the main architect behind the dam, stated what for the water planners would have been obvious: that the 'infinitely better and more reliable' flood protection for Egypt was to 'control the Nile before it enters Egypt' (Willcocks 1894: 45). In the early 1890s, the British administration in Egypt thus discussed again and again the need for Egypt to modify and take control of the Nile upstream of the old borders of the country.

This 'chain' of water works upstream became a much more pressing issue when the administration realised that the planned storage capacity of the Aswan Dam, 2,550,000,000 cubic metres of water, would have to be drastically reduced due to technical difficulties in damming the silt-laden floodwaters. After more careful studies of the hydrology of the river and the deposits it carried from the mountains of Ethiopia, London realised that they could just store what they called the 'tail-end' of the flood. Additionally, unexpected political problems arose. In autumn 1894, just after publication of the new report,¹⁵ archaeological groups in France and Great Britain united in demanding a lower than planned water level in the dam, in order to save the ancient temple at Philae close to Aswan from inundation (Scott-Moncrieff 1895: 417). The conflict of interest between those wanting to save the old temple erected on the banks of the river, where it flows into Egypt from the Nubian desert, for the heroes of the ancient Nile cult, the fertility gods Isis and Osiris, and those who wanted to subjugate the Nile for the needs of economic growth collided. The opposition was so strong that it forced the Government in Cairo to yield and to amend its 1894 plan. According to Garstin, the capacity was therefore reduced by more than 50 per cent, to 1,065,000,000 cubic metres.¹⁶ The reservoir could therefore meet only 25 per cent of Egypt's future needs.¹⁷

According to Garstin, the reduction meant that 2.610 billion cubic metres would have to be found elsewhere.¹⁸ Of course, for geographical and hydrological reasons, this 'elsewhere' could not be along the Nile in Egypt, first and foremost because of the silt which the Blue Nile and Atbara carried from the Ethiopian highlands. The sedimentation problem also excluded 'any hope of constructing solid dams of the ordinary type in the valley of the Nile downstream of the Atbara junction' (Willcocks 1894: 12). The Nile could thus, it was thought at the time, only be profitably dammed and controlled upstream. The reduction in the size and storage

capacity of the Aswan Dam made the question of upstream expansion and water control there a much more pressing issue. Now military and political expansion upstream had clearly become a strategic issue of central importance to London.

BRITAIN ON THE UPPER NILE

From the very beginning, the water planners knew that an Aswan Dam within the borders of Egypt could not be operated rationally without better and more accurate knowledge of the Nile, upstream and in the Sudan. Precise hydrological information about the fluctuations in the flow of the tributaries before the main Nile reached the reservoir was essential. In 1894, Willcocks showed that the time the waters took between Khartoum and Aswan was only '10 days in flood and between Aswan and Cairo only five days'. Obviously, proper management of the reservoir and its gates – especially since it only needed to store the tail-end of the floodwaters – therefore required a number of gauging-stations along the Nile and its tributaries in the Sudan, as well as the re-establishment of a working Nilometre in Khartoum at the junction of the Blue and White Niles. As early as 1882, before the era of reservoirs, Major Mason Bey had shown the necessity for establishing more Nilometres on both the main Nile and its tributaries in the Sudan for planning purposes in Egypt (Mason Bey 1881). In May 1893, the Société Khédivale de Géographie discussed in detail the water discharge information gathered from the gauging-stations in Sudan, established on the order of Ismail, from the time when, as they expressed it, 'the Sudan was not closed' (Ventre Bey 1883). Until 1885, Egypt had daily received information by telegraph from the Nilometre at Khartoum,¹⁹ and in 1875 a station was erected close to the village of Dakla in order to measure the Atbara (Chélu 1891: 35). The 'fall of Gordon' in 1885 was dramatic and caught the attention of the day (and of historians later on), but the loss of the Nilometre at Khartoum represented a more direct threat to Egypt, because it jeopardised the optimal management of the irrigation system.²⁰ However, what the water planners in Cairo regarded as a great loss as early as 1885 had far greater consequences in the mid-1890s as a result of the growing water gap, the vulnerability of the new crop-rotation system and the more exact hydrological information required for the planned big reservoirs. Willcocks wrote in 1893: 'As Egypt possesses no barometric, thermometric, or rain gauge stations in the valley of the Nile, we are always ignorant of the coming flood' (Willcocks 1893: 17).

At that time, the British hydrologists and engineers lacked in-depth knowledge of the Nile's upper reaches. Ross wrote that 'unfortunately the Dervishes prevent any scientific examination' of the Nile upstream

(Ross 1893: 191). Scott Moncrieff complained, while lecturing in London in 1895, that he, like his audience, had to go to 'the works of Speke, Baker, Stanley and our other great explorers' for information regarding anything higher upstream than Philae, and said that 'if a foreigner were to lecture to his countrymen about the river Thames, and were to begin by informing them that he had never been above Greenwich, he might be looked upon as an imposter' (Scott-Moncrieff 1895: 405). William Garstin described these years, as far as hydrological studies were concerned, as if a 'thick veil had settled down on the Upper Nile' (Garstin 1909: 135).²¹

Putting the Nile and the need to control it in the centre of the picture opens up a whole new class of historical sources dealing with Nile planning and Nile management, and it becomes evident that several years before the Sudan Campaign started, like Scott-Moncrieff, Ross, Willcocks and Garstin, Cromer's water engineers in charge of the Ministry of Public Works were discussing the necessity of controlling the Nile upstream of Egypt. A central vision in the government report of 1894 was that the hydrological features of the Nile and the future increase in summer water demand would require the regulation of the Nile south of Egypt, even as far as Lake Albert and Lake Victoria. Willcocks wrote that what 'the Italian Lakes are to the plains of Lombardy, Lake Albert is to the land of Egypt' (Willcocks 1894, Appendix III: 11). By damming the lake(s), 'a constant and plentiful supply of water to the Nile valley during the summer months' could be ensured (Willcocks *ibid.*, Appendix III: 11). 'There alone,' he wrote, 'we deal with quantities of water which approach' the demand (Willcocks *ibid.*, Appendix III: 10). The previous year Ross had speculated along similar lines. He envisaged that raising the water level of Lake Victoria by only 1 metre would bring a flow that would be '30 times more than wanted' (Ross 1893: 189). In 1894, London took military control over the African lakes that several decades ago had been 'discovered' by Speke, Burton and Baker and named by them Lake Victoria and Lake Albert (Tvedt 2004a: 19–51). No administration in Cairo would ever consider regulating Lake Victoria, which is roughly the size of Scotland, without controlling the shores of the lake, and without improving the White Nile's water transport capacity in Southern Sudan, due to the river's natural water losses there. Garstin and Willcocks knew that *sadd* was blocking the river,²² and that the White Nile lost huge amounts of water on its way through the swamps in Southern Sudan.²³ They knew very well that it would be impossible to improve the knowledge of the Nile unless the river was cleared of *sadd*.

In the Southern Sudan the British were therefore not scraping the 'bottom of the barrel' (Robinson and Gallagher 1953: 15). This part of the Nile basin was, on the contrary, filled with extremely valuable summer water. Because of its waterscape and hydrological characteristics, this area

needed to be controlled, according to Cromer and his water experts, both politically and water management-wise, from London and Cairo. London was not preparing for war for 'the mastery of these "deserts"', as this area was totally misconceived by the most influential historians on the whole issue of the Partition of Africa (Robinson and Gallagher 1981: 372), but because this area held (and still holds, by the way) the future of Egypt in its hands, or more precisely, in its swamps. The occupation of the Southern Sudan was therefore not 'an imperialism without impetus' (Robinson and Gallagher 1981: 25), fighting for an 'illusion' or an 'empty barrel' but an imperialism with a very, very strong impetus and rationality. Planning for the optimal usage of the Nile waters inspired thoughts about the Nile as a single river basin that should be under one political planning authority, and this plan for conquering an unruly waterscape was a motivation of its own. The sheer magnitude of the task made the water planners compare themselves with the already famous British names in Nile history. The discovery of the sources of the Nile had brought fame to their countrymen Speke, Grant and Baker. Now Garstin, Scott-Moncrieff and Willcocks could follow in their footsteps, they could even 'take the river in hand'.²⁴ In 1894, Willcocks directly described their plans for the Nile as a worthy follow-up to these British discoveries. Garstin later wrote that if they succeeded in taming the Nile such an accomplishment could be compared with the building of the pyramids (Garstin 1904: 166). In 1895, Scott-Moncrieff summed up the 'Nile vision' of the water planners when he said: 'Is it not evident, then, that the Nile from the Victoria Nyanza to the Mediterranean should be under one rule?' (Scott-Moncrieff 1895: 418)

BRITAIN AS THE LORD OF THE NILE

In his *Modern Egypt*, Cromer wrote that a central motive for the occupation of the Sudan had been 'the effective control of the waters of the Nile from the Equatorial Lakes to the sea' (Cromer 1908, II: 110). Full of confidence in his imperial Nile strategy, he wrote: 'When, eventually, the waters of the Nile, from the Lakes to the sea, are brought fully under control, it will be possible to boast that Man, in this case the Englishman, has turned the gifts of Nature to the best possible advantage.' (Cromer 1908, II: 461)

The first decades of British rule on the Nile were termed by later irrigation advisers the 'Cromer-Garstin regime',²⁵ a regime under which the most powerful politician and the most powerful water planner developed a consistent and overall strategy and a plan for Britain as a River Nile empire. Garstin's department was given an exceptional degree of autonomy and was deliberately shielded from intervention by other European interests in Cairo, and was staffed with a number of British

experts.²⁶ Cromer later wrote that these expenses 'contributed probably more than any one cause to the comparative prosperity of Egypt' (Cromer 1908, II: 464), and ensured no less than 'the solvency of the Egyptian Treasury' (Cromer 1908, II: 464). According to Cromer, irrigation works were not only a permanent priority, but also a policy which continuously proved its success.²⁷ From 1890 onwards, every Annual Report to the Government in London enclosed a separate Memorandum on irrigation activities. Everybody seemed to agree: 'The best thing the Financial Ministry can do is to place as much money as it can afford at their disposal [British water planners, my comment], confident that whatever is thus spent will bring in a splendid return.' (Milner 1892: 310)

Summing up British rule from 1882 to 1907, Cromer put hydraulic engineers on an equal footing with the army for internal political reasons; they created the situation that made Egypt and Suez safe for the British. While the soldiers held the Egyptians down by force, the water planners won their minds, or as his financial adviser put it in 1892: the British engineers secured the support of Egyptian public opinion (Milner 1892: 310). They 'justified Western methods to Eastern minds,' Cromer wrote (Cromer 1908, II: 465). Or as he had already put it in 1886: 'the good results of European administration can readily be brought home to the natives' (quoted in Zetland 1932: 171). Two years later, he wrote that British success in Egypt depended on development of the irrigation structure and increased access to summer water.

It was not only the men in charge of Nile development who in the early 1890s were discussing control works on the river in the Sudan. In 1891, Cromer wrote a long letter to Prime Minister Salisbury in London on the reservoir question. He said that all competent authorities agreed that something had to be done, but not on what had to be done. He discussed different options; the reservoir might be constructed 'either at Wadi Halfa, or at Kalabalah, or at Assuan, or at Silsileh, or a reservoir might be made in the Wady Raian'.²⁸ He said that the subject was one of 'utmost importance', because 'the prosperity of Egypt depends wholly on the Nile'.²⁹ In November 1891, Cromer again told Salisbury about the importance of the water storage question in Egyptian public opinion.³⁰ In 1893, he sent a telegram to Lord Rosebery, foreign secretary in the Gladstone Government, supporting a circular which had been addressed to the Powers by the Government of His Majesty the Khedive, requesting that the economies 'effected by the conversion of the Debt should be applied to the constructing of reservoirs in Upper Egypt'.³¹ He supported the 1894 report and not only actively backed the plan for the Aswan Dam but was very active in securing money and political backing for its construction.

As long as it was not clear whether the British were going to stay in Egypt, and as long as Egypt had enough water for their summer

cultivation, and had no money to finance either reservoirs or wars, Cromer and the London Government rejected more adventurous proposals to march southwards. Cromer informed London that he disagreed strongly with those who in the 1880s wanted to occupy the Sudan. In 1884, he asked whether the British Government intended to establish a settled form of government at Khartoum or not and he answered himself 'in the negative'.³² If the aim was to have slavery completely abolished in the Sudan, a small expeditionary force would not be enough, he argued. He ridiculed those in England who publicly argued in favour of such a policy, by stating that then 'you must send an English army to occupy the country',³³ which nobody was prepared to do. As late as 1886, he wrote to London, saying that all the authorities in Cairo except himself were in favour of an advance to Dongola. He was 'opposed to making any advance at all', while the Egyptian authorities, he argued, favoured the idea because they regarded it as 'a first step towards the reconquest of the Soudan'.³⁴ London agreed with Cromer's reasoning. It seems clear that both the British Government and Cromer were looking for an opportunity which could legitimise the occupation in both Egyptian and British public opinion, and that they objected to imperial adventurism but favoured an occupation that could be sustained.

Just before 1890, there are clear evidences that Cromer changed his rhetoric. Now he wrote about the occupation as being necessary – one day – while still arguing in favour of playing safe and only acting when time was ripe and the moment right. In 1890, the British military discussed the occupation of the Sudan. There was general agreement that Dongola in northern Sudan 'from a purely military point of view, could only be of use to us as a stepping stone, as an advanced base for an advance upon Berber or Khartoum'.³⁵

The way Cromer and the British Government connected hydrological research and water planning to the military campaign clearly shows that concerns and long-term strategy were based on a deep understanding of Nile politics. Some months before the British occupied the Nile upstream in 1898 and Cromer sent his most senior water planners in their wake all the way up to Lake Victoria and Lake Tana, he wrote to Prime Minister Salisbury: 'There can be no doubt that the *most crying want of the country* [my italics] at present is an increase in the water supply.'³⁶ No sooner had the British moved into the Sudan than he sent – in his own view – his most important official in Egypt on an expedition up the Nile. In April 1897, Garstin had submitted his report on the Nile cataracts.³⁷ In the wake of Kitchener's flotilla, Garstin studied the White Nile in 1899, the White Nile, Bahr al-Jabal, Bahr al-Zaraf and Bahr al-Ghazal in 1901 and again in 1904. In 1903, he was in Uganda, along the Semliki River, at Lake Albert and again at Bahr al-Jabal (Gleichen 1905: Vol. 1, 280). When

Garstin in 1899 proposed to remove the *sadd* in the Bahr al-Jabal which blocked the river's flow, he received immediate financial support from Cromer. Cromer's argument was: 'The question of increasing the summer supply of the Nile is, however, of such a vital interest to Egypt, that the present expenditure is fully justified.'³⁸

In his introduction to Garstin's 1904 report, Cromer gave priority to the plans on the Upper Nile. Cromer suggested that £E5.5 million should be allocated for the proposed regulation works in the swamps.³⁹ The projected cost of the recommended investments is most clearly illustrated by comparing it to the total cost of the Sudan campaigns from 1896 to 1898, that is, £E2,345,345 (Peel 1969 [1904]: 263), and compared to the total revenues of the Sudan budget in the years 1899–1903, that is, £E1,132,000.⁴⁰ Of course, Cromer had no intention of using this money, a sum which far exceeded any investment the British had previously made in the Nile Valley, to scrape the 'bottom of the barrel'.

In March 1898, Cromer wrote Salisbury a long letter on the question of the occupation of the Sudan, arguing that he had 'always been fully aware of the desirability of bringing the Soudan back to Egypt'. He even drafted, but then deleted, the following sentence in the final letter: 'I have, therefore, always looked forward' to the occupation of the Sudan. What Cromer awaited was for 'essential conditions' to be in place. He wrote: 'The great mistake made by Ismail Pasha was that before he had learnt to administer efficiently the Delta of the Nile, he endeavoured to extend Egyptian territory to the centre of Africa.' His experience should be a 'warning', which had to be told to and taught to the Egyptians, Cromer wrote.⁴¹ His annual reports and his letters to London show that Cromer now thought that the British had learnt how to administer the Delta, that the economy was sound, and that the demand for more summer water was therefore rising. The moment was approaching.

The plans of Cromer and London were not easy to accomplish. For economic and political reasons they wanted Egyptian rather than British troops to do most of the fighting. Their aim was that the Egyptian Treasury and not the British Treasury should pay the cost of the expedition. It required political competence and diplomatic ability to achieve this aim, not least because there already were legal wrangles over the financing of the Dongola expedition.⁴² The Egyptian Government, which was under British control, had demanded the withdrawal of £E500,000 from the general reserve fund. The International Public Debt Commission in Cairo had allowed the withdrawal of funds only by a majority vote. But Cromer and London succeeded in the end: the Sudan campaign was paid for by the Egyptian Treasury and mostly fought by Egyptian soldiers.

How could the occupation over the whole of the Sudan be justified to British, Egyptian and European opinion? London had already 'revenge

Gordon' by taking Khartoum. But why move on to the swamps of Southern Sudan as well? London was looking for the right arguments that could get support from Egypt and win over opposition or indifference in Britain. The French threat was a good diplomatic card, because French imperialists were publicly talking about sending troops to the Upper Nile area. London found the scapegoat they needed in Captain Marchand. In July 1898, after the Dongola war was over, Cromer attended a Cabinet meeting in London to discuss Nile valley policy. Salisbury wrote to the Queen about this meeting:

The other question [of the Cabinet meeting, my comment] was our dealing with the Nile Valley, if, and when, we had taken Khartoum. For this question Lord Cromer attended the Cabinet and gave us the benefits of his views [...] He thought that the Egyptian and British flags should fly side by side: that the gunboats with Gen. Kitchener and a small force should go up the Nile as far as Fashoda (600 miles): and as much farther as was practicable: and that any other flag in that valley should be moved.⁴³

Since Britain's position and military advance depended upon Egyptian support, the sudden appearance of a small group of French soldiers at Fashoda created a golden opportunity: the British could portray themselves as a guardian of Egyptian interests *vis-à-vis* French imperialism and French opposition to the re-conquest. When the French flag went down at Fashoda and the miserable 'force' of Marchand was forced to leave the Nile basin, Kitchener therefore cleverly hoisted not only the British but also the Egyptian flag on the shores of the Upper Nile.

FASHODA AND HYDROLOGY

Many influential historical reconstructions of 'the race to Fashoda' have ascribed to Victor Prompt, a Frenchman working in Egypt, a highly important role in the imperial rivalry in the Nile Valley.⁴⁴ His speeches in the early 1890s are said to have created a sort of 'nightmare' among the British rulers, and it was his speculations and the support they obtained in France that made it necessary for Britain to move upstream to stop the French plans for the Nile. How this 'innocent man' was made into a 'villain' in the historical reconstructions of the partition of Africa is an example of potential consequences of misunderstanding or negligence of particular water-society systems and hydrology.

Prompt's ascribed role in the literature about British Nile policies and the Nile Quest of the 1890s is relevant in the context of this chapter, because the way his speeches have been interpreted and misunderstood is related to the same literature's lack of attention to or understanding of

the regional hydrology of the Nile. The reality is that Prompt never did say what historians later have claimed, but more importantly, his whole thinking about Nile control has been misinterpreted. His contemporary influences on British policies have furthermore been greatly exaggerated; Prompt caused no stir among the British at the time and he probably played an insignificant role, if any, in directing French imperial Nile policy. In the literature he has been described as a hydrologist, as if he was a Nile expert, but he was an engineer who came to Cairo and Egypt in 1889, appointed as *L'Administrateur français des chemins de fer égyptiens*. It is true that he, like many other people at the time, gave several speeches, on the control and exploitation of the Nile.⁴⁵ But the interpretations of Prompt's ideas in the literature have been limited to only one of his four speeches: the 'Soudan Nilotique' from January 1893.

In this speech, Prompt's main agenda was to convince his primarily Egyptian audience that *Egypt* should immediately occupy the Sudan. The reason behind his proposal was clear and conventional at the time: by taking control of the Nile south of her borders, Egypt could secure her water supply. He thought that the flow of the Nile was diminishing due to changes in its *natural* water discharge, or perhaps to natural climate change. This natural alteration in her life-giving river system would have dramatic consequences for Egypt's 'whole existence'.⁴⁶

Egypt ought therefore to occupy the whole of the Nile basin. He proposed three reservoirs between Khartoum and Aswan.⁴⁷ He also suggested that the Nile should and could be made navigable up to Khartoum.⁴⁸ If implemented, he argued, Egypt's military conquest and occupation of the Sudan from the north would be facilitated. It was a very ambitious proposal that if implemented would have changed the water strategic relationship between Egypt and the Upper Nile for ever. Prompt also suggested building a railway 'de Keneh à Koseir'.⁴⁹ He concluded that by urgently implementing these projects,⁵⁰ Egypt would benefit from an immense extension of her agricultural area, and would be able to abandon old irrigation methods.⁵¹ In an annexe to one of his papers, he discussed future irrigation projects in the eastern Sudan along the Blue Nile, arguing that Egypt could profit from using excess Blue Nile water there without any negative effects on its water supply during the summer season.

His second speech in 1891 dealt only with reservoirs in Upper Egypt. He said the reservoir question was unquestionably the single most important issue. The speech offered strong support for the planned Aswan reservoir. In January 1893, Prompt again advocated Egyptian reoccupation of what he significantly called her 'lost provinces'. He offered a broad description of the whole basin and suggested how it could best be exploited for the benefit of Egypt. The third part of his speech had the subtitle: 'Intérêts agricoles et commerciaux de l'Égypte dans les contrées que forment le

bassin du Nil' (Prompt 1893: 95). Prompt discussed the pros and cons of a barrage at the Equatorial Lakes (Prompt 1893: 72). This speech did no more than discuss the reservoir plans that the British published in the following year. Prompt wrote that, if desired, the Nile could be dammed in Uganda, in order to give Egypt important and much-needed water (Prompt 1893: 101), a project which, according to him, could not be opposed on sound grounds. Prompt did not at all suggest that the French should occupy the Upper Nile and build reservoirs there, as later historians have argued. Neither did he support British ambitions there. What he did was to point to the potential threat to Egypt from a *British* presence on the headwaters of the White Nile (Prompt 1893: 109).

Prompt's speeches supported Egyptian expansionism, and warned about British intentions upstream. He did not play the French card or speculate that France could throttle Egypt at Fashoda, nor did he suggest that either Fashoda or the Bahr al-Ghazal was the hydrological key point in the Nile basin. Prompt never, in fact, mentioned a dam at Fashoda. Contemporary sources did not pay attention to his speeches, because the ideas expressed in them were mainstream in Egypt. A. Silva White's book from 1899, dealing with irrigation in Egypt and the importance of basin-wide water development, did not mention Prompt.⁵² Nor did Peel's *Binding the Nile* (1969 [1904]). Cocheris (1903) discusses Prompt, but only in passing. There is no evidence in the sources that anybody at that time regarded Fashoda as a hydrological 'key point' in the Nile valley.⁵³ Samuel Baker, for example, who was more familiar with this area than any other European (he had been Ismail's governor of the region in the 1860s, with his headquarters at Fashoda), had several times described the extreme flatness of the area, mentioning that the country around Fashoda was 'dead flat' (Baker 1867, I: 44). In none of his much earlier bestselling books is Fashoda even hinted at as a hydrological key point. Shcweinfurth's *The Heart of Africa*, another bestseller, described the area in a similar way, while Lombardini's description (1865) conveyed the same story, and was widely consulted by the British water planners. Emin Pasha published his diaries (1879) concerning the 'Strombarren des Bahr el-Gebel', in which he emphasised the flatness of the area (Emin Pasha 1879: 273). Several much-read French authors, from Arnaud to Chélu (1891), showed beyond doubt that if anybody wanted to dam the Nile, he should definitely not attempt to do so at Fashoda. The assumption that has prevailed in the literature that Fashoda was the key or 'the headwaters' of the Nile, or that contemporary British strategists thought that was the case, is simply wrong.⁵⁴ A potential French force at Fashoda therefore did not represent a threat to the Nile flow. It did not create fear in London but would cause an outcry in Egypt, since it struck at the very heart or symbol of their lost Nile valley empire, which they were fighting, under the leadership of Abbas II, to get back.

In the early 1890s, the later Lord Lugard and future British ruler of Uganda wrote: 'Egypt is indebted for her summer supply of water to the Victoria Lake, and a dam built across the river at its outlet from the lake would deprive Egypt of this.' (Lugard 1893, II: 584) And further: the 'occupation of so distant a point as Uganda would be a fair and just claim to render valid our influence in the Nile basin and beyond.' ((Lugard 1893, II: 560) Finally, he quoted Lord Rosebery, who had said that Uganda commanded 'probably the key to Africa' (Lugard 1893, II: 584). In 1894, London took formal and direct control over the African lakes and declared a protectorate over Buganda, in line with Lugard's proposals. They thus indicated that part of this great lake was considered hydro-politically important, since that was where they believed the source of the White Nile to be and the place where a dam could be built. In the same year, they established a Nilometre at the outlet of the lake, and Cromer and his water planners and hydro-politicians could continue working on plans for the entire Nile system.

RIVERS AND EMPIRE

This chapter has rejected the dominant explanation that it was fear of the French or of other European powers that primarily motivated British expansion upstream on the Nile and thus led to the Partition of Africa.⁵⁵ During the 1890s, the British developed an ambitious strategy and diplomatic and military tactics for the establishment of a British 'river empire' on the Nile. London had two strategic aims in relation to the Nile upstream of Egypt. On the one hand, to develop the Nile and increase the amount of irrigation water in the desert countries in the north of the basin so as to bolster cotton production and cotton exports to Lancashire, and to improve the Egyptian national economy, since achieving the latter would create political stability in the country and thus also at Suez. London knew also, on the other hand, that control of the Nile upstream would give Britain political leverage against Egyptian nationalists, if need were to arise in the future. The Nile could be used both as a carrot and a stick in order to maintain British control over Suez. For diplomatic reasons the occupation of the Sudan was 'sold' as an Anglo-Egyptian occupation, which also secured the support of the Egyptian elite and funds from the Egyptian Treasury and a supply of soldiers from the Egyptian army. European rivalry on the Nile in the 1890s impacted on British imperial tactics, but this rivalry theory cannot explain British strategy and imperial policies in the Nile basin.

London's and Cromer's grasp of the importance of the Nile and the irrigation question made them fully aware of the fact that if they set

foot upstream they would also be able to control a hydraulic state like Egypt politically, and that improved Nile control upstream was necessary in order to give Egypt the summer water that the cotton economy and political stability depended on. The empirical and theoretical argument was that the role of the *sadd* in the Southern Sudan in decreasing the Nile flow during the summer season, the very high sediment loads of the Ethiopian Nile tributaries, and the relative importance of the Blue and the White Nile tributaries and their seasonal fluctuations were all issues of great practical and political concern to the imperial strategists, and such geographical characteristics framed the way in which the imperial strategy was formulated and implemented.

This empirical study of hydrology and empire and imperial hydraulic designs in the context of the Nile and the partition of Africa can stimulate similar research on how other water-society systems impacted on the way European expansion happened in different parts of the world. In the modern period, and given the technological superiority of the European countries at the time when it came to utilising rivers for transport for both military and economic means and for irrigation, river systems affected form, content and motivation for expansion. The role of the Ganges and its tributaries, both in relation to warfare, transport and economic policies, can hardly be overestimated as factors in British India policy. The same holds for the Zambezi in Southern Africa whose early history is as a highway for the spread of trade and Christianity, symbolised by the missionary of all missionaries, David Livingstone. The Yangtze was at the heart of the relations between Britain and the weakened Qing Dynasty in China, symbolised by the humiliating Treaty of Nanjing in 1842. Any story about French colonialism in Southeast Asia must put the Mekong in the centre of the picture, just as the great rivers of North America helped to structure the colonisation of that continent. The proposition is that comparative studies of the geographical and hydrological character of these river systems and of how the imperial actors conceived of them and their military, economic and geopolitical importance will bring forth new insights into the role of European imperialism in general. The methodological and analytical strength of the water-system approach is that it enables the location of intentions and acts of historical subjects within specific, modifiable geographical contexts. Empirically, it opens up a whole new set of source material, embedding the reconstruction of different discourses in diversifying water bodies and studying how actors have been influenced by these life-important resources' economic, political and hydrological value.