

**Mastering the Nile? Confidence and Anxiety in D. S. George's Photographs of the First  
Aswan Dam, 1899-1912**

**Samuel Grinsell**

**Email: samgrinsell@gmail.com**

**Abstract:** The first Aswan Dam was built at the dawn of the twentieth century and celebrated as a triumph of imperial engineering. Five years after its completion, workers returned to extend the dam. Photographer D. S. George recorded both the building and extension projects for the Egyptian Public Works Department in a series of images that give a unique insight into the place of engineering in the imperial imagination. The dam was built at the same time as Britain was seeking to secure its domination of the Nile Valley, having recently seized control of Sudan. Mastering the river's water was vital to expanding agriculture in Egypt, a central plank of British policy in the region. Representations of the dam speak to a larger history of empire and power in north-east Africa. This paper examines the tension between bombastic confidence and nagging anxiety in the ideologies of empire. Drawing together water, engineering, and environmental histories, it explores the connections between attempts to control the politics of the Nile valley and efforts to harness its waters. The key themes found in the albums – nature, technology, work, and conservation – will be used as lenses through which to scrutinize the peculiar form of modernity that engineers attempted to forge on the world's longest river. This analysis reveals that imperial officials sought total mastery of the environment, but that the difficulties faced in realizing such grand schemes also generated persistent anxieties and so helps us understand the fears that accompanied the ambitions of imperial modernity.

*Note on images: for figures see pages 20-26.*

The British officials who governed Egypt in the late nineteenth and early twentieth centuries believed they were there to straighten the country out.<sup>1</sup> This aim included changing the character of Egyptians, imposing clock-time, mapping land ownership, and sweeping desert dust from the streets.<sup>2</sup> The project of remaking Egypt involved not only political and social changes, but extensive management of the environment. Creating an Egyptian economic system that would benefit the colonial power depended on expanding agricultural output, and the engineering of the Nile was vital to this. Consequently, the waters of the Nile upon which Egypt depended needed to be made as regular as the railway, and as reliable as clockwork. The modern British Empire could not tolerate dependence on a fickle annual flood, and to move with the times, the Nile had to be dammed.<sup>3</sup> The central part of a new system of hydrological management came with the construction of the first Aswan Dam, designed to store floodwaters to feed the cotton fields of northern Egypt, between 1899 and 1902. Downriver, the waters it stored were channeled to agricultural land by barrages, but the Aswan Dam was the grandest part of this plan. It was the straight line that would discipline the waterscape of the Nile valley.

This article uses two series of photographs to seek to understand how the dam project was imagined within imperial ideology. Commemorative albums produced in 1902 and 1912 give accounts of the original building and later extension of the first Aswan Dam. The human and environmental changes created by large water management infrastructure have been an important topic in the emerging literature on water history, one that has already reached to the Nile River.<sup>4</sup> Contemporary images of the Aswan Dam, however, remain an untapped resource, one that allows historians to see the world the engineers envisioned as much as the one they made. Indeed, by examining representations of this project, we can reach a better

understanding of the place of hydrological engineering architecture in the imperial imagination.

The construction of the dam took place in the early years of British rule in Sudan, the first time the Nile Valley had been under one power since the 1880s. In that decade, a weakened Egyptian state had been driven out of Sudan by forces led by the Islamic religious figure known as the Mahdi. Britain seized power in Egypt in 1882 in order to secure both the rights of European creditors and a key link to the British Empire in South Asia, but it proved unwilling to commit forces to the defense of the vast territories of the Sudan. The government sent General Charles Gordon to manage the evacuation of Egyptian officials, but he instead attempted to hold Khartoum and died in the doomed defense of the city, an episode that came to be remembered as an example of imperial stoicism in the face of appalling odds.<sup>5</sup>

The reconquest of Sudan between 1896-98 was driven by the need to secure the waters of the Nile to better manage the Egyptian economy and entrench British domination of the region.<sup>6</sup> At this time, the view that the Nile Valley was essentially one geopolitical space was shared by British imperialists and Egyptian nationalists.<sup>7</sup> The reconquest was led by Britain but largely relied upon Egyptian forces, and this distribution of labor later served as the model for the “Condominium Agreement” on the governance of Sudan: British officials would fill all higher positions and rule in consultation with the British consul general in Cairo and the Foreign Office in London; Egypt would supply any necessary funds (although Sudan was expected to become self-funding rapidly) and fill less prestigious positions. Both British and Egyptian flags would be flown. In theory, all was being governed on behalf of the Egyptian Khedive, but in practice the whole of the Nile Valley came under direct British rule.

The early twentieth century, then, saw the emergence of a peculiar kind of imperialism in north-eastern Africa, in which most executive power was vested in the consul general in Cairo and the governor general in Khartoum, while the interests of the Egyptian

economy were ostensibly paramount. Projects such as the building of the first Aswan Dam were understood as part of a general effort to modernize the region. Modernization, in effect, meant equipping its economy to play a specific role within the global mechanisms embedded in the British Empire.<sup>8</sup> But it also entailed a scientific satisfaction and national pride that attended controlling the world's longest river.<sup>9</sup> Understanding how British officials imagined the dam thus speaks to a wider network of imperialist aims and assumptions, bound up with the purposes of the Empire in the Nile valley.

The completion of the dam in 1902 was marked by the publication of a celebratory photograph album that was circulated to leading officials and dignitaries in the region, including the Khedive in Cairo. A second album was produced to mark the extension of the dam between 1907 and 1912. Both included photographs by D. S. George, a local commercial photographer. The ways in which the dam was imagined and presented give us a means of analyzing the relationship between imperial ideology and these kinds of large-scale water-management projects. The photographs were created to give a particular impression of work on the dam, as well as to record an important project for contemporaries and future generations. George had to carefully plan and set up each shot. But like every other artist, George was never in full control of his work. His photographs prove as valuable for the light they shed on what they communicate in spite of the intentions of their creator.<sup>10</sup> What place did the dam hold in the imperial imaginary? What was important about its building and extension? The albums offer insights into to these questions that might be missed in other sources. Although they are superficially similar, the albums differ in important ways that reflect the degree to which flaws in the project brought to the surface imperial anxieties that make the second album a less effective, more conflicted and fragmentary account of imperial triumph than the first. The albums thus demonstrate, with pictures rather than words, the

difficulty of maintaining confidence in Britain's imperial mission, while struggling to control the natural environment of Egypt.

Imperial anxiety is used here to mean an awareness of the fragility of the imperial mission, emerging from the constant running up against practical limits of (and local resistance to) dominant western discourses and methods. This builds on the work of Ranajit Guha and John MacKenzie, who have underscored some of the anxieties generated by the empires of colonizing cultures. The connection between this kind of anxiety and specific issues of environmental degradation has been highlighted more recently by James Beattie.<sup>11</sup> But a close reading of the imagery of the first Aswan Dam enables a deeper understanding of how the ambitions of empire also created its anxieties. Indeed, anxiety and confidence can perhaps be read here as mutually constructive: the grand plan generates fear of its inevitable failure; the difficulties on the ground drive the desire for more ambitious planning.

In short, the images unveil a fragile ideology. However appealing the aim of complete domination might have been, it proved to be so far from anything that was possible that doubts understandably plagued it from the start. The changing themes of the photographs in each of the albums capture an attempt to wrestle with these tensions. The triumphalist images of the first cannot be matched by the second, because true success would not have involved extension and repair of the dam. The shifting themes of the albums demonstrate, it will be argued, a searching for meaning amidst thwarted ambitions.

### **Existing literature**

The damming of the Nile was long in the planning and involved complex debates about archaeological preservation as well as hydrology. Although Aswan was an excellent candidate for the location of the dam, construction threatened the Island of Philae on which stood a renowned Temple of Isis and other Greco-Ptolemaic monuments. The debates

surrounding this concerned whether engineering logic should dictate the placing of the dam, or Britain had an overriding obligation to preserve the heritage of Greek civilization. A compromise between the two positions was reached whereby the dam would be lower than originally planned so that its reservoir would not flood the main temples.<sup>12</sup> There was not necessarily consensus on what mastering the Nile might entail.

Much of the historiography on the dam has approached it as a piece of engineering. Norman Smith's exhaustive *A History of Dams* described the Aswan Dam as "one of the finest dam-building achievements of all time," although his work shows little or no concern with dams as expressions of imperial and/or state power. Nonetheless, this older work is more alert than some recent histories to an important detail: that part of the function of the dam was to feed a steady flow to the Asyut barrage, an irrigation dam some 350 miles downstream. That these distant constructions were conceived of as part of one system is borne out by the inclusion of Asyut photographs in the Aswan albums.<sup>13</sup>

By tying this engineering structure to histories of cartography and agriculture to explore the role of historical imagination in producing Egypt's agricultural geography, Jennifer Derr has pointed the way toward the kind of analysis offered here.<sup>14</sup> However, a close analysis of a specific set of images facilitated an even more precise analysis of how representations of the dam might speak to broader questions about the place of environmental management in imperial conceptions of Egypt. In addition to revealing the importance of particular projects, images such as these can help us find the fractures and insecurities beneath the surface of bombastic modernity.

This article connects these works to the much wider literature on the relationship between imperialism, technology and the environment. The importance of rivers to empires has been emphasized in different ways by David Gilman and Terje Tvedt, the former more concerned with imperialism as a system of management, the latter with the geopolitical

importance of water control. Environmental history raises the question of how to read relationships between material and cultural histories. Perhaps the most stimulating approach to this to come out of recent historical work is the idea of the eco-cultural network proposed by James Beattie, Edward Melillo, and Emily O’Gorman in 2014. This view takes seriously both human and non-human agents in the construction of particular historical realities, a call for a networked reading of environmental history that resonates with the work of Bruno Latour in sociology, Donna Haraway in feminist theory, Doreen Massey in geography, and Dipesh Chakrabarty in postcolonial theory. These scholars share a distrust of exploitative readings of human relationships with nature that read the latter as simply a passive victim, instead insisting that a river, or a landscape, or a chemical reaction can act in the sense of shaping events and realities. Further, they insist that human actions and culture are thoroughly embedded within these processes, rather than existing in separate sphere.<sup>15</sup> What this way of thinking provides is a more flexible way to understand how people relate to technologies and objects, acknowledging the power of each without seeking to replace human agency with fully determinist materialism. The earth and water of the Nile valley are as vital a part in this history as are the engineers, laborers and political leaders. Examining imagery allows us to build on those insights by offering a valuable lens through which to view the complex web of material and cultural associations that were at play in the construction and representation of an iconic symbol of empire.

### **The Albums’ Text and Format**

The photograph albums under discussion here contain written introductions as well as images. Insofar as these texts point to the official narratives which the photographs illustrate, they merit attention. William Garstin, Under Secretary of State for Public Works in Egypt, wrote the introduction to the 1902 album, which begins with an overview of the general

situation before proceeding to a specific account of the dam, the Asyut Barrage, and the Philae Temples.<sup>16</sup> This sequence is not quite the same as the photographs, which instead are ordered: dam, temples, barrage – although the dam is the central focus in both. The shorter introduction to the 1912 album opens with grand claims about the success of the dam, the additional water it has provided, and the steadily increasing demand for more.<sup>17</sup> It describes the preservation of the Philae Temples as the “one unfortunate objection” to the dam’s extension, and goes on to detail the reasons this issue had not stopped the scheme, namely that the stones and underpinning of the Temples could withstand some submersion, and therefore that completely drowning them did not actually threaten their preservation. The rest of the text involves detailed descriptions of engineering challenges such as masonry cracking. The imagination of the dam project here matches the way it is presented in the photographs of this album: it is largely a practical matter, building on early successes to ensure Egypt’s supply of water. There is no mention of the fact that engineers had always wanted a larger dam, or of any possible link between the unusually low summer water flow that had been experienced since the dam was erected and the dam itself. Good news was connected to the dam, bad news an unfortunate coincidence.

The large landscape photographs that follow these written introductions are printed on heavy card. In the first volume especially, many of the images are carefully paired so that the two facing pages form a diptych on a shared theme. D. S. George’s other extant works consist largely of romantic views of the Nile or the pyramids, clearly designed to appeal to tourists. It may be that he also suggested the ordering of the images in the albums, but sources are silent on the matter. Regardless, some of the ways in which the photographs relate to one another suggest a careful composition and selection. These albums speak to a particular discourse, in which control of the waters of the Nile was central to the creation of a modern Egypt.<sup>18</sup> To be sure, this was not simply a European obsession, having roots in the



modernizing rule of Muhammed Ali in early nineteenth-century Cairo as well. Thus, water control could speak to an official Anglo-Egyptian set of concerns, a preoccupation with the creation of truly perennial irrigation in Egypt through what Sidney Peel called *The Binding of the Nile*.<sup>19</sup> The visual representation of the (supposed) realization of this project speaks to its key assumptions and its particular place within imperial discourses. Indeed, a thematic analysis of the photographs that follow highlights the particular model of imperial modernity expressed within these images, and the fractures within this worldview.

## Nature

The opening photograph of the 1902 album seems at first glance to be a vision of nature at a vast scale, dwarfing humanity (**Figure 1, top**). A sailing boat occupies the right foreground, set against an expanse of restless river. The currents surge and eddy, and it is hard to read in which direction the water is bound. Bits of rocky ground interrupt the Nile's flow. The tiny figures huddled in the boat do not give the impression of being ready to master these waters. It seems, rather, as if the river is their master.

The background of the photograph, however, complicates this image of natural power. For along the river banks we can see signs of what is to come: buildings and machines lurk along the shoreline, housing the workers setting out to tame the river. The narrative of the first album is of these unruly waters being subdued by man and machine. The natural world is shown first in this raw state, before we witness it torn, channeled, and shackled. The majority of the photographs are concerned with technology, work, and the interaction between the two, but this is framed through representations of nature. The opening image is answered by photographs of the final dam, appearing as a new feature of the landscape.

George's view of the completed dam from upstream, which appears later in the album, appears to deliberately echo the composition of the album's first photograph (**Figure**

**1, bottom**). Again, there is a boat in the right foreground, this time accompanied by another just disappearing out of shot. These boats, however, sit upon waters that have been subdued by the dam that now looms over the scene. What was surging, undirected, uncontrolled is now calm, humbled, and altogether tame. The distinction between land and water is clearer, and the river seems reduced both in energy and scale. Whereas in the opening image even the direction of the water was unclear, here there is no such ambiguity. The most powerful feature of the scene is the firm, immovable dam, not the river.<sup>20</sup> The 1902 album is essentially a narrative from the untamed river to the mighty dam. It shows the Nile being transformed with confidence.

The second album contains no such views of the dam triumphant over the river. Here the dam emerges as a far more complex structure, embedded within a larger environment and ongoing work. We see the dam from a distance, a part of a landscape rather than a dominant force within it (**Figure 2, top**). Wooden walkways up against its walls show that extension work is still underway, the complete dam still in the process of being assembled. Another image shows a close-up of water emerging from the sluices, the first indication of the power that the dam can hold and channel (**Figure 2, bottom**). The dam may have tamed the river, but rather than being portrayed as powerless, the Nile is shown possessed of a new energy. Only water and dam can be seen, while the human minds directing this remain backstage. Here we see the forces of nature intensified by human technology rather than subdued by it. Richard White's phrase *The Organic Machine* echoes in the roar of the Nile bursting through the sluices.<sup>21</sup> Because the 1912 album lacks the clear narrative direction of the earlier work, it includes rather more in the way of contradictory imagery. It offers us complexity over narrative drive.

## **Technology**

The machines that lurk in the background of the opening image of the first become prominent figures in the photographs that follow, towering over people and landscape. The steam-powered crane dominates the photograph captioned “Excavation in progress at Babel-Kibir” (**Figure 3, top**). Four of them, dark arms pointing to the sky, look down into the deep crevasse that has been torn in the stony earth. Here it is geology that technology is confronting. Although there are numerous human workers in this photograph, they are dwarfed by their own machines and constructions. On the left-hand side of the photograph a new wall casts its shadow over the workers below, while on the right hard rock forms the other side of the ravine. Between these two lies a broken expanse of shattered rocks, and below these further excavations reveal the stratigraphy beneath. In the layering of geological time the new is always on top of the old, the ancient is always deep.<sup>22</sup> In George’s photograph a new world is being created by towering cranes and scurrying workers. Between this and the old, solid rock at the base of the photograph is a layer of destruction wrought in the creation of the new.

The above could, perhaps, be said of any engineering process presented in this way, regardless of the location. Indeed, much of the poetics of George’s imagery seems rooted in broad ideas that might be applied anywhere. This particular aspect of time, however, is especially resonant in Egypt. The western European idea of Egypt that had been growing since Napoleon’s expedition in 1798 was fundamentally a vision of the past, a way of understanding the country as a place stuck in some previous age. It was this Egyptian mirage that was displayed in the great exhibitions; it was the past that drew Edwardian tourists to the Nile; it was the medieval that nineteenth and twentieth century planners evoked in their policies in Egyptian cities.<sup>23</sup> Here was a land of mysterious ancient languages and dazzling riches hidden for millennia, only now rediscovered by the keen-eyed western archaeologist. Thus, the imagery of a past being dug out, broken and reshaped as the foundations of the

future has a particular force bound up with popular understandings of Egyptian history. The land of the pyramids was being remade for the modern world by an empire determined to transform its character.<sup>24</sup>

Finding a solid bedrock on which to build the foundations was one of the great challenges faced in choosing a dam site and in the construction process itself. Willcocks' original design was for a curved dam, which would have allowed some adjustment to its form as the rock on which it was to be built was explored. By the time of construction, this feature had been scrapped, meaning that foundations had to be constructed at locations fixed before the condition of the bedrock was known. The earth under the planned site proved unexpectedly soft. The deep trenches that therefore had to be dug to be filled with vast masonry foundations took the project over budget.<sup>25</sup> The grandeur of the project as portrayed by George is, therefore, in part a result of the refusal of engineers to compromise: if the land was less robust than expected, it must be rebuilt until suitable to hold their dam. Engineering could correct nature's flaws.

The second album does not separate technology and work so clearly as the first. For example, **Figure 3 (bottom)** centers on a stone being swung into place. Here agency seems to be shared between human workers and their machinery, in a way generally obscured in the first album. The towering cranes and belching chimneys make the dam's construction possible, but it is nonetheless a scene of dense human action. The dam itself looms over the scene, dwarfing people, stones, and machines. In this view it appears already complete, with little connection to the figures scrabbling along its sides. The dam which is created by the process George shows us seems to exist more as a perfected part of the landscape than as something so straightforward as a machine.

## Work

The meeting point of nature and technology, the means through which humanity manipulates both, lies in work. As Richard White has pointed out, work as a system of knowledge, as the predominant way of interacting with the environment, has been peripheral to scholarship concerned with discourse.<sup>26</sup> George's photographs are deeply concerned with work, and tend to present it in one of two distinct ways: in the 1902 album, workers are generally shown as a mass, from a greater distance, individuals subsumed within the group; by contrast, the 1912 album gives us a number of close views of workers in action, where we seem almost close enough to be one of them. In the earlier album, work is presented as one part of the transformation of the Nile by imperial engineering; in the later there is more interest with work itself and with workers as individuals.

Perhaps the most striking of the photographs of work in the 1902 album is that which faces Figure 3 (top). George takes us to the very depths of the earth. We lose sight of the sky, and only a long wooden ladder connects us back to the surface above (**Figure 4, top**). Sunlight streams down from the unseen sky onto the right-hand side of the image, picking out an overseer in western dress. He seems a heroic figure in a pristine suit amid the squalor of bustling workers and ancient dirt. Only the white European is granted this status: the far more numerous African workers are important in the photographs only in their collective action, not as individuals. This would have precisely confirmed the assumptions of the officials looking at these photograph albums, as even those who were themselves Egyptian were elite figures who viewed themselves as superior to mere laborers, and indeed as a race naturally given to ruling other Africans, including the Nubians of southern Egypt who did much of the work on the dam. The image of the white European as harbinger of modernity thus speaks to a peculiarly Anglo-Egyptian layering of racial categories, and should be seen as more than a

simple assertion of white pride.<sup>27</sup> To be sure, it is an image we should treat warily: the engineer should not be imagined as a purely British or European figure, having often been born in Empire (as was William Willcocks) or (especially as the twentieth century wore on) recruited from among colonized peoples.<sup>28</sup> Even so, the role of the human workers deep in this trench has a particular place in George's imagery of the dam construction. If the layers of the photograph opposite can be taken as representing time, here we are seeing workers wrestling with the deep past. They have had to leave their futuristic machines above to confront these lower layers. They can master the earth through work, but it is a dirty business.

At other times George portrays workers covering the surface of the landscape, as in his depiction of the building of foundations at Asyut (not shown). A scene of broken land, puddles of water, and early sections of wall is crisscrossed by workers, most of whom seem to be bearing some load hither or thither. Again, the human work on the dam seems dirty, physical, intense in a way that the direct acting of technology on nature does not. Another familiar feature from photographs we have already discussed is that work is, here, viewed as a collective action: individuals can be picked out doing specific things, but really the power of this depiction of work is in the impression of a large group of people engaged together in the slow, painstaking process of remaking the earth. Philip Scarpino might refer to this process as terraforming, appropriating the terminology of science fiction to describe the historical shaping of the environment.<sup>29</sup> The move is suggestive, for the project of imperial modernity portrayed by George in the 1902 album is thoroughly concerned with the future.

What of the more intimate visions of work in the second album? Consider **Figure 4 (bottom)**, in which we stand close to the workers on one of the wooden walkways from which they work on the dam. A viewer might imagine themselves as a worker, or, perhaps more likely given the elite audience for George's photographs, an engineer overseeing the work. Rather than framing the action as part of a grand process of subduing the environment,

George here shows us a close view of what the work itself might involve. Workers carry blocks of masonry, others mix and carry large trays of cement, and one worker – perhaps some kind of inspector – perches alone on a small wooden platform fixed to the dam. The vast wall of the dam on which they – we? – are all at work stretches across most of the photograph, almost absurdly out of proportion with the small, individual acts which are gradually reshaping and extending it.

### **Conservation**

If the first album is future-oriented and the second more concerned with close depiction of work, what of the preservation agenda which Anderson describes as victorious in the debates around the design of the dam? Where is Philae in the official imagination of the dam? Only two photographs are concerned with it. They appear in the first album, facing each other. One is a general view of the island rising from the reservoir. Facing it is a photograph in portrait orientation showing the “underpinning at the Eastern Colonnade.” This odd pairing of the specific with the general seems to support the view that conservation was of little importance to the project. But more might be said.

George shows us the Island of Philae from a significant distance, including not only the reservoir around it but also a great stretch of the banks (**Figure 5, left**). Indeed, the lower half of the photograph is mostly taken up with new buildings next to the reservoir. The famous temple on the island seems very far off by comparison. The new buildings are largely simple warehouses and storage facilities, which have not been the focus of any other images, and yet here they are in the foreground. We might read this as another image about time. The island rising in the reservoir with its temple of classical columns is the past: here kept serene and secure amid the turbulent creation of the future. The new buildings and surrounding landscape are where that future is being created. It has not yet been achieved, and we are not

invited to compare the buildings of past and future. Rather, we are shown that even in creating the future, a safe space has been secured for the past: the landscape around the reservoir may change, but the island will be isolated from this process. There is a heavy irony in this: the reason that the second album contains no photographs of Philae is that the extension of the dam drowned the island for around half the year, rendering it invisible from December until the waters began to recede for the summer. The brief promise of a secure preservation site was rapidly abandoned to the needs of modernization.

The second Philae photograph presents a complete contrast (Figure 5, right). It shows a trench opened between the colonnade and the temple wall, with wooden struts across it and a ladder leading down into the darkness. From the caption we know that what we are being shown is part of the process of underpinning the structure. It is hard to trace a clear relationship between this image and anything else in the album: elsewhere, when George has wanted to show us engineering processes he has usually shown them underway, and with a clear view so that we can begin to understand the relationship between part and whole. No such attempt is made here. Both the wall and columns show clear marks of damage, and it is hard to tell from here what might be considered special or beautiful about this building. The temple that is too small for full appreciation in the opposite image is here too close for us to get a view of it at all. Perhaps what is important about this photograph is the choice to portray an engineering challenge rather than a celebrated building. Whereas the dam and barrage both receive treatments that celebrate their form, no such recognition is granted to the temple. It is viewed either as a small part of the whole project as in the first image, or brought forward strictly as a decaying physical structure as in the second. While the archaeologist or art historian may find beauty in the temple, the engineer will seek it in the dam or the barrage. Perhaps the reason that the ancient has only a small place in the future landscape is that it is



already flawed and decaying, destined to be submerged by progress. The victory of paternalist preservation at Philae was doomed to be pyrrhic.

### **Mastering the Nile?**

In the 1902 album, imperial domination of the Nile is shown through a detailed narrative that portrays technology and work subduing the river, and the dam gradually rising to dominate the landscape. The 1912 album also portrays work, but in a more intimate way that seems more directly concerned with the processes being carried out. This second album also introduces a kind of photograph absent from the first: the celebration ceremony. While in the first album the completion of the dam could stand as an image of success in itself, in the second the celebrations surrounding the expansion are considered of interest in themselves. The album both opens and closes with crowd scenes, one of the relaying of the foundation stone, the other of the dam's official opening. The last image is untitled, but this seems to be the subject. In the 1902 album, the photographs of construction guided us from an untamed to a subdued river; in the 1912 album it is not immediately clear what the narrative thrust is. What has changed from one crowd scene to the next, and how has the extension of the dam taken us there?

In the opening photograph of the second album, we see a mixed crowd of Europeans and North Africans standing amidst the legs of a wooden structure that we can assume is part of the works already underway (**Figure 6, top**). They are close up against the wall of the dam. In the bottom left, one figure stands on a chair to get a better view over the heads of fellow onlookers. The event is described in the caption as "H.R.H. The Duke of Connaught relaying the original foundation stone in its new position." Rather than being interested in the extension as a change to the landscape, as a new construction, George portrays it as an event,

a moment in human life. This sets the tone for the album, which is also more interested in human work for its own sake than the first collection.

The closing photograph shows a more formal ceremony, with flags flying overhead (**Figure 6, bottom**). The dam, the star of the first album, appears only in the background. Facing this is a photograph of the staff quarters, with the dam in the distance. This scene is peculiarly devoid of people, seemingly only interested in the pale bungalows in which the dam has been planned and debated for years. There is nothing especially remarkable in the buildings themselves, which conform to the widespread single-story style described by Anthony King.<sup>30</sup> There are no images that quite reproduce those in the 1902 album in which we see dam or barrage isolated in the water. Again, it is a human event that is depicted, which might concern the dam but which is not expressed through an image of the dam. The narrative of the first album was contained in the images of nature and the growing dam, with humans only a part of the process of engineering the landscape. But in the second album these human processes are brought forward to become the subject of the album. Thus, the move from one kind of celebration to another is important because of its place in human processes, whereas the narrative from one kind of water flow to another in the first album is a transformation in the landscape itself. The 1912 album gives us no reason for imperialism, no grand purpose to the actions described, no heroic narrative of modernity. Instead, George becomes the chronicler of a specific engineering challenge.

## **Conclusions**

It should come as no surprise that British power in the Nile Valley included a remaking of environmental space. What George's images reveal is how this remaking was imagined: the ways in which nature, technology, work, and conservation could variously be invoked within official imaginaries. Control over the environment meant control over its

representation as well as the flows of water, and so these images are themselves part of the process of controlling the Nile. The contrast between the first album and the second is revealing insofar as the first presents a progressive narrative marching from chaos towards order that is replaced in the second by a focus on specific details rather than an implicit narrative. Little place is found for the past in either album, and even in the first it seems unclear how the region's past really fits into the future being built at Aswan.

Taken together, the albums occasion at least three observations. First, and perhaps most obviously, the vision of the future projected in these images is thoroughly technological. To aspire to mastery of the environment is to imagine a world where human action has somehow become invisible, where technological edifices become a part of a remade landscape in which direct human intervention has become unnecessary, or at least hidden as much as possible. In other words, this view is purely extractive: the kind of place created is not one for habitation but for production; nature is something out there, which once controlled through technology can then be left to produce the water demanded by the human population.<sup>31</sup> It is not an environment in which to live. Second, and paradoxically, the creation of this cleansed utopia requires intense human action. Moreover, this action takes place within a complex web of technological and environmental agents. The role of large-scale engineering seems to expend vast human effort attempting to end the need to expend such effort. Third, this rigid, future-oriented ideology is fragile: the second album, without the clear narrative of the first, has little to add except more detailed descriptions, and some more human interest. The contradictions found in the first album become fractures in the second: it is no longer clear where we are heading or what the justification for this direction is. It is hard (unsurprisingly) to find anxiety directly represented in these albums, but this lack of direction, this emerging doubt, this bafflement at utopia delayed, does provide us with a way of imagining imperial anxiety more broadly. We can think of it as not only a fear of

defeat, but a fear that your goals will be found hollow and without foundation. A fear that reality will eclipse utopia.

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*Figure 1 Top: "Aswan Dam: Western Channel at commencement of work." HIL 455/5. Bottom: "Aswan Dam From Up Stream." HIL 455/18.*

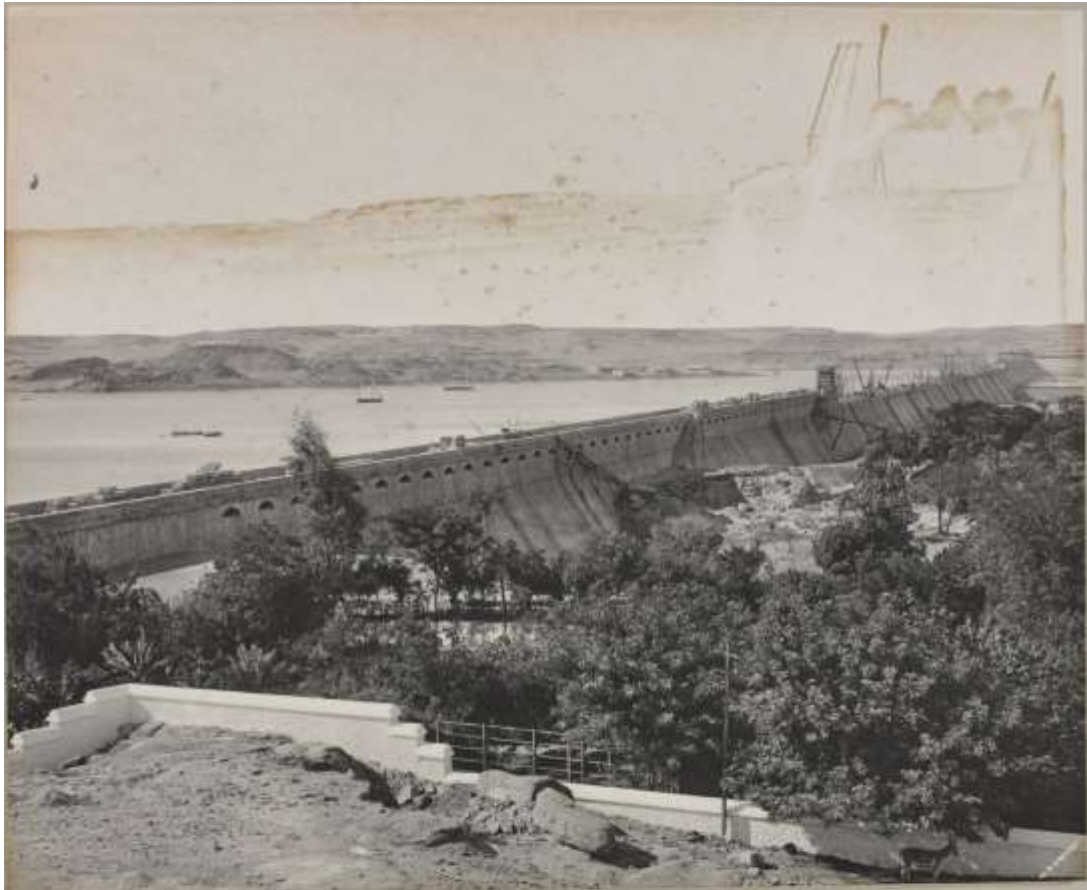


Figure 2 Top: "Downstream view showing spillways." HIL 454/18. Bottom: "Open sluices aet 18." HIL 454/8.



*Figure 3 Top: "Aswan Dam: Excavation in progress at Bab-el-Kibir." HIL 455/8. Bottom: "Extending sluices in thickened portion of the dam." HIL 454/14.*



Figure 4 Top: "Aswan Dam: Commencing masonry in deepest part of foundations at Bab-el-Kibir." HIL 455/9. Bottom: "Thickening at solid dam." HIL 454/9.





*Figure 5 Left: "Island of Philae: general view." HIL 455/26. Right: "Island of Philae: View of underpinning at the Eastern Colonnade." HIL 455/27.*



Figure 6 Top: "H.R.H. the Duke of Connaught relaying the original stone in its new position." HIL 454/6. Bottom: Untitled. HIL 454/25.

**Samuel Grinsell** is a PhD Candidate at the University of Edinburgh, where he studies the built environment of the Nile Valley under the British Empire. His research interests lie in the human relationship with water and how this is managed through architecture, engineering and urban planning. In 2020 he will begin a new research project (funded by the Leverhulme Trust) at the University of Antwerp studying the nineteenth century port architecture of Antwerp, London and Rotterdam.

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### Notes

<sup>1</sup> On the centrality of straight lines in colonial ideologies see Tim Ingold, *Lines: A Brief History* (Abingdon: Routledge, 2007).

<sup>2</sup> P. J. Cain, “Character and Imperialism: The British Financial Administration of Egypt, 1878–1914,” *The Journal of Imperial and Commonwealth History* 34 (June 2006): 177–200,

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<https://doi.org/10.1080/03086530600633405>; On Barak, “Egyptian Times: Temporality, Personhood, and the Technopolitical Making of Modern Egypt, 1830-1930” (New York University, 2009),

<http://search.proquest.com/openview/c0984cadb95b218d8d27871157937ddd/1?pq-origsite=gscholar&cbl=18750&diss=y>; Timothy Mitchell, *Rule of Experts: Egypt, Techno-Politics, Modernity* (Berkeley and Los Angeles: University of California Press, 2002); On Barak, “Scraping the Surface: The Techno-Politics of Modern Streets in Turn-of-Twentieth-Century Alexandria,” *Mediterranean Historical Review* 24 (2009): 187–205.

<sup>3</sup> On the centrality of hydrology to the British in Egypt see Terje Tvedt, *The River Nile in the Age of the British: Political Ecology and the Quest for Economic Power* (London/New York: I. B. Tauris, 2004); and “Hydrology and Empire: The Nile, Water Imperialism and the Partition of Africa,” *The Journal of Imperial and Commonwealth History* 39 (June 2011): 173–94, <https://doi.org/10.1080/03086534.2011.568759>; for a contemporary account of hydrological imperialism in the Nile valley see Sidney Cornwallis Peel, *The Binding of the Nile and the New Soudan* (London: E. Arnold, 1904).

<sup>4</sup> James Beattie and Ruth Morgan, “Engineering Edens on This ‘Rivered Earth’? A Review Article on Water Management and Hydro-Resilience in the British Empire, 1860-1940s,” *Environment and History* 23 (February 1, 2017): 39–63, <https://doi.org/10.3197/096734017X14809635325593>; further examples of work in water history include: Charisma Acey, “Forbidden Waters: Colonial Intervention and the Evolution of Water Supply in Benin City, Nigeria,” *Water History* 4 (December 2012): 215–29, <https://doi.org/10.1007/s12685-012-0061-z>; Kate B. Showers, *Imperial Gullies: Soil Erosion and Conservation in Lesotho*, Series in Ecology and History (Athens, Ohio: Ohio University

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Press, 2005); Harry Verhoeven, *Water, Civilisation and Power in Sudan: The Political Economy of Military-Islamist State Building*, African Studies (New York: Cambridge University Press, 2015); Richard White, *The Organic Machine: The Remaking of the Columbia River* (New York: Hill and Wang, 1995); David Gilmartin, “Imperial Rivers: Irrigation and British Visions of Empire,” in *Decentring Empire: Britain, India and the Transcolonial World*, ed. Durba Ghosh and Dane Keith Kennedy, *New Perspectives in South Asian History* 15 (Hyderabad: Orient Longman, 2006); Jason M. Kelly et al., eds., *Rivers of the Anthropocene* (Oakland, California: University of California Press, 2018), <https://www.luminosoa.org/site/books/10.1525/luminos.43/>; Maria Kaika, “Dams as Symbols of Modernization: The Urbanization of Nature Between Geographical Imagination and Materiality,” *Annals of the Association of American Geographers* 96 (June 1, 2006): 276–301, <https://doi.org/10.1111/j.1467-8306.2006.00478.x>; Aditya Ramesh, “Custom as Natural: Land, Water and Law in Colonial Madras,” *Studies in History*, November 13, 2017, 257643017736402, <https://doi.org/10.1177/0257643017736402>; on the environmental effects of the later Aswan High Dam see Gilbert F. White, “The Environmental Effects of the High Dam at Aswan,” *Environment: Science and Policy for Stable Development* 30 (September 1988): 4; On the Aswan Dam itself, Timothy Mitchell has shown that the destruction of Nubian villages to make way for the dam, and the subsequent building of the new town of Gharb Aswan, had later ramifications in the search for an Egyptian national architecture, *Rule of Experts*, 184–96.

<sup>5</sup> The persistence of this myth deep into the twentieth century has recently been explored in Max Jones, “‘National Hero and Very Queer Fish’: Empire, Sexuality and the British Remembrance of General Gordon, 1918–72,” *Twentieth Century British History* 26 (June 1,

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2015): 175–202, <https://doi.org/10.1093/tcbh/hwu050>; to understand the events leading to the defeat at Khartoum see Fergus Nicoll, *Gladstone, Gordon and the Sudan Wars: The Battle over Imperial Intervention in the Victorian Age* (Barnsley: Pen & Sword Military, 2013).

<sup>6</sup> Martin W. Daly, *Empire on the Nile: The Anglo-Egyptian Sudan, 1898-1934* (Cambridge: Cambridge University Press, 1986); Tvedt, *The River Nile in the Age of the British*.

<sup>7</sup> Eve Troutt Powell, *A Different Shade of Colonialism: Egypt, Great Britain and the Mastery of Sudan* (Berkeley and Los Angeles: University of California Press, 2003).

<sup>8</sup> Mitchell, *Rule of Experts*.

<sup>9</sup> There were numerous contemporary studies of the waters of the Nile and how they ought to be controlled, e.g. A. S. W., “Hydrography of the Nile,” ed. William Garstin, *The Geographical Journal* 25 (1905): 75–77, <https://doi.org/10.2307/1775985>; J. C. Ardagh, “Nilometers,” *Proceedings of the Royal Geographical Society and Monthly Record of Geography* 11 (1889): 28–38, <https://doi.org/10.2307/1800840>; Peel, *The Binding of the Nile and the New Soudan*; and this persisted even as the separation of the Nile valley into the nations of Egypt and Sudan began to gain currency -- see J. J. Craig, “The Water Supply of Egypt and Sudan,” *The Contemporary Review* 127 (January 1925): 163–70.

<sup>10</sup> For examples of using photographs to uncover the environmental imagination see Joel Snyder, “Territorial Photography,” in *Landscape and Power*, ed. W. J. T. Mitchell, Second edition (Chicago/London: University of Chicago Press, 2002), 176–203; and Neil Maher, “Shooting the Moon: How NASA Earth Photographs Changed the World,” *Environmental History* 9 (July 2004): 526–31; the photograph’s peculiar status regarding authorship and object was often explored by Roland Barthes, for example in “The Photographic Message,” in *Image-Music-Text*, trans. Stephen Heath (London: Fontana Press, 1977), 15–31; and

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*Camera Lucida: Reflections on Photography*, trans. Richard Howard, Vintage Classics (London: Vintage books, 2000).

<sup>11</sup> Ranajit Guha, “Not at Home in Empire,” *Critical Inquiry* 23 (1997): 482–493; John M. MacKenzie, *Empires of Nature and the Nature of Empires: Imperialism, Scotland and the Environment* (East Lothian: Tuckwell Press, 1997); James Beattie, *Empire and Environmental Anxiety: Health, Science, Art and Conservation in South Asia and Australia, 1800-1920*, Cambridge Imperial and Post-Colonial Studies (Basingstoke: Palgrave Macmillan, 2011).

<sup>12</sup> Casper Andersen, “The Philae Controversy—Muscular Modernization and Paternalistic Preservation in Aswan and London,” *History and Anthropology* 22 (June 2011): 203–20, <https://doi.org/10.1080/02757206.2011.558580>; David Gange, “Unholy Water: Archaeology, the Bible, and the First Aswan Dam,” in *From Plunder to Preservation: Britain and the Heritage of Empire, C. 1800-1940*, ed. Astrid Swenson and Peter Mandler, Proceedings of the British Academy 187 (Oxford; New York: Oxford University Press, 2013), 93–114.

<sup>13</sup> Norman Smith, *A History of Dams* (Secaucus, New Jersey: Citadel Press, 1972); on the history of the dam's building see Claire Jean Cookson-Hills, “The Aswan Dam and Egyptian Water Control Policy, 1882 - 1902,” *Radical History Review* 2013 (April 1, 2013): 59–85, <https://doi.org/10.1215/01636545-1965693>; her thesis is a broader history of engineering in the Nile valley in this period “Engineering the Nile: Irrigation and the British Empire in Egypt, 1882-1914” (PhD, Queen’s University (Canada), 2013), <http://search.proquest.com/openview/64d62c3788944b16e4adf0b2c5029c51/1?pq-origsite=gscholar&cbl=18750&diss=y>; on imperial engineering and the place of the dam's designer William Willcocks within it see John Broich, “Was It Really the ‘White Man’s

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Burden’?: The Non-British Engineers Who Engineered the British Empire,” *Britain and the World* 9 (September 2016): 197–212, <https://doi.org/10.3366/brw.2016.0237>; John Broich, “Engineering the Empire: British Water Supply Systems and Colonial Societies, 1850–1900,” *The Journal of British Studies* 46 (April 2007): 346–65, <https://doi.org/10.1086/510891>; and Canay Ozden, “The Pontifex Minimus: William Willcocks and Engineering British Colonialism,” *Annals of Science* 71 (April 3, 2014): 183–205, <https://doi.org/10.1080/00033790.2013.808378>; for more on careers across the British Empire see David Lambert and Alan Lester, eds., *Colonial Lives across the British Empire: Imperial Careering in the Long Nineteenth Century* (Cambridge: Cambridge University Press, 2006).

<sup>14</sup> Jennifer L. Derr, “Drafting a Map of Colonial Egypt: The 1902 Aswan Dam, Historical Imagination and the Production of Agricultural Geography,” in *Environmental Imaginaries of the Middle East and North Africa*, ed. Diana K. Davis and Edmund Burke III, Ecology and History (Athens, Ohio: Ohio University Press, 2011), 136–57; on agricultural production more broadly see James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, Yale Agrarian Studies (New Haven and London: Yale University Press, 1998).

<sup>15</sup> Gilmartin, “Imperial Rivers: Irrigation and British Visions of Empire”; Tvedt, *The River Nile in the Age of the British*; Tvedt, “Hydrology and Empire”; James Beattie, Edward Melillo, and Emily O’Gorman, “Rethinking the British Empire through Eco-Cultural Networks: Materialist-Cultural Environmental History, Relational Connections and Agency,” *Environment and History* 20 (November 1, 2014): 561–75, <https://doi.org/10.3197/096734014X14091313617406>; see also their edited volume *Eco-*



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*Cultural Networks and the British Empire: New Views on Environmental History*

(London/New York: Bloomsbury Academic, 2015),

<https://www.dawsonera.com/abstract/9781441108678>; Bruno Latour, *Reassembling the*

*Social: An Introduction to Actor-Network-Theory*, Clarendon Lectures in Management

Studies (Oxford; New York: Oxford University Press, 2005); Donna Haraway, *Primate*

*Visions: Gender, Race, and Nature in the World of Modern Science* (New York and London:

Routledge, 1989); and *Simians, Cyborgs, and Women: The Reinvention of Nature* (London:

Free Association Books, 1991); Doreen B. Massey, *For Space* (London: Sage, 2005); and

*Space, Place and Gender* (Cambridge: Polity, 1994); Dipesh Chakrabarty, "The Climate of

History: Four Theses," *Critical Inquiry* 35 (2009): 197–222, <https://doi.org/10.1086/596640>;

while environmental historians have asserted the significance of non-human actors, they have

generally been more inclined to maintain a distinction between natural and cultural spheres.

See for example Donald Worster, "Transformation of the Earth: Toward an Agroecological

Perspective in History," *The Journal of American History* 76 (March, 1990): 1087-1106;

these traditions do share many concerns, however, and many individual historians draw on

both, for example Timothy J. LeCain, *The Matter of History: How Things Create the Past*,

Studies in Environment and History (Cambridge: Cambridge University Press, 2017); for

more on human relationships with technology and the environment see Thomas P. Hughes,

*Human-Built World: How to Think about Technology and Culture*, Science.culture

(Chicago/London: The University of Chicago Press, 2004); Paul R. Josephson, *Industrialized*

*Nature: Brute Force Technology and the Transformation of the Natural World*

(Washington/Covelo/London: Island Press, Shearwater Books, 2002).

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<sup>16</sup> “The Nile Reservoir Works at Aswan and Asyut” (Egypt Public Works Department, 1902), Abbas Hilmi Papers HIL 455, Durham University Special Collections. There are further copies of both albums in the Burndy collection at The Huntington Library in California, and in the British Library. I have worked from the copies at Durham, and it is from these copies that the images presented here are taken.

<sup>17</sup> “The Extension of the Aswan Dam 1907-1912” (Egypt Public Works Department, 1912), Abbas Hilmi Papers HIL 454, Durham University Special Collections. This source also mentions that the Egyptian government also earmarked £E60,000 for surveying and carrying out minor repairs on the site.

<sup>18</sup> I am using discourse in the sense of a set of related statements, ideas, and modes that provide a means of establishing truth value. I take it as read that it is through discourses that meaning is constructed. See Michel Foucault, *The Archaeology of Knowledge and The Discourse on Language* (New York: Pantheon Books, 1972).

<sup>19</sup> Peel, *The Binding of the Nile and the New Soudan*.

<sup>20</sup> Efforts to subdue a watery landscape to create a new built environment are also the subject of Debjani Bhattacharyya, *Empire and Ecology in the Bengal Delta: The Making of Calcutta* (Cambridge: Cambridge University Press, 2018).

<sup>21</sup> White, *The Organic Machine*.

<sup>22</sup> Links between architectural and geological representation have been drawn in this seminar paper Marrikka Trotter, “Floodmarks, Casts, and Fragments: Soane and Gandy’s Proleptic Extinction,” in *Architectural History and Theory Seminar Series* (Edinburgh School of Architecture and Landscape Architecture, University of Edinburgh, 2016); and also explored, again by Trotter, in “Ruskin’s Rocks,” *AA Files*, no. 73 (2016): 138–44.

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<sup>23</sup> Timothy Mitchell, *Colonising Egypt*, Cambridge Middle East Library (Cambridge: Cambridge University Press, 1988); Paula Sanders, “The Victorian Invention of Medieval Cairo: A Case Study of Medievalism and the Construction of the East,” *Middle East Studies Association Bulletin* 37 (2003): 179–198; and *Creating Medieval Cairo: Empire, Religion, and Architectural Preservation in Nineteenth-Century Egypt* (Cairo/New York: American University in Cairo Press, 2008).

<sup>24</sup> Cain, “Character and Imperialism.”

<sup>25</sup> Cookson-Hills, “The Aswan Dam and Egyptian Water Control Policy, 1882 - 1902,” 72.

<sup>26</sup> White, *The Organic Machine*, 3–29; we are perhaps more used to understanding imperial science in epistemological terms, e.g. Helen Tilley, *Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge, 1870-1950* (Chicago/London: University of Chicago Press, 2011); or other fields where knowledge and power intertwine, such as economics, e.g. Mitchell, *Rule of Experts*.

<sup>27</sup> For more on the racial coding of imperialism in Egypt see Troutt Powell, *A Different Shade of Colonialism*; workers at the dam were predominantly Nubian, which is to say from the south of Egypt and north of Sudan, see Cookson-Hills, “The Aswan Dam and Egyptian Water Control Policy, 1882 - 1902.”

<sup>28</sup> Ozden, “The Pontifex Minimus”; Broich, “Was It Really the ‘White Man’s Burden’?”

<sup>29</sup> Philip V. Scarpino, “Anthropocene World/Anthropocene Waters: A Historical Examination of Ideas and Agency,” in *Rivers of the Anthropocene*, ed. Jason M. Kelly et al. (Oakland, California: University of California Press, 2018), 101–15.

<sup>30</sup> Anthony D. King, *The Bungalow: The Production of a Global Culture* (London: Routledge & Kegan Paul, 1984).

<sup>31</sup> This is precisely the critique of modernist approaches to technology set out in Bruno Latour, “Love Your Monsters,” *Breakthrough Journal* 2 (2011): 21–28.