Title
Un-Mapping Water Labor: Quantitative Slippages in Occupied Cairo

Permalink
https://escholarship.org/uc/item/1dw3k27x

Journal
react/review: a responsive journal for art & architecture, 3(0)

Author
Schultz, Alex

Publication Date
2023

DOI
10.5070/R53061235

Copyright Information
Copyright 2023 by the author(s). This work is made available under the terms of a Creative Commons Attribution License, available at https://creativecommons.org/licenses/by/4.0/

Peer reviewed
Un-Mapping Water Labor: Quantitative Slippages in Occupied Cairo

Alex Schultz

Research(ing) and Resistance

Like any doctoral student, I wanted to write a compelling dissertation with meticulous archival research. The archive is often defined as the state’s official depository of administrative documents. In my case, the National Archives in Egypt has somewhat mythic status: an object of perennial desire that can prove frustratingly difficult to access. And yet, there is a frequently expressed fear among students that a dissertation written without this experience is insufficient.\(^1\) I had plans to use the National Archives to reconstruct a history of urban water. Instead, things turned out differently. When Covid-19 hit in 2020 I had a two-year-old son, and my daughter was born in July of that same year. Caring for young children among myriad covid restrictions foreclosed a return to Egypt, official security clearances in hand or otherwise.

It was imperative at that stage to make new plans. I started with photographs and archival research from a previous trip, including a slew of precious digital copies of maps from the Centre des Études Alexandrines. I explored digitized photograph and

---

\(^1\) The National Archives in Arabic is the Dar al-Watha’iq al-Qawmiyya. I was not able to visit either for my dissertation research, but plan to go (government approvals permitting) in winter of 2023 and summer of 2024. Any scholar of modern Egypt has a story about accessing the archives. For one narrative, see: Lucia Carminati, “Dead Ends in and out of the Archive: An Ethnography of Dar al Watha’iq al Qawmiyya, the Egyptian National Archive,” *Rethinking History* 23, no. 1 (2019): 34–51.
archival collections.² I scrolled through Eastview’s Middle Eastern and North African Newspapers and al-Ahram digital archives, seeking any references to Cairo and Alexandria’s municipal water systems.³ As it turned out, an unexplored narrative of local water practices resided in many different places and objects outside of the official government archive, including photographs of water carriers, a sentence or two in local news sections on public taps, notices of drowning deaths or water syphoning in police columns, and advertisements about water cleansing tablets.

British colonial reports are widely available online. These often contained brief yet tantalizing discussions of the tension between local water practices and modern bureaucratic methods of water management. In the 1898 edition of a Public Works Department report that I downloaded from HathiTrust, a government official argued that an accompanying “plan” visualized the challenges of managing rainwater removal in Cairo (see figs. 1 and 2):

Work, during wet weather, or when a large pipe breaks, is the most difficult of any undertaken by this service (the Scavenging Department), and is still very unsatisfactory. The attached plan, showing the amount of water and mud removed after the heavy rain of the 12th of November will give a fair idea of the work that we have to carry out.⁴

---
Insufficient Drains

Cairo’s notorious late nineteenth-century drainage problem was a matter of scale, as well as systemic neglect. Its population exploded during this time as people pursued new business and labor opportunities. An increase in the number of middle-class and wealthy inhabitants provided service opportunities for the working class. Poor

---


migrants and locals performed necessary low-wage day labor, such as construction and street sprinkling, the latter a necessary daily task to settle Cairo’s dirt streets and alleys. This population increase put a strain on Cairo’s water and waste infrastructure, which prior to this period was largely localized and informal. Nightsoil men, zabballin (garbage men), and scavengers managed the brunt of the city’s sanitation. For example, they collected and sold the city’s solid waste locally, to public bath proprietors for valuable boiler fuel, and to farmers for fertilizer. Under this system, waste was a valuable natural resource and a way for Cairo’s poor to make ends meet.

But British colonial officials represented Cairo’s waste removal system as antimodern and offensive. For example, in the 1899 issue of the Public Works Department Reports, a table ranks Cairo’s public baths, rated from “fairly clean,” to “extremely dirty” (fig. 3). Perhaps as evidence, the author lists in his table the amount of cubic meters of rubbish (fuel) stored in and around the bath. It is not clear from the report how such numbers are derived. Indeed, the labelling admits that it is guesswork: “estimated amount of rubbish stacked and in place for many years.” Although the author notes that the baths are efficient and multifunctional, he does not consider them as essential public service charitable institutions that provided places to bathe, socialize,

---


8 Until recently, the city’s zabballin were largely members of the Coptic community living in a suburb of Cairo near the Moqattam Hills. They have a reputation of being extremely efficient, but recently the government has sought to do away with the system, in part saying that there is too much garbage in the neighborhood streets where the zabballin are sorting. See: Amelia Soth, “Cairo’s Zabbaleen and Secret Life of Trash,” JSTOR Daily, November 30, 2022, https://daily.jstor.org/cairo-zabbaleen-and-secret-life-of-trash/.

9 Chalcraft, Striking Cabbies, 70.

10 The accounts are so numerous that they form a trope. Government publications, such as the reports of the public works department or the reports of the public health department frequently address the baths in a negative fashion. One useful source: Abbate Onofrio. “Questions hygiéniques sur la ville du Caire.” Bulletin de l’Institut Égyptien 2, no. 2 (1881): 55–69. It is worthwhile to note that nightsoil men were still an important part of most European cities at this time as well, including London and Paris. See: David Barnes, The Great Stink of Paris and the Nineteenth-Century Struggle against Filth and Germs (Baltimore: Johns Hopkins University Press, 2006).


cook and sell food, and recycle waste.\textsuperscript{13} Despite this and similar concerns, the British seemed in no hurry to pay to maintain or improve public works, such as dredging Cairo’s main canal, building storm drains, or installing sewers.\textsuperscript{14} Indeed, a sewage collector was not installed in Cairo until 1907.\textsuperscript{15} Cheap, uneven logistical responses to catastrophic situations such as rare torrential rain were the rule.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{Figure3.png}
\caption{Table of Baths (Hammams) in Cairo, numbered, named, and rated. Source: Ministry of the Interior, Report on the Department of Public Works 1899.}
\end{figure}

\textsuperscript{13} Most could afford the meager charge of one piastre or \textit{qirsh} (1/100 of an Egyptian pound) to use the bath regularly. Egypt, Report on the Department of Public Works, 1899, 277; Dalila El Kerdany, “Hammam Folklore Dynamics in Cairo: Lessons from Operation to Regeneration,” \textit{International Journal on Architectural Research}, 2, 3 (November 2008): 29-41.

\textsuperscript{14} Cairo did not have a separate municipal budget until the 1930s, thus its expenses were controlled directly by the Public Debt Commission, a committee composed of colonial officials to extract investor’s funds from the bankrupt country. For more on this, see: Aaron Jakes, \textit{Egypt’s Occupation: Colonial Economism and the Crises of Capitalism} (Stanford, California: Stanford University Press, 2020).

\textsuperscript{15} See, Ismail, “Engineering Metropolis,” especially chapter three. The map of the project was printed in the 1911 report, but like the map under discussion was not unfolded for scanning by the google digitizer. The map is available on Madaq. See: “1911 – Drainage Project,” al-Madaq, accessed November 20, 2022, \url{https://bit.ly/3UVO02I}. 
Maps and Tables as Representations

Let’s return to the rainstorm mentioned at the beginning that occurred on November 12, 1898, and the plan the report’s author suggested would clarify the Scavenging Department’s challenges. Like many google-digitized resources on HathiTrust, the scanner had not unfolded the page to scan the plan (fig. 1). I ran across this problem frequently, including in my search to uncover plans and diagrams of water works such as dams and weirs. (fig. 4). I came to expect it and consider it a pattern that likely represents valuing quantity over quality, and the textual over the visual. So, I requested a high-resolution digital copy from UC Berkeley through interlibrary loan (fig. 2).16 I am not sure what I expected, but it turned out to be a fairly typical map of Cairo with some minimal citations. The clarification it provided was perhaps not what the author intended. Indeed, the map itself was quite useless without its corresponding table, a necessary aid the quote above does not mention. But what information does the map convey, and how?

Maps of Cairo typically do not indicate individual building footprints. One example is the Grand Map (fig. 5). Like the map from the report, few if any individual building footprints are legible. Rather, Cairo emerges as a pattern of bent and irregular passageways, encasing correspondingly irregular blocks, presumably sets of closely-packed buildings (figs. 2 and 6). There are three different types of numbering systems on the map: 1) small, thin numbers that correspond to an absent list of street names, 2) short, bold numbers placed near monuments that likely refer to the same absent key, this time a list of monuments or sites of interest, and 3) large, bold serif numbers from 1-32 that cluster in the newer western suburbs of the city, such as Azbakiya (figs. 2 and 7). The latter group of numbers refers to the table (fig. 8), which compares the amount

of rainwater and dust removed by men to that removed by machine. There are two sets of three columns. The first group of numbers corresponds to those on the map, and two columns to the right indicate the number of carts removed of water and dust. For example, 2,347 carts of water and 64 carts of dust were removed by machine pump from location 15, an area on the map near Ibn Tulun mosque, an upscale neighborhood with many large homes of local nobility, including the seventeenth-century Ottoman Manzil Kritliyya (figs. 7 and 9). This number is the highest of those listed in the table, but what exactly that means is not clear. Does the number refer to all rainwater removed from that neighborhood, or only from the area over which it hovers, the plaza in front of the Mamluk madrasa of Sarghitmish?

Figure 5. A typical detailed map of Cairo produced by the director of the Voirie (Roads) Department. The pink blocks are buildings. The box in the lower left is a key that indicates mosques and churches in the city. The plan includes the names of some roads, major buildings (such as palaces, government buildings), and historic sites. Plan général de la Ville du Caire, 1874. Dressé et publié avec l’autorisation de S.A. Ismail Pacha Khédive d’Egypte par P. Grand Bey. Source: Bibliothèque nationale de France, Département Cartes et Plans, GE C-10010.
How many laborers did it require to handle one of the hand or machine pumps, and how many worked to fill the carts labeled “filled by men?” What tools did they use, how big was a cart, and was the cart moved by animals or also by men from the flood site? Rain clearance policy, as well as its logistics, is elusive in this pair of documents. Indeed, without the table the map tells us only one thing for certain. Clearance was selective, and focused on the newer western districts of Cairo, areas with high percentages of Ottoman and Egyptian elites and Europeans. No clearance of rainwater was attempted in the old city, by far the densest and most populous area of greater Cairo (see fig. 7). The majority of the city’s residents, it would seem, did not benefit from the Public Works Department’s efforts.
Quantitative Othering

It was not uncommon for colonial British reporting to quantify people as productivity.\textsuperscript{17} After all, a primary goal of colonization was resource extraction. The British colonial government ran Egypt like a corporate enterprise, thus its goal was to earn a profit off its "investments." The budget and financial statement are typical examples. For a government, a budget ostensibly estimates surplus or deficit. Officials can scrutinize actuals at the end of a fiscal year to determine whether a department is performing optimally. However, such calculations are not objective, but representations of values within a particular system.

Tables provide a neat grid in which data can be placed and calculated. The form of a table has rhetorical value and presents data as logical. In my case, a table presents people (manual labor) and machine as opposite, and the latter as more efficient. After all, the table shows that hand and machine pumps clear more carts of water and dust than manual labor alone. However, machines and manual labor are not so distinct. In the same report, narrative descriptions of labor muddle the table’s argument, even as they also represent Cairo’s laborers as inefficient: “There is a great scarcity of drivers [for the scavenging department], and those that offer themselves are usually of a very bad class. They require looking after, and are a continual source of anxiety.”\textsuperscript{18} Like the table, these narrative descriptions orientalize and dehumanize the

\begin{tabular}{|c|c|c|c|c|c|}
\hline
\textbf{Carts filled by Hand Pumps and Machines} & \textbf{Carts filled by Men} \\
\hline
\textbf{NUMBER*} & \textbf{WATER} & \textbf{DUST} & \textbf{WATER} & \textbf{DUST} \\
\hline
7 & 673 & 42 & 1 & 368 & 22 \\
8 & 446 & 26 & 2 & 92 & 17 \\
9 & 783 & 29 & 3 & 37 & 9 \\
10 & 1,331 & 42 & 4 & 437 & 22 \\
11 & 1,781 & 34 & 5 & 173 & 20 \\
12 & 622 & 25 & 6 & 19 & 6 \\
13 & 972 & 30 & 22 & 104 & 17 \\
14 & 1,563 & 42 & 23 & 87 & 13 \\
15 & 2,347 & 64 & 24 & 63 & 15 \\
16 & 62 & 7 & 25 & 89 & 22 \\
17 & 713 & 38 & 26 & 117 & 8 \\
18 & 73 & 43 & 27 & 132 & 27 \\
19 & 32 & 19 & 28 & 19 & 6 \\
20 & 86 & 18 & 29 & 23 & 5 \\
20.24 & 738 & 32 & 30 & 26 & 20 \\
\hline
\textbf{Total:} & \textbf{12,222} & \textbf{491} & \textbf{Total:} & \textbf{2,043} & \textbf{310} \\
\hline
\end{tabular}

\textsuperscript{*} The figures in this column refer to those on map opposite.

Figure 8. Table corresponding to map in figure 1. Source: Ministry of the Interior, Report on the Department of Public Works 1898, Bulaq: Government Press, 1899.

\textsuperscript{17}Aaron Jakes has recently shown how British colonial officials held a highly reductive and quantitative understanding of Egyptian self-regard. This was part of colonial economism employed in Egypt at the time. See: Jakes, Egypt’s Occupation. For statistics in India, see: Sreenivas, Reproductive Politics. For the use of statistics to quantify slave labor, see: Caroline Oudin-Bastide and Philippe Steiner, Calculation and Morality: The Costs of Slavery and the Value of Emancipation in the French Antilles, Oxford Studies in the History of Economics (New York, NY: Oxford University Press, 2019).

\textsuperscript{18}Egypt, Report on the Department of Public Works, 1898, 221.
people resisting the Public Works Department and its officials. But they also show that machines were useless without them.

Qualified Absences

The map, table, and descriptions present at least two narratives: the claim that manual labor was inefficient for managing Cairo’s drainage, and that the people resisted unilateral so-called sanitation practices, especially as such practices often left them in the dust.19 But resistance is represented in the report from the perspective of a British colonial official. I needed alternative perspectives, and I knew that Cairenes were not shy about sharing their disapproval of the British government and its agencies in newspapers. Fortunately, I had a very specific date to work with: the rainstorm occurred on November 12, 1898.

19 I argue in more detail in my dissertation that subaltern resistance defines water access in urban Egypt. My archive is a collection of representations of these instances of resistance. See: Schultz, “Living and Dying in Water.”
Al-Ahram staff reported on the rainstorm and its challenges in the local news section of the paper. The first mention is on November 14, 1898, and reads in part:

Cleanup work continued today in the capital to clear the water and mud from the rain. We thank the department for paying attention to this. Particularly Mr. Bray the head (of the department) who oversaw the project himself. However, the work is not sufficient for the mud and water as the rain that fell from the sky turned the streets into rivers. This matter first and foremost brings attention to the problem of running water and the need for drains.\(^\text{20}\)

The language and syntax of this short article is very similar to others of its kind. It acknowledges the event, and the work being done to address it, including the name of a specific official. It also includes a modest critique and reference to a larger, well-known problem. Similar reporting covers a range of water public works issues, including maintenance of the city’s canals, and the distribution of public taps. Such notices are often very short, and the importance of them can best be read in pattern.\(^\text{21}\)

A much longer article appeared the following day.\(^\text{22}\) The anonymous author is clear that rainwater clearance efforts are laborious, and unevenly distributed:

I have not described the number of men who tire [from the work] or the amount of mud; or some of the police that [illegible] the water from the main streets. They continue to use pumps and have not run out of work for two days. But this has taken place only in my quarter of Azbakiya and Abdin. Some streets outside and in the rest of the city remain in mire that can only result in fever and death.\(^\text{23}\)

Like the reports, these articles are selective representations of the issue. But the representations are not identical and emphasize different things. As a group, the evidence emphasizes manual labor as central to rainwater clearance.

**Another Approach to Structure/Infrastructure**

Water management in Cairo required labor. That labor was largely manual, and without it, the machines of water infrastructure were quite useless. Studies on infrastructure had tended to prioritize the perspectives and prerogatives of technocrats

\(^{20}\) *Al-Ahram* (November 14, 1898): 2.

\(^{21}\) I discuss the patterns of reporting on public tap problems in my dissertation. See: Schultz, “Living and Dying in Water.”

\(^{22}\) This is significant. Usually Cairo’s local news section, “al-Asima,” includes many different small and large news items, and takes up anywhere from three columns to an entire page of the paper.

\(^{23}\) *Al-Ahram* (November 15, 1898): 2. The author clearly criticizes the government and the British in this article as well.
and engineers. This is not surprising considering they are the ones who wrote about public works infrastructure. They also had the authority to make change, or otherwise. However, this perspective marginalizes the people and bodies involved in construction and maintenance, as well as the vast majority of everyday users of public works infrastructure. Urban Cairenes today continue to struggle with drainage issues during the rare torrential rain. Such challenges are perennial, and now as in the past, newspapers and other popular outlets serve to remind us that it is important to seek out the perspective from the street, rather than taking a bureaucrat’s word for it. Taking the time to recover unfolded maps and scrutinize tables is, and presents, an alternative narrative, especially when the bureaucratic archive remains elusive.

Acknowledgements
Research for this article was supported by funds the History of Art and Architecture Department and the Center for Middle East Studies at the University of California, Santa Barbara.


BIBLIOGRAPHY

Oudin-Bastide, Caroline, and Philippe Steiner. Calculation and Morality: The Costs of


