Science in the Time of the Plague: Jakob Gråberg and the Moroccan Plague Epidemic of 1818–20

Emil Kaukonen

Summary

The article explores Swedish consular secretary Jakob Gråberg in connection to the plague epidemic in Morocco, focusing on the summer of 1819. Gråberg described a treatment based on the liberal use of olive oil and a method of inoculation, both of which he claimed to be highly effective. In addition, he drew conclusions about the mechanisms by which the illness enters the body and causes the outbreak of plague. These reports and deductions—the contents of which were widely circulated by Gråberg's scientific peers—represent early, tentative developments in epidemiology.



Portrait of Jakob Gråberg af Hemsö.

Unknown artist, n.d.
Originally published in Frithiof Heurlin, Viktor Millqvist, and Olof Rubenson, *Svenskt biografiskt handlexikon*,1906.

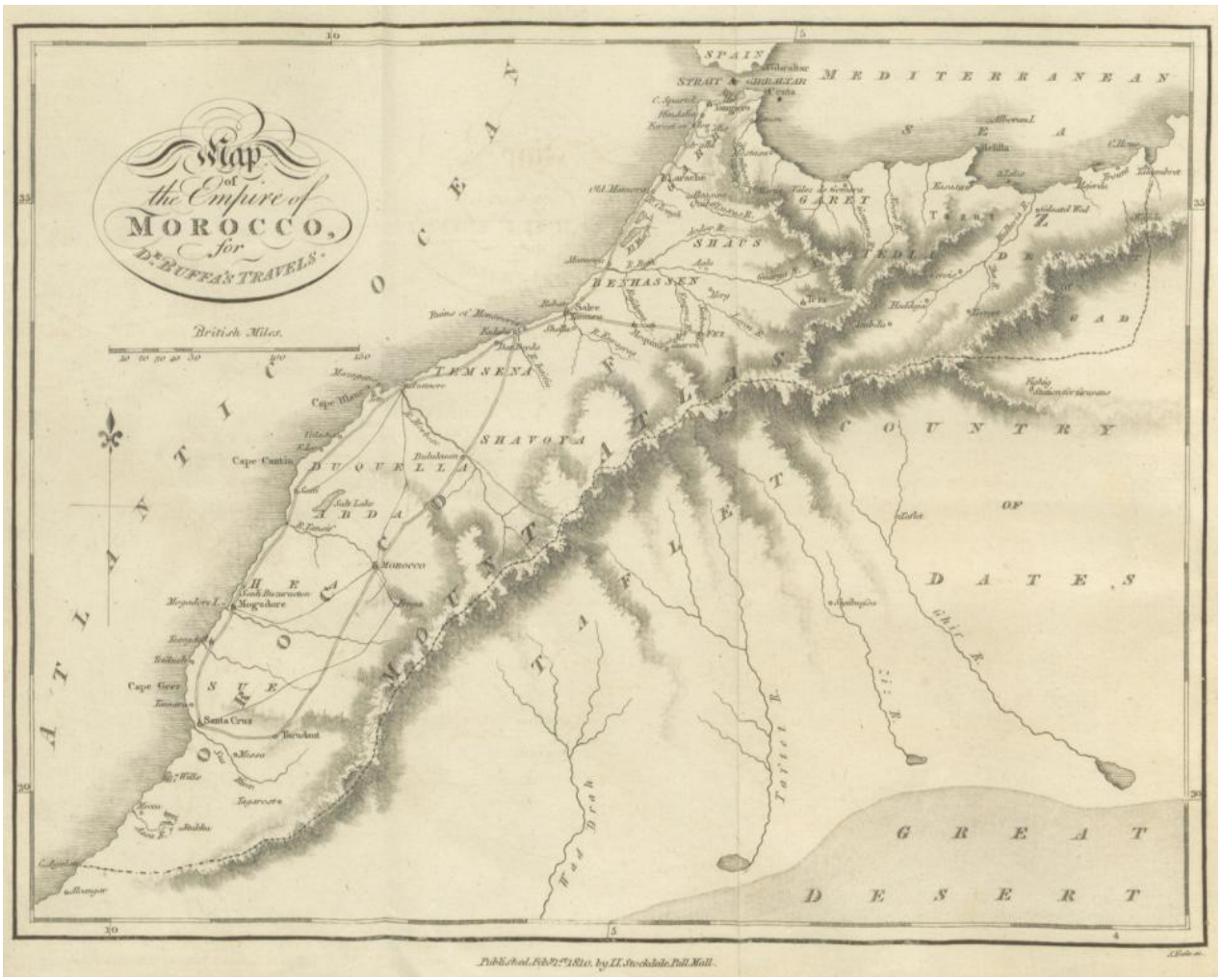
PUBLIC DOMAIN This work is licensed under a Creative Commons Public Domain Mark 1.0 License .

In 1818–20 an outbreak of plague, caused by the bacterium *Yersinia pestis*, swept over the Sultanate of Morocco. Although the country had been opened to European trade in the mid-eighteenth century, Morocco was still an agrarian society made up of isolated local communities. The foreign consuls in Tangier generally barred their doors and shuttered their windows to wait out the crisis and avoid infection, some taking refuge in country houses outside of the city. However, the Swedish acting consul and aspiring academic Jakob Gråberg af Hemsö (1776–1847) chose instead to seek knowledge amidst the crisis. His reports written during the ongoing plague

Kaukonen, Emil. "Science in the Time of the Plague: Jakob Gråberg and the Moroccan Plague Epidemic of 1818–20." Environment & Society Portal, *Arcadia* (Autumn 2020), no. 38. Rachel Carson Center for Environment and Society. https://doi.org/10.5282/rcc/9132.
Print date: 08 November 2026 16:28:50

epidemic and the publications that followed them offer us insights into early nineteenth-century epidemiology and the circulation of knowledge in the interplay between Europe and North Africa.

In June of 1819, after the worst of the ongoing epidemic had passed through Tangier, the plague returned to the city with an average daily death toll of 2–3 people. At this time Jakob Gråberg took the chance to inform the Swedish Health Collegium, the Cabinet for Foreign Correspondence, and the Quarantine Commissions in Gothenburg and Kristiansand of the latest medical developments he had observed. In a report to the Health Collegium dated 19 October 1819, Gråberg argued that as the government and inhabitants of Morocco saw no value in trying to contain the plague, there was "scarcely a better country" for studying the development and effects of the illness.

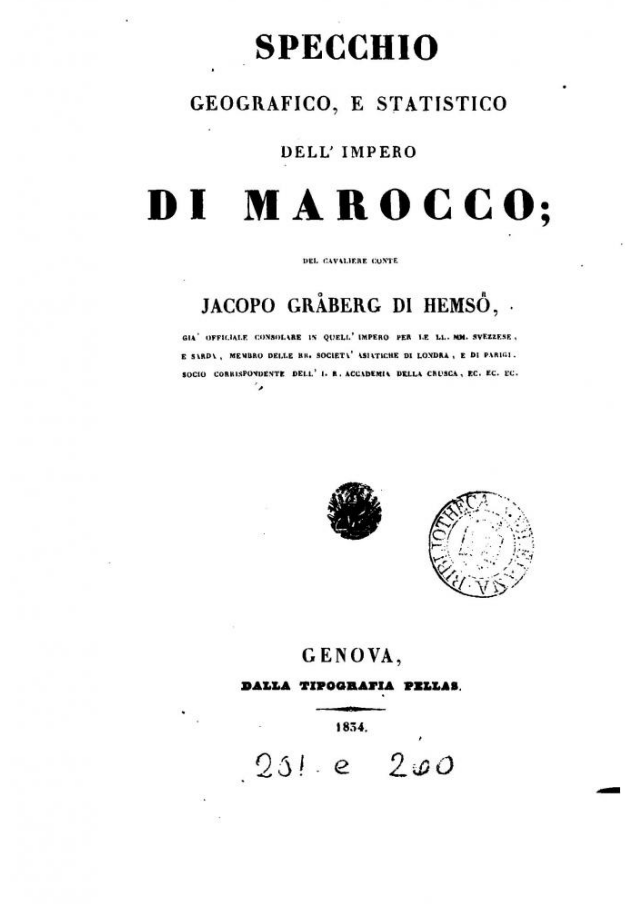


Map of Morocco in the early nineteenth century.

taken from "Travels through the Empire of Morocco" by John Buffa (1810). Public domain.
Originally published in John Buffa, *Travels through the Empire of Morocco* (London: J. J. Stockdale, 1810).

PUBLIC DOMAIN This work is licensed under a Creative Commons Public Domain Mark 1.0 License .

Kaukonen, Emil. "Science in the Time of the Plague: Jakob Gråberg and the Moroccan Plague Epidemic of 1818–20." Environment & Society Portal, *Arcadia* (Autumn 2020), no. 38. Rachel Carson Center for Environment and Society. https://doi.org/10.5282/rcc/9132.
Print date: 08 November 2026 16:28:50



SPECCHIO

GEOGRAFICO, E STATISTICO

DELL' IMPERO

DI MAROCCO;

DEL CAVALIERE CONTE

JACOPO GRÅBERG DI HEMSÖ,

GIA' OFFICIALE CONSOLARE IN QUELL' IMPERO PER LE LL. MM. SVEZZESE, E SARDA, MEMBRO DELLE RR. SOCIETA' ASIATICHE DI LONDRA, E DI PARIGI, SOCIO CORRISPONDENTE DELL' I. R. ACCADEMIA DELLA CRUSCA, EC. EC. EC.

GENOVA,

DALLA TIPOGRAFIA PELLAS.

1834.

251. e 200

Title page of Jakob Gråberg's work on the Empire of Morocco, including a list of cities in which he belonged to scientific societies. 1834. Courtesy of Oxford University.

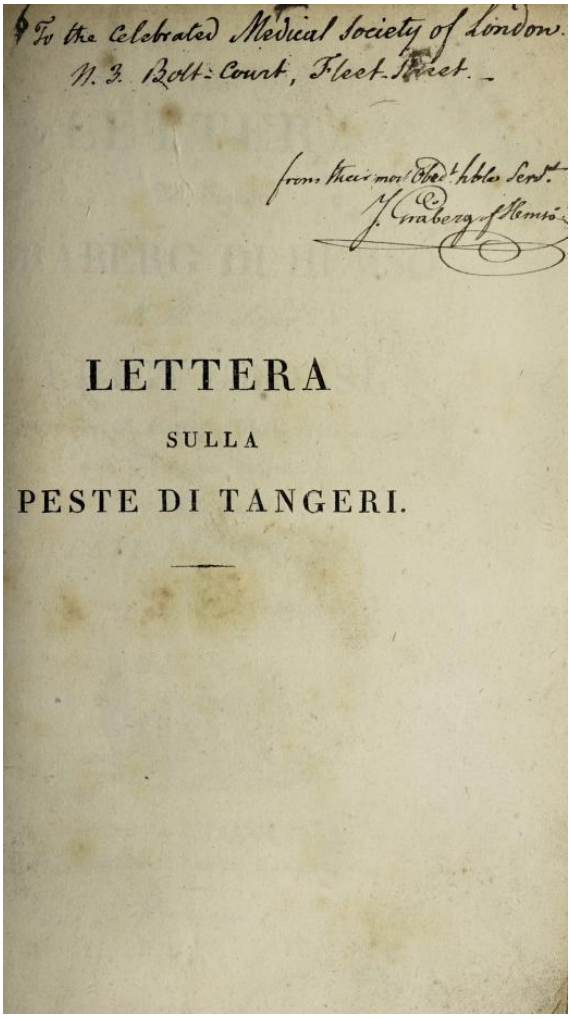
PUBLIC DOMAIN This work is licensed under a Creative Commons Public Domain Mark 1.0 License .

Gråberg's first matter of interest was a cure utilized by the Portuguese consul to Morocco, José Januário Colaço. This treatment was based on the use of olive oil, which was to be both imbibed by the patients and rubbed on their skin. It is uncertain where this treatment first came into use, but it is mentioned by James Grey Jackson in his book *An Account of the Empire of Morocco* (1809) as being used in Morocco during the plague epidemic of 1799–1800. Jackson attributes the remedy to a late British consul to Egypt, George Baldwin (1744–1826), but the olive oil treatment could potentially be traced much further back in time. In a report to the Quarantine Commission of Gothenburg dated 1 June 1819, Gråberg noted that a great number of people in Tangier had been cured through this regimen—out of 300 patients treated, merely 12 had died. In a later report to the Health Collegium dated 10 August 1819, Gråberg described an attempt at inoculation against the illness. This procedure, performed by the Spanish physician Don Serafino Sola on a group of 17 Spanish deserters, was performed through the introduction of a mixture of diseased pus and olive oil into incisions made on the subjects. The experiment was apparently a success, with all subjects not only recovering from the mild bouts of

Kaukonen, Emil. "Science in the Time of the Plague: Jakob Gråberg and the Moroccan Plague Epidemic of 1818–20." Environment & Society Portal, *Arcadia* (Autumn 2020), no. 38. Rachel Carson Center for Environment and Society. https://doi.org/10.5282/rcc/9132.
Print date: 08 November 2026 16:28:50

plague brought on by the inoculation but also showing no signs of being re-infected afterwards. The contents of Gråberg's reports on Colaço's and Sola's treatments were published in several Swedish newspapers and gained international attention in *The Times*, *Annali universali di medicina*, and *Gazette de santé*.

In his report to the Health Collegium of 10 August 1819, Gråberg presented a list of observations regarding the plague. These include his assertion that the plague did not spread through the air, but only through contact with diseased individuals or materials, which in turn allowed tiny, animal-like beings to make their way through the pores of the skin and cause the outbreak of the disease in the infected person. Because these minuscule beings needed air to breathe, he reasoned, a generous rubbing of olive oil asphyxiated them and halted the onset of plague. Gråberg attributed his understanding of this mechanic of infection to his study of the texts of several physicians and natural scientists: Lucretius, Vitruvius, Athanasius Kircher, Antonio Vallisneri, Erasmus Darwin, and Giovanni Rasori.


To the Celebrated Medical Society of London.
N. 3. Bolt-Court, Fleet-Street.

from their most Obed.t hble Serv.t
J. Gråberg af Hemsö

LETTERA

SULLA

PESTE DI TANGERI.

Cover page of the publication that Jakob Gråberg sent to the Medical Society of London. Note the author's handwriting at the top. 1820. Courtesy of Open Library (openlibrary.org).

PUBLIC DOMAIN This work is licensed under a Creative Commons Public Domain Mark 1.0 License .

Kaukonen, Emil. "Science in the Time of the Plague: Jakob Gråberg and the Moroccan Plague Epidemic of 1818–20." Environment & Society Portal, *Arcadia* (Autumn 2020), no. 38. Rachel Carson Center for Environment and Society. https://doi.org/10.5282/rcc/9132.
Print date: 08 November 2026 16:28:50

In a report to the Foreign Minister Lars von Engeström (1746–1826) of the same date, Gråberg intimated that it would be most gratifying to him if his notes on the plague would be presented at one of the meetings of the Royal Swedish Academy of Sciences. Further, Gråberg recommended that Don Serafino Sola should be considered for induction into the Health Collegium. Despite these suggestions, Gråberg's findings were apparently not discussed at the meetings of the Royal Swedish Academy of Sciences, nor were they ever published by that society. A possible reason may have been that Gråberg appears to have been considered a middling writer, described by his contemporaries as possessing more eagerness than skill. In his The Moorish Empire, published in 1889, Budgett Meakin criticizes Gråberg's most well-known work, *Specchio geografico, e statistico dell'Impero di Marocco* (1834), calling it "over-rated" and pointing out its inaccuracies and outdated claims.

Although his writings were not always enthusiastically received by his contemporaries in his native country, Gråberg was very active in communicating his research to the international scientific community of the early nineteenth century. His letters to the Genovese physician Luigi Grossi on the topic of the plague in Tangier were printed in Genoa in 1820. Gråberg sent copies of this publication to the Medical Society of London, and presumably to other scientific societies of which he was a member. The reach of Gråberg's texts illustrates the developing connectedness of early nineteenth century science and the role that geographically isolated individuals played in communicating new developments.

Further readings:

- El Mansour, Mohamed. *Morocco in the Reign of Mawlay Sulayman*. Wisbech: Middle East & North African Studies Press, 1990.
- Gråberg af Hemsö, Jakob. *Lettera del signore Gråberg di Hemsö all'illmo signor Luigi Grossi sulla peste di Tangeri negli anni 1818–19*. Genova and Tangiers: Antonio Ponthenier, 1820.
- Gråberg af Hemsö, Jakob. *Specchio geografico, e statistico dell'Impero di Marocco*. Genova: Dalla Tipografia Pellas, 1834.
- Meakin, Budgett. *The Moorish Empire*. London: Sonnenschein & Co., 1889.
- Roberts, Lissa. "Situating Science in Global History: Local Exchanges and Networks of Circulation." *Itinerario* 33, no. 1 (2009): 9–30.
- Stearns, Justin K. *Infectious Ideas: Contagion in Premodern Islamic and Christian Thought in the Western Mediterranean*. Baltimore: JHU Press, 2011.
- Zetterstéen, Karl Vilhelm. *Jakob Gråberg af Hemsö som arabist*. Uppsala: Almqvist & Wiksell, 1949.

How to cite:

Kaukonen, Emil. "Science in the Time of the Plague: Jakob Gråberg and the Moroccan Plague Epidemic of 1818–20." Environment & Society Portal, *Arcadia* (Autumn 2020), no. 38. Rachel Carson Center for Environment and Society. https://doi.org/10.5282/rcc/9132 .

This work is licensed under a Creative Commons Attribution 4.0 International License .

Emil Kaukonen
This refers only to the text and does not include any image rights.
Please click on the images to view their individual rights status.

ISSN 2199-3408
Environment & Society Portal, Arcadia

About the author:

Emil Kaukonen
Emil Kaukonen is a PhD candidate in History at Åbo Akademi University, Finland. His dissertation focuses on the Swedish consular staff in Tangier in 1787–1822 and their multifaceted roles as cultural intermediaries and diplomats. His research interests include intercultural contacts, the circulation of knowledge, and the history of diplomacy.
https://orcid.org/0000-0003-1016-997X

Kaukonen, Emil. "Science in the Time of the Plague: Jakob Gråberg and the Moroccan Plague Epidemic of 1818–20." Environment & Society Portal, *Arcadia* (Autumn 2020), no. 38. Rachel Carson Center for Environment and Society. https://doi.org/10.5282/rcc/9132.
Print date: 08 November 2026 16:28:50