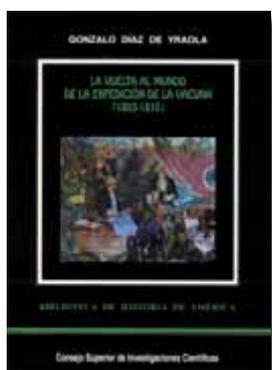


A public health odyssey brought back to light The story of the world's first mass vaccination project

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DÍAZ DE YRAOLA, Gonzalo: *La vuelta al mundo de la expedición de la vacuna (1803-1810)*. Madrid: CSIC; 2003. 336 pages. ISBN: 84-00-08172-2. Price: 24 euros (paperback). Facsimile edition in Spanish with English translation and notes by Catherine Mark. Spanish edition originally published in Seville by Publicaciones de la Escuela de Estudios Hispano-americanos de Sevilla, under the auspices of the Consejo Superior de Investigaciones Científicas and the Escuela de Estudios Hispano-americanos de Sevilla, 1948.



Imagine that you've just read about an exciting new breakthrough in preventive medicine and wish to put it into practice in a land where the population has been decimated by a devastating epidemic. Imagine that after a few years of failed attempts, your application for funding from the government for a very expensive, long-term public health project is finally approved by a panel of scientific peers and by the officials

who advise the government on the feasibility (and potential political and economic benefits) of the project. Imagine that you need to overcome skepticism, fear, and other types of resistance to a scientifically novel idea for your project to gain approval.

Nothing very unusual in that, you say. Everybody knows that first-time grant applications are rarely successful.

In any case your perseverance, letter-writing and demonstrations of your proposed treatment achieve results at last, so you recruit your assistants and get ready to set sail.

Imagine that the project involves spending years in remote lands that must be traversed on foot or with the help of animal traction. Imagine that most roads are unpaved (consisting for the most part of barely discernible tracks and footpaths), and that many of your destinations are reachable only by crossing chasms, jungles, mountain ranges and rivers with the help of local guides. Imagine that travel by sea, which would be faster and less taxing on your health and that of those who accompany you (many of whom also have special health needs) is too risky because of the danger of pirate attacks.

Challenging conditions are not unexpected in developing countries, you say. You can't expect these places to have the infrastructure of a developed country. You just have to deal with it. Go in, do the job, get your data, and get out.

Imagine that letters take weeks or months to catch up with you. Imagine that the government sponsor owes you several months' back-pay, forcing you to borrow from people you barely know to ensure your project stays on track as you make your way through distant lands. There's no e-mail. In fact, there are no personal computers, laptops or mainframes. Electricity has not yet been domesticated. No cell phones either, of course.

Beginning to sound like a bit too much of a challenge?

Imagine that you are transporting a sensitive biological material under precarious conditions. Imagine that the only available technology for transporting this material so that it retains its biological activity is *in vivo*. (Remember, there's no electricity for refrigeration, and ice won't last too long where you're going.) Imagine that the only way to transport your material is to inoculate it under the skin of human carriers (ranging in age, at the start of the project, from 3 to 9 years) and periodically transfer the inoculum to new carriers. Imagine that you need to maintain an unbroken chain of serial inoculations for the duration of your project (almost 10 years, as it turns out). These human carriers must be fed, clothed, housed and kept in reasonably good health for as long as their bodies are able to produce the material you need.

Impossible, you say. An ethical and scientific fiction.

Imagine that a few years into your project, your home country is invaded, your government dismantled, your funding and administrative support interrupted, and most of your contacts removed from their post by various means. Since there's no e-mail you only find out about this several months after the fact. Imagine that you return to your home country years later, exhausted and ill but having succeeded in vaccinating, by most estimates, several hundred thousand inhabitants of Latin America, The Philippines, and China against smallpox. Your assistant, a worthy young physician you chose as much for his valor and determination as for his medical skills, never made it home. After ten years abroad, he lost the battle against harsh conditions and local diseases, and literally gave his life for the project while helping to save thousands of other lives.

So who were these public health fanatics?

Francisco Javier de Balmis was born in Alicante, Spain, in 1753, became a physician in 1778, and died in Madrid in 1819. He had traveled to Spain's New World colonies several times before embarking on his longest quest in 1803, officially designated the Royal Philanthropic Vaccination Expedition. This enormous public health project was underwritten at great expense by the Spanish Crown, and was intended to bring the new smallpox vaccine, and the knowledge necessary to ensu-

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re its long-term availability, to Spain's vast colonial empire. Despite high praise for this enlightened public health project from contemporary scientists such as Humboldt and Jenner himself, medical history has had surprisingly little to say about Balmis or his assistant, José Salvany, for the last 200 years. On the bicentennial of the expedition, this injustice has been rectified thanks in large part to the efforts of Catherine Mark, who has produced an excellent translation into English of Díaz de Yraola's 1948 study of the expedition. As editor of the new bilingual edition, she has added a background section on people and places, a concise glossary of some of the most frequent terms in Spanish, and a list of more recent publications for further reading. An index of personal and place names has also been included.

Scholarly matter included in the 1948 edition and reproduced in the English translation are the chronologies of the two arms of the expedition (led separately by Balmis and Salvany), and the general and specific bibliographies comprising no fewer than 277 documents. The twelve appendices from the 1948 edition, which are transcripts of some of the period documents Díaz de Yraola consulted (including the original "grant proposal" and "letter of acceptance"), have not been translated but are duly reproduced and can now benefit from wider dissemination.

For the next reprint or the next edition of this valuable historical resource, the Consejo Superior de Investigaciones Científicas might consider improving the artwork for the front cover and lightening the background of the facsimile pages, which are rather hard to read when lighting conditions are less than optimum. A more detailed table of contents (Índice) at the front would help readers navigate the book more easily, as the lack of consecutive page numbering and the double numbering of the facsimile pages make it cumbersome to cite specific pages.

This historical account should interest public health experts, historians concerned with both European and Latin American events, virologists, pediatricians and medical ethicists. Of note for translators is the fact that Balmis himself had translated into Spanish a key work by French physician Moreau

de la Sarthe, the *Traité historique et pratique de la vaccine*. Indeed, among the equipment shipped to the New World for the expedition were 2500 copies of his translation, to be distributed free to physicians and members of the local vaccination boards. (This may have been one of the earliest examples of the now common practice of providing primary care physicians with clinical practice guidelines.) Balmis' translation, originally published in 1803, was reprinted in 1987 by the Institut d'Estudis Juan Gil-Albert through Edicions Alfons El Magnànim in Valencia, Spain.

The Spanish Royal Philanthropic Expedition was fueled at times by Balmis' almost maniacal sense of conviction, and threatened other times by his overweening ego. These contradictions within his character make him a fascinating figure, and Díaz de Yraola's combination of historical documentation, political intrigue, and adventure novel—a translator's challenge met head on in Mark's rendering into English—makes for a tale well worth reading in either language.

Further reading

In Spanish:

Three good websites to start at are <www.balmis.org>, <www.aeped.es/balmis.htm>, and <www.casacencias.org/Domus/SSO/Vacunas/Exposi.html>.

Tarrago RE. La expedición Balmis-Salvany de vacunación contra la viruela, primera campaña de salud pública en las Américas. *Perspectives in Health* 2001; 6(1). Available at <www.paho.org/Spanish/DPI/Numero11_articulo6.htm>.

In English:

Bosch X. The Spanish Royal Philanthropic Expedition: The Round-the-World Voyage of the Smallpox Vaccine 1803-1810 (Media watch). *Lancet Infect Dis* 2004; 4:59.

Tarrago RE. The Balmis-Salvany Smallpox Expedition: The First Public-Health Vaccination Campaign in South America. *Perspectives in Health* 2001; 6(1). Available at <www.paho.org/English/DPI/Number11_article6.htm>.

