EDITORIAL

From Studying Historical Pandemics to Surviving One: Lessons Not Learned

De estudiar pandemias históricas a sobrevivir una: lecciones no aprendidas[1]

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ABSTRACT: Since my master's thesis (1994) I have studied, not continuously, but constantly, the impact of epidemics on the historical populations of northern Baja California, as well as the novo-Hispanic northwest in the late colonial period, with emphasis on the routes of propagation. All this from a historical perspective with the support of demographic tools and with quantitative rather than qualitative information. It was then that during the Covid 19 pandemic (2020-2022), I was confronted with my object of study, and I was surprised by how much historical epidemics have been studied and how little contemporary information is available about them, and, therefore, lessons not learned have been presented. This collaboration is a reflection of what has been learned or what was supposed to be learned from the history of the epidemics of the 18th and 19th centuries, in contrast to the actions undertaken by our society in the face of a pandemic.

KEYWORDS: Population; Epidemics, spread, history, northwest.

RESUMEN: Desde la tesis de maestría (1994) he estudiado, no de manera continua, pero sí constante, el impacto de las epidemias en las poblaciones históricas del norte de Baja California, así como el noroeste novohispano en el periodo colonial tardío, con énfasis en las rutas de propagación. Todo ello desde una perspectiva histórica con el apoyo de las herramientas demográficas y con información cuantitativa más que cualitativa. Fue entonces que durante la pandemia de COVID-19 (2020-2022), me enfrenté con mi objeto de estudio, y me sorprendió lo mucho que se han estudiado las epidemias históricas y la poca información contemporánea que se tiene de las mismas, y, por tanto, se han presentado lecciones no aprendidas. Esta es una reflexión de lo aprendido o que suponía aprendido de la historia de las epidemias de los siglos xviii y xix, en contraste con las acciones emprendidas por nuestra sociedad frente a una pandemia.

PALABRAS CLAVE: Población; epidemias; propagación; historia; noroeste.

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Recently, I have finished, or rather published, an ambitious historiographic study on academic research on the population and settlement of the Baja California peninsula during the eighteenth and nineteenth centuries, mainly, and published from 1927 to 2020 (Magaña, 2020, pp. 13-55). This text, which needs to be updated, has been combined with personal reflections on the COVID-19 pandemic suffered in Mexico from January 2020 to date, and from there I share these reflections on the historical studies of epidemics in the Californias and their possible impact on contemporary regional society.

I consider the leading figure in academic studies on the history of epidemics in the Californias to be Sherburne F. Cook, who until 1935 had been focused on studies of physiology, at least since 1925 when he received his Ph.D. with the thesis '*The Toxicity of the Heavy Metals in Relation to Respiration*'. As Woodrow Borah points out, his research as a professor at Berkeley, beginning in 1928, were centered "on the toxic effects of heavy metals, the functioning of the spleen, the effects of different types of poultry feed and on the humans who ingested them, as well as the effects of inert gases in depressing cellular metabolism" (Borah, 1996b, p. 465).

This author and Cook's colleague suggests that these studies were not to the liking of some U.S. socioeconomic sectors, which stopped him from publishing his findings, especially in relation to human consumption of poultry, and so Cook began to look for new areas of study, but related to the effect on human health of diseases or other similar factors. As a result, he became closer to distinguished people such as Carl O. Sauer, Lesley Byrd Simpson and Alfred L. Kroeber, who were his colleagues in that university campus at the beginning of the 20th century, and thus for Borah, the article published in 1935 and entitled "*Diseases of the Indians of Lower California in the Eighteenth Century*" (Cook, 1935, pp. 432-434) was "The first sign of this new direction" (Borah, 1996b, p. 466). That is, a physiologist interested in the effects of the diseases of modernity on human beings will end up taking refuge in the historical field and from there in the impacts of diseases on historical populations, especially on the indigenous communities at the time of their (dis)encounter with the Iberian colonization in the Americas.

Cook's second paper was when, in 1937, he published a more ambitious essay entitled *The extent and significance of disease among the Indians of Baja California*, 1697-

1773 (Cook, 1937). A third text by Cook on the demographic history of the Californias was released two years later and focused on the study of smallpox outbreaks in Alta California since the 1780s (Cook, 1939, pp. 153-198).

In the 1937 essay, the physiologist-turned-historian investigated the volume of the peninsular population before the Spanish arrival and its development during the Jesuit and Franciscan administrations (1697-1773), taking in consideration the central and southern parts of the peninsula, with the intention of creating an explanatory model of universal application, which would later conduct to the paradigm or explanatory model called "virgin soil epidemic" (Borah, 1996a, pp. 280-289). A model that deserves its own historiographical study and that is still awaited, however, it should be noted that the origin of this model is considered to be in Cook's work of 1937, based on his readings of Alfred L. Kroeber, Peveril Meigs III (this pillar of the missionary historiography of Baja California) and Carl O. Sauer (Magaña, 2020, pp. 13-55).

Now, this second historical study by Cook represents so far the only guide to explain the demographic process of the historical native peoples in the Californias after the arrival of the colonizing Jesuits, but it does not stop emphasizing the fact that the missionary depopulation was almost exclusively due to diseases, especially epidemics, obviously introduced during the conquest and colonization of the Californias beginning in 1697, and which in the first third of the 20th century was a significant academic advance in historiography in general, and which should still be part of the discussion of demographic and colonialist historians at the beginning of the 21st century, but that is another story.

Cook stated, in 1937, that an "apparent conclusion justifies pointing out that "*between 25 and 40 percent of the population decrease in Baja California* [in the colonial period] *can be directly attributed to deaths from epidemics*" (Cook, 1937, p. 36). The intention of the expression, in italics in the original publication, was to highlight it from the rest of the text and to focus on the importance of the study of diseases on populations and from there to understand their demographic evolution or the long-term changes in the demographic structure of a specific population, but aiming to make it generalizable, and thus be able to influence related public policies, in a preventive sense, as critical epidemiology would propose several decades later.

Thus, in 1937, Cook wanted to study diseases in epidemic situations, in the past, to better understand their evolution in populations without appropriate, adequate or different immunological conditions, and from there establish possible preventive strategies to face similar situations, and 86 years after his contributions I believe that we still have not understood as a society, and even less from those in charge of public health prevention policies in administrations of all kinds, this type of contributions of a history of epidemics.

On the other hand, in the field of the historical discipline, this research and the later ones by Cook, especially with Woodrow Borah, will lead the discussion on whether the epidemics were or not a strategy of extermination of the native populations by the Hispanic and Novo-Hispanic colonizers from the sixteenth to the eighteenth century, which has not helped much in the understanding of the demographic history of the native peoples. But it will be from the nineties of the twentieth century that a critical dialogue will be established, among several scholars, including myself, with Cook's position.

Following the conclusions of Sherburne F. Cook's second historical-demographic research, in 1994, I submitted my master's thesis in Population Studies entitled *Santo Domingo de la Frontera. Estudio histórico demográfico de una misión de Baja California: 1775-1850*, and which was published shortly after (Magaña, 1998; Magaña, 2015a). Cook pointed out in his work, as he had already noted, but allow me to restate, that an "apparent conclusion justifies pointing out that *between 25 and 40 percent of the population decrease in Baja California can be directly attributed to deaths from epidemics*" (Cook, 1937, p. 36).

My proposal is that, from another perspective, and also in italics, "*between 75 and 60 percent of the indigenous depopulation cannot be directly attributed to epidemics*" (Magaña, 2015a, p. 13). Broadly establishing, for the case of a mission and its population in the late colonial period, that another explanatory factor is the seasonal mobility of the historical native population, and also that "the mission itself has become a station of one of the traditional areas of survival", as part of its seasonal mobility (Magaña, 2015a, p. 119).

For this reason, yours truly does not agree with the general line of explanation of the works of some historians who privilege epidemics to understand the overall demographic process of the original peoples in the late colonial period in the Californias;

personally, I conclude, in the aforementioned thesis, that "one of the main explanations for the depopulation of the mission of Santo Domingo de la Frontera was due to the migration of groups of indigenous people from the mission to territories usufructuated by indigenous people not dominated by the missionaries" (Magaña, 2015a, p. 122). This does not mean that I disqualify or ignore the factor that the epidemics that the missionary and colonial societies suffered in the Californias in the eighteenth and nineteenth centuries did not contribute to the depopulation of the historical original peoples, but also of the colonizing groups.

Since then, on the study of epidemics in the Baja California peninsula, rather than understanding the impact on demographic structures as Cook sought, I have been interested in understanding the routes of the regional spread of each epidemic, since I believe that the explanation of the historical demographic evolution of the colonial populations in the northwest of New Spain and Mexico should not be focused on a single factor. Thus, I have published advances on over-mortalities in the late colonial period for the northwestern novo-Hispanic based on aggregative analysis of the main towns with parish or missionary records available in the *Family search* platform, especially on the smallpox pandemic of 1780-1782 (Magaña, 2010, pp. 37-58; Magaña, 2013, pp. 2013), and the measles epidemic of 1804-1806 (Magaña, 2015b, pp. 177-207). In notes and archival work, the study of the tabardillo disease in the novo-Hispanic northwest from 1800 to 1804 remained, seeking to better understand this disease and whether it was an epidemic or an endemic for the region of present-day Nayarit.

Initially I was interested in trying to understand how certain epidemic or pandemic diseases -I have left aside the study of endemics- behaved in terms of their propagation in novo-Hispanic northwest and, with the support of several scholars, I have succeeded, mainly Robert H. Jackson (1981a, pp. 308-346; 1981b; 1981b, pp. 308-346). 308-346; 1994), to recognize the main epidemics or pandemics in the peninsula of Baja California and then in the novo-Hispanic northwest, but not only by aggregate methods studying the mortality graphs, with emphasis in the temporal behavior of the over mortality, but also pointing out in the missionary or parochial sources which ones explicitly consigned the causes of death or when it is inference of the own investigations, since it is important to recognize this

difference in the information for the academic study of the history of the epidemics in a region and a historically determined period.

After the expulsion of the Jesuits from Old California, there were outbreaks of measles and smallpox between 1768 and 1769; then in 1771 there was a strong epidemic of typhus; in 1781-1782 of smallpox; in 1800-1801 of typhus or typhoid; in 1805-1806 of measles; in 1808 possibly a new episode of smallpox; and in the years 1770, 1776-1777, 1780, and 1788-1789 it is possible that other epidemics occurred, although there are no elements to identify them. There were also some disease outbreaks in the form of endemics, and by 1833 the cholera pandemic will cause significant mortality, as well as a new outbreak in 1850 (Table 1).

As it can be observed among the evidence gathered on the epidemics that occurred in the novo-Hispanic northwest, the Pimería Alta and the Baja California peninsula, some interesting points can be inferred, especially in relation to the routes of propagation of the epidemics in the novo-Hispanic northwest. In the case of the smallpox epidemics of 1780-1782 in the Baja California peninsula and in the novo-Hispanic northwest, and for the measles epidemic of 1804-1806 in the bishopric of Sonora, it was possible to demonstrate that the routes of spread were from south to north from the bishopric of Guadalajara, following the routes of communication and commerce, but there is an important difference that with time I have been able to notice, is that there were external factors that made easier the spread of the smallpox epidemic of 1780-1782 in the Californias, while the process was of lesser impact and slower in the spread for the measles epidemic of 1804-1806 in the bishopric of Sonora, and so far it would seem that it was very slight in the Californias.

In the case of the smallpox pandemic, at the time that this disease was spreading from south to north from the "nayaritas" parishes (bishopric of Guadalajara), to the south of Sonora a great official colonizing expedition was being organized in charge of Fernando de Rivera y Moncada composed of a human and a bovine contingent, the first one was sent by sea to Loreto, and was spreading smallpox by the sea route from Loreto to the bay of San Luis Gonzaga, and by the land routes from that landing point to the mission town of San Fernando Velicatá and then by the road-itinerary, passing through all the

congregations of the Dominican missionary frontier, then through the Franciscan mission town of San Diego in Alta California to the one at San Gabriel.

In addition, it is most probable that the group of soldiers in the role of cowboys who carried the bovine cattle to Alta California in support of the group of settlers and who followed the overland route from southern Sonora to the north, also spread the disease through the present Sonora, from south to north, up to the confluences of the Gila and Colorado rivers, where they were attacked and massacred by a great war campaign of the tribes of that part, mainly the Yuma and Quechan. Who, for their part, took the booty obtained to their respective seasonal bases in the present state of Arizona and probably from there to Utah, spreading smallpox in another "virgin land", which unfortunately we cannot calculate or estimate.

In the case of the measles epidemic of 1804-1806, its spread in the Novo-Hispanic northwest from south to north from the "nayaritas" parishes was very similar to that of smallpox in 1780-1782, but with less impact, since the route is very extensive, and the farther north the distances between towns or communities increased significantly. Therefore, I suppose that it would seem that the terrestrial remoteness of the Californias hindered the introduction of human transmitted diseases such as smallpox or measles, but this was facilitated if there were large colonizing expeditions such as those that occurred between 1768 and 1769 due to the expulsion of the Jesuits and the arrival of important military contingents, as well as the monumental expedition to Alta California composed of four large groups, two by land, from south to north along the peninsula, and two by sea, in 1769. As well as the colonizing expedition of Rivera and Moncada in 1780-1781 accelerated or facilitated the spread of the pandemic.

From my perspective of the history of epidemics in the Californias in the late colonial period, which for my research I establish between 1768 and 1834, the regional society began to understand the importance of certain practices against diseases, which went from divine punishments to public health problems, especially between the smallpox pandemic of 1780-1782 and the cholera pandemics of 1833 and 1850. And inoculation would be a fundamental part of this process, from the still debatable evidence that a Dominican carried out variolization by 1781 in the mission of San Ignacio (Jackson, 1981b, pp. 138-143),

in the middle of the Baja California peninsula, to the pleas of José Matías Moreno who, in 1853, told his wife, Prudenciana L. de Moreno: "You will remember that I brought a vaccine ordered by Mr. Aguirre. Try to vaccinate those who are not vaccinated if there is a vaccine" (Magaña, 2010, p. 50).

The regional socio-cultural groups, especially the descendants of the novo-Hispanic colonization of the eighteenth century understood or learned to face epidemics that often made them lose loved ones, the care of the sick, especially with the smallpox pandemic of 1780, which will end up deriving in the charity or health boards that were vital in the epidemics of the nineteenth century, especially with cholera; as well as the quarantines of parishes, villages and towns that made the spread of diseases difficult where the vector of contagion involved human beings, and then the application of vaccines, initially with the variolization and then the vaccination campaigns against smallpox at the beginning of the nineteenth century, remember the Royal Philanthropic Expedition of the Vaccine or better known as the Balmis Expedition of 1803-1810, which introduced the smallpox vaccine in New Spain (Ramirez, 2022, pp. 13-34).

In the novo-Hispanic northwest, colonial society learned, between 1780 and 1850, that health care, quarantine and vaccination were the instruments to fight epidemics during the old demographic regime, and a culture of public health was formed, which allowed the relative control of mortality due to diseases, where sanitary measures, hygiene and medicine became the center of epidemic prevention during the nineteenth century and that would generate a social culture on the importance of vaccines that was a breakthrough in Mexican society in the second half of the twentieth century.

Conclusions

Studies of the history of epidemics in the ancient demographic regime have shown since 1937, at least for the Californias, that there is evidence of lessons or knowledge that should be part of the current training of officials in the field of public health and disease prevention. Cook proposed the "epidemic on virgin land" model, but in addition the histories of the routes of spread of epidemics in the eighteenth and nineteenth centuries show the importance of the possibility of influencing the spread in those same ways of

communication and transit especially with epidemics where the human vector is critical, such as COVID-19.

In January 2020, in the case of the Mexican society, it was in the process of generating the Cook model and therefore an affectation with serious consequences in the demographic structure, and when COVID-19 arrived, it was a case of "epidemic on virgin land", and the four waves that have impacted the population show that measures were also necessary to prevent and control the contagion and spread of this pandemic, but nothing was understood and unfortunately, the fundamentals of prevention, care and vaccination are still not understood, but also the study of epidemics over long periods of time.

In the summer of 1973, 50 years ago, Pierre Chaunu published

> [...] the mediocrity of the forecasts of recent years, their inability to rise from the preventive stage to the prospective stage, are in fact the result of an insufficient incorporation of historical data. A demography that is not historical, a demography that is flat, short, can only be preventive. The price of a prospective approach is, quite obviously, all the wisdom that can be drawn from the very long duration (Chaunu, 1987, p. 385).

Studies on the history of epidemics in historical populations carried out to date, since Cook's pioneering research 86 years ago, in the case of the Californias, had and should have served to public prevention policies up to the challenge, but we are at the mercy of flat, short-sighted and uneducated policies, to say the least. In other societies the response was different:

> In 2020, the model, good work and spirit of the Royal Philanthropic Vaccine Expedition motivated in Spain the military action against the COVID-19 pandemic to be called Operation Balmis in honor, memory and tribute of this sanitary adventure. This operation deployed a total of 187,000 military personnel and took place between March 14th and June 20th, 2020. Once completed, it was followed by Operation Baluarte, which was the second line of military defense to stop the pandemic with the employment of 5,000 personnel who performed tracker functions (Enjuanes, 2022, p. 9).

Table 1. Relation of epidemics recorded in the Northwest, 1769-1850.

Years	Baja California Peninsula	Years	High Pimería	Years	Northwest
1768-1769	Measles?	1769-1770	Measles	1768-1770	Measles or Smallpox
1770	Undefined				
1771-1773	Typhus?				
				1772-1773	Typhus?
1776-1777	Undefined				
1780	Smallpox?				
1781-1782	Smallpox	1781	Smallpox	1780-1782	Smallpox
1788-1789	Undefined				
1796-1797	Undefined			1796-1797	Smallpox
		1799	Smallpox		
1800-1801	Typhoid or Typhus?			1800-1801	Typhus or Typhoid?
1805-1806	¿Measles?	1805	Measles	1804-1806	Measles
1808	¿Smallpox?			1808	Smallpox
		1816	Smallpox	1816-1817	Smallpox
		1826	Measles	1826-1828	Measles
		1831	Smallpox	1831	Smallpox
1833	Cholera?			1833-1834	Cholera
				1838	Smallpox
				1843	Smallpox
1850	Cholera	1851	Cholera	1851	Cholera

Source: Own elaboration based on Jackson, 1981a, p. 316; Jackson, 1994, p. 167; and Magaña, 2017, p. 129.

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