Robert McCaa

Spanish and Nahuatl Views on Smallpox and Demographic Catastrophe in Mexico

With the 500th anniversary of European intrusion into the Americas, controversy over the demographic consequences of conquest and colonization quickened. A recent revisionist article in this journal concluded that the first old-world epidemic introduced into central Mexico, that of 1520, was “a mild attack of smallpox, such as occurred in contemporary Europe with some suffering, some deaths, and little further effect.” From a cross-checking of five key sources, the author concludes that “reporting that many died of it [smallpox] must be the influence of the Franciscan myth,” and “Nothing in the historical record allows us to feel confident that one-third to one-half of the Aztec population died of smallpox in 1520. No such catastrophe actually occurred.”

If smallpox did not contribute to demographic collapse in central Mexico in 1520, then the “catastrophe” school of contact population history is in error. If the best documented case of a “virgin soil” epidemic is wrong, the extension of the paradigm to other first encounters between Europeans and Native Ameri-

Robert McCaa is Professor of History at the University of Minnesota. He is the author of Marriage and Fertility in Chile: Demographic Turning Points in the Petorca Valley, 1840–1976 and editor of Latin American Population History Bulletin.

The author thanks Ron L. McCaa for research assistance, colleagues Ward Barrett and Carla Rahn Phillips for helpful suggestions in translating sixteenth-century Spanish texts, and Ann G. Carmichael, Woodrow W. Borah, David Henige, Cecilia Rabell Romero and, especially, Francisco Guerra for their critical reading of early drafts of this article. Translations are by the author except those for which an English translation is cited. Space limitations prevent the publication of passages in the vernacular.

© 1995 by The Massachusetts Institute of Technology and the editors of The Journal of Interdisciplinary History.

cans becomes tenuous, if not untenable. Fortunately for historians, a reexamination of the Mexican case is facilitated by the many extant sources in Spanish and Nahuatl, some only recently discovered—eyewitness accounts, extensive tax records for a large number of indigenous villages and towns, many inquiries by secular and religious authorities, and chronicles by both conquerors and the conquered.

As an outsider with no stake in either the revisionist or the “High Counters” camp, I was intrigued by the radical implications of Brooks’ thesis and began perusing his sources. Soon, I was lured into a rapidly escalating cross-examination of all seemingly relevant, readily available contemporary texts on the subject. Because the critique rests mainly on narratives rather than numerical evidence, I studied a wide-ranging body of sixteenth-century documents including annals, genealogies of rulers, reports, chronicles, and histories. I reexamined the five sources used by Brooks—accounts by Cortés, López de Gómara, Díaz del Castillo, and Motolinía and Sahagún, both Franciscans—and all other pertinent published sources in Spanish and Nahuatl (Table 1). I moved from a guarded sympathy for the revisionist argument to the discovery of overlooked sources, misread texts, flawed reasoning, and false analogies and, finally, to disagreement with fundamental points. I agree that an overall mortality figure of one-half for the 1520 epidemic is too high, but this fraction was discounted long ago by the principal writers on this subject. Moreover, the only source for this fraction, the Historia de los indios de la Nueva España (completed after 1541), is a mutilated, bastardized text attributed to, but not authored by, Motolinía.²

Unlike Brooks, I am confident that the impact of smallpox in New Spain was several times greater than in Europe. The alleged similarity is not corroborated by the considerable mass of evidence which has been published on this subject over the past 470 years. For the prestatistical era, precise estimates of smallpox mortality are unattainable for large regions of the world. Rather than quibble over whether the fraction of natives dying in the first smallpox epidemic was one-fifth, one-fourth, or one-third,

² For Brooks’ sources, see Table 1. Alfred W. Crosby, Jr., “Conquistador y Pestilencia: The First New World Pandemic and The Fall of the Great Indian Empires,” Hispanic American Historical Review, XLVII (1967), 333; Toribio Motolinía, Historia de los indios de la Nueva España (Mexico City, 1979; 1st ed., 1858).
I canvass the sixteenth-century texts for epidemiological and demographic insights. In the end, I favor the middle ground—somewhere substantially higher than what was common to sixteenth-century Europe, but lower than the crude figure of one-half attributed to Motolinía—closer to what the Franciscan actually wrote: “in some provinces half the people died, and in others a little less.”

EARLY ACCOUNTS OF SMALLPOX Brooks argued that the story of smallpox devastation originated in “Motolinía’s” Historia, that it is the “basis (to say no more)” of subsequent descriptions of high smallpox mortality, such as those by López de Gómara and Díaz del Castillo. In Table 1, references are listed by approximate year of composition and their principal sources identified—eye-witness reports, annals, chronicles, and histories. Revisionist skepticism warns against the ready acceptance of later chronicles or histories. Yet we are faced with the reality that over the sixteenth-century many native records were destroyed by Christians in campaigns to eradicate vestiges of indigenous religion. For Spanish writers, on the other hand, there were few opportunities to publish; indeed, the important works by Cortés, López de Gómara, and Sahagún were suppressed for years, although not destroyed. Book publishing began in Mexico in the 1530s, rising to some 200 titles by the end of the century, but publication in New Spain or even Spain was an expensive and uncertain proposition. Some manuscripts on the conquest went through several copyings and enjoyed surprisingly wide circulation without being published. Others were copied by successive generations of local scribes, earlier versions having long since disappeared. Authors reworked, revised, and recopied, as new sources or interpretations appeared. Díaz del Castillo’s two versions of the Historia Verdadera is a well-known example. The earliest copy was sent to Spain in 1576, but he continued to revise a second copy in Guatemala until

3 Toribio de Benavente o Motolinía (ed. Edmundo O’Gorman), Memoriales o libro de las cosas de la Nueva España y de los naturales de ella (Mexico City, 1971); idem, Historia, 13; in contrast to the embellished Historia: “in most provinces more than half died, and in others a little less.” Elsewhere the text reads: “in many provinces and towns half or more of the people died, and in others less than half, or a third part.” (Memoriales, 204). Provincia refers to a town or city and its surrounding villages and hamlets: “llaman provincias los pueblos grandes, y muchas de ellas tiene poco término y no muchos vecinos” (Memoriales, 245).
Table 1  The Smallpox Epidemic of 1520 in Early Colonial Accounts of the Conquest of Mexico

<table>
<thead>
<tr>
<th>AUTHOR</th>
<th>COMPOSITION</th>
<th>PUBLICATION</th>
<th>SOURCES</th>
<th>SMALLPOX EPISODES CITED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vázquez de Ayllón</td>
<td>1520</td>
<td>1866</td>
<td>eyewitness</td>
<td>Narváez’ ships</td>
</tr>
<tr>
<td>Cortés</td>
<td>1520s</td>
<td>1520s</td>
<td>eyewitness</td>
<td>Maxixcatzin, caciques</td>
</tr>
<tr>
<td>Martyr</td>
<td>1526</td>
<td>1520s</td>
<td>Cortés, reports</td>
<td>Cuitlahuactzin</td>
</tr>
<tr>
<td>“Historia de los mexicanos”</td>
<td>1530s</td>
<td>1882</td>
<td>pictographs</td>
<td>Cuitlahuactzin, many died</td>
</tr>
<tr>
<td>Anales de Tlatelolco I</td>
<td>1540s</td>
<td>1903</td>
<td>oral tradition</td>
<td>cocoliztli</td>
</tr>
<tr>
<td>Vázquez de Tapia</td>
<td>1540s</td>
<td>1939</td>
<td>eyewitness</td>
<td>more than one-fourth died</td>
</tr>
<tr>
<td>Motolinia Memoriales</td>
<td>1530–40s</td>
<td>1903</td>
<td>eyewitness</td>
<td>black slave, plague, half-died, some provinces</td>
</tr>
<tr>
<td>“Motolinía” Historia</td>
<td>1540s–?</td>
<td>1858</td>
<td>Memoriales</td>
<td>black slave, plague, half or more died, most provinces</td>
</tr>
<tr>
<td>Sahagún</td>
<td>1540–76</td>
<td>1829</td>
<td>native eyewitnesses</td>
<td>pustules, etc.</td>
</tr>
<tr>
<td>López de Gómara</td>
<td>1540</td>
<td>1552</td>
<td>Cortés, Motolinia</td>
<td>two episodes: black slave, Maxixcatzin</td>
</tr>
<tr>
<td>Cervantes de Salazar</td>
<td>1554</td>
<td>1554</td>
<td>López de Gómara, Motolinia</td>
<td>little-by-little, many incidents</td>
</tr>
<tr>
<td>Díaz del Castillo</td>
<td>1550–70s</td>
<td>1632</td>
<td>eyewitness, López de Gómara</td>
<td>five episodes: black slave, great mortality, Maxixcatzin, smallpox weakened warriors, Cuitlahuactzin, Chalco</td>
</tr>
<tr>
<td>Anales de Texcamaclato</td>
<td>1564</td>
<td>1903</td>
<td>oral tradition</td>
<td>huey zahuati</td>
</tr>
<tr>
<td>Aguilar</td>
<td>1560s</td>
<td>1900</td>
<td>eyewitness</td>
<td>women, soldiers</td>
</tr>
<tr>
<td>Códice Ramirez</td>
<td>1560</td>
<td>1878</td>
<td>oral tradition</td>
<td>Cuitlahuactzin</td>
</tr>
<tr>
<td>López de Velasco</td>
<td>1574</td>
<td>1894</td>
<td>official inquiries</td>
<td>never seen before</td>
</tr>
<tr>
<td>Durán</td>
<td>1570s</td>
<td>1867</td>
<td>Crónica X</td>
<td>black slave, newness</td>
</tr>
<tr>
<td>Tezozomoc</td>
<td>1578–98</td>
<td>1878</td>
<td>Crónica X</td>
<td>Cuitlahuactzin</td>
</tr>
<tr>
<td>Pomar</td>
<td>1580</td>
<td>1891</td>
<td>oral tradition</td>
<td>nursing, clothing</td>
</tr>
<tr>
<td>Muñoz Camargo</td>
<td>1576–85</td>
<td>1981</td>
<td>Motolinia, Sahagún</td>
<td>black slave; first, worst</td>
</tr>
<tr>
<td>Sahagún</td>
<td>1585</td>
<td>1840</td>
<td>native eyewitnesses</td>
<td>pustules, etc.</td>
</tr>
<tr>
<td>Anales de Tenochtitlán</td>
<td>1608</td>
<td>1902</td>
<td>oral tradition</td>
<td>totononaliztli</td>
</tr>
<tr>
<td>Herrera</td>
<td>1600</td>
<td>1615</td>
<td>many, eyewitnesses</td>
<td>much</td>
</tr>
<tr>
<td>Chimalpahín</td>
<td>1620s</td>
<td>1889</td>
<td>López de Gómara, natives</td>
<td>many rulers died</td>
</tr>
<tr>
<td>Codex Chimalpopoca</td>
<td>1610–28</td>
<td>1945</td>
<td>oral tradition</td>
<td>many rulers died</td>
</tr>
<tr>
<td>Anales de Tlatelolco II</td>
<td>1700?</td>
<td>1948</td>
<td>oral tradition</td>
<td>bloody ears</td>
</tr>
</tbody>
</table>
"Cited by Brooks.

NOTE For detailed discussion of sources and incidents, see text and notes.

SOURCES Licenciado Lucas, Vázquez de Ayllón, “Relación que hizo el Licenciado Lucas Vázquez de Ayllón, de sus diligencias para estorbar el rompimiento entre Cortés y Narváez,” in Pascual de Gayangos (ed.), Cartas y relaciones de Hernán Cortés al Emperador Carlos V (Paris, 1866), 39, 42.

Hernando Cortés, Cartas de Relación (Mexico City, 1971, Biblioteca Imperial de Viena Ser. Nov. 1:6000).


German Vázquez (ed.), Relación de méritos y servicios del conquistador Bernardino Vázquez de Tapia (Madrid, 1988).

Toribio de Benavente or Motolinía (ed. Edmund O’Gorman), Memoriales o libro de las cosas de la Nueva España y de los naturales de ella (Mexico City, 1971).

Toribio Motolinía, Historia de los indios de la Nueva España (Mexico City, 1979; orig. ed., 1858).


Francisco López de Gómara (ed. Carlos María de Bustamante), Historia de las Conquistas de Hernando Cortés (Mexico City, 1826).


Bernal Díaz del Castillo, Historia Verdadera de la Conquista de la Nueva España (Mexico City, 1966; 5th ed.).


Francisco (Alonso) de Aguilar, Relación breve de la conquista de la Nueva España (Mexico City, 1977).

Códice Ramírez manuscrito del siglo XVI intitulado: Relación del origen de los indios que habitan esta Nueva España según sus historias (Mexico City, 1975; orig. ed., 1878).


Juan López de Velasco, Geografía y descripción universal de las Indias (Madrid, 1971).

Diego Muñoz Camargo (ed. Rene Acuña), Descripción de la Ciudad y Provincia de Tlatelolco de las Indias y del mar oceano para el buen gobierno y enoblecimiento dellas (Mexico City, 1981; reprint ed.).

Anales de Tenochtitlán (Codex Aubin) in James Lockhart (ed. and trans.), We People Here: Nahual Accounts of the Conquest of Mexico (Berkeley, 1993), 43, 279.


Chimalpáuhui (ed. and trans. Silvia Rendón), Relaciones originales de Chalco Amaquemecan escritas por Don Domingo Francisco de San Antonio Muñón Chimalpáuhui Cauahtlehuamiztli (Mexico City, 1965).


Anales de Tlatelolco II in Lockhart We People Here, 37–42, 259.
his death in 1584. The first was printed in a bastardized edition almost a half-century after his death (1632); the second was not published until 1904.4

Representative of the annals genre is the Anales de Tlatelolco, two copies of which survive. The first was probably written in the 1540s and the second in the late seventeenth or early eighteenth century, but both purport to incorporate pictographs and texts created much earlier. The writings of Motolinía and Sahagún suffered similar travails. The Historia attributed to Motolinía was a hurried copy of his Memoriales (portions of which have since been lost) made, probably in Spain, by a copyeditor/publicist who lacked training in Nahuatl and also lacked Motolinía’s zeal for accuracy.5

At issue here is the course of smallpox in a nine-month period from April 1520, when Pánfilo de Narváez landed an expeditionary force near Veracruz, to January 1521, when Cortés returned to the Central Valley of Mexico to resume his efforts to conquer the Aztec capital, Tenochtitlan.

The earliest Spanish recording of smallpox in central Mexico, dated August 30, 1520, is a report to Charles V by Vázquez de Ayllón, judge of the Real Audiencia of Santo Domingo. This report, first published in 1866, has gone unnoted by most historians. Judge Vázquez de Ayllón, writing only a few months after the event, described a voyage with the Narváez flotilla to Cozumel, an island off the east coast of the Yucatán peninsula, and then to Veracruz. On Cozumel he found very few natives and attributed their disappearance to smallpox. According to the judge, the natives had been “stuck” (pegado) by the disease introduced by Indians from the island of Fernandina (Cuba) who were brought to Cozumel as auxiliaries in the company of Spaniards.

Vázquez de Ayllón had no theory of contagion, but his report shows that he understood how the pasty mucous of smallpox spread (*pegado* as in *pegante*, originally, fish-paste).⁶

After a deadly crossing during which a tropical storm destroyed a half-dozen ships and scattered the remainder, the flotilla regrouped to land near Veracruz and the native settlement of Cempoala. Smallpox broke out almost immediately. Vázquez de Ayllón reports that great harm had been inflicted on those lands [New Spain] because smallpox had struck the Indians there ("*porque han pegado las viruelas a los indios dellas*”). The report states unequivocally that smallpox was carried from Fernandina to the mainland by natives in the Narváez expedition. Unfortunately for the historical record, by mid-May Panfilo de Narváez rebelled against the judge (who by this time had fallen ill also), forced him and his party onto a ship and sent them back to Cuba to be deposited in the hands of Diego Velasquez, Narváez’ sponsor. Thanks to political intrigue and a second storm, the ship was carried instead to a remote corner of Hispaniola. Vázquez de Ayllón disembarked, trekked across the island on foot, and arrived safely at Santo Domingo, where he drafted a lengthy account of the affair for the emperor.⁷

This eyewitness report on events within the Narváez camp ends several weeks before the well-known confrontation with Cortés and before any large-scale effects of the introduction of smallpox could be observed. The smallpox story received only a few lines in Vázquez de Ayllón’s report. Yet, the fact that disease is mentioned at all in a record detailing mutiny, subversion, and possibly the loss of a valuable colony hints at the significance of the eruption of pestilence in “those lands.” The epidemic is important to the story because it reveals the recklessness of Velasquez’ mutiny and his utter disregard for the prosperity both of Fernandina and of the new lands. The severity of what Vázquez de Ayllón saw with respect to smallpox is limited to the brief

---

⁶ Licenciado Lucas Vázquez de Ayllón, “Relación que hizo el licenciado Lucas Vázquez de Ayllón, de su diligencias para estorbar el rompimiento entre Cortés y Narváez,” in Pascual de Gayangos (ed.), *Cartas y relaciones de Hernán Cortés al Emperador Carlos V* (Paris, 1866), 39, 42.

⁷ Ibid., 39. For other testimony on the use of Indian auxiliaries from Fernandina, see the early account by Juan Díaz, *Provincias y regiones recientemente descubiertas en las indias occidentales, en el ultimo viaje* (Mexico City, 1972), 54; Crosby, “Conquistador y Pestilencia,” 328.
phrase “han hecho mucho daño” (has caused great harm), but its significance required no elaboration for the emperor’s advisors or others who were familiar with the demographic catastrophe unfolding in the islands.\(^8\)

The introduction of smallpox among the Aztecs is frequently attributed to a black slave, given the name—Francisco Eguía—in one account. Hallowed by repetition, this story has become something of a trope—unlike the almost ignored tale of “Joan Garrido,” also a black slave, the first to sow and harvest wheat in Mexico. The anecdote of the smallpox-infected slave occurs in most Spanish chronicles of the conquest (those by Motolinía, López de Gómar, and Díaz del Castillo—but not Cortés or Sahagún), in native-mestizo accounts such as the *Relación Geográfica* for Tlaxcala by Muñoz Camargo, the *Codex Ramírez*, Ixtlixochitl’s *Décima Tercia Relación*, and even in many modern textbook descriptions of the conquest of Mexico.\(^9\)

According to Brooks, reciting the story undermines the credibility of all would-be chroniclers of smallpox in two ways. First, it reveals their dependence on Motolinía, the first-known written account of the tale and, second, “Motolinía’s” own *Historia* is fable, an exercise in “mythopoesis,” a strained allegory for the biblical account of the Ten Plagues. Brooks reasons that Motolinía needed an “Ethiopian” and that without a theory of contagion, no Spaniard would have made the connection much less remembered a source for the disease.\(^10\)

Whether smallpox was introduced by a black slave, by Cuban Indians, or by both is important only for determining the validity of sources. No historian, not even Brooks, doubts that smallpox reached central Mexico for the first time in April or May 1520,
with the arrival of the Narváez expedition. As to the theory of contagion, the Spanish vernacular has long provided a simple, but credible notion of how the disease was spread—in a word, *pegar* (to stick or adhere).\(^{11}\)

From May to September 1520, smallpox spread slowly inland, 150 miles to Tepeaca and Tlaxcala, and then on to Tenochtitlan in September or October. A second eyewitness account of smallpox is reported in another letter to Charles V, that by Cortés dated May 15, 1522, ten months after the fall of Tenochtitlan. Cortés, seeking to justify his transgressions and to position himself to claim vast rewards from the newly conquered lands, provided an exceedingly detailed report of his actions. He described the high regard which native leaders had for him and thereby justified his usurpation of royal authority in appointing native rulers. Cortés wrote that “many chieftains were dying and they wished that by my hand and with your approval and mine others be put in their place.” The many deaths of leaders were due to “the smallpox distemper *which also enveloped those of these lands like those of the islands.*” I emphasize what Brooks’ paraphrase omitted: Cortés’ explicit comparison of the impact in New Spain with what had happened in the islands.\(^{12}\)

The guessing about how many natives peopled the islands before 1492 continues without relief (ranging for Hispaniola from 8 million to as few as 60,000), but there is widespread agreement that depredation and disease drove the native population to near extinction by 1520. Within a decade of first contact in 1492,

---


Spaniards turned to raiding nearby islands for slaves, the favored method for replenishing the labor supply. The near-demise of natives on the islands was used to justify Cortés’ expedition of 1519. His license was not to conquer or settle “those lands,” but to “acquire knowledge and measure the said land, and to bring captive Indians from there, from which they could serve on the island of Cuba to prospect for gold and the other things for which they are needed.” Cortés chose instead to conquer, and his letters to the emperor were designed to justify his disobedience as a means of gaining a great reward.13

In an earlier letter to the emperor dated October 30, 1520, Cortés did not comment on smallpox or appointing chieftains to leadership. It is likely that some deaths of smallpox-infected chieftains had occurred by that date, but Cortés chose to bide his time until the wisdom of his usurpations could be made clear to the emperor. Cortés’ letters, regardless of length, were not histories, but rather briefs, written to advance his cause in the eyes of Charles V. The relevance of smallpox was to warrant Cortés’ actions. Otherwise disease is scarcely mentioned in his letters. From 1520 to 1526, Cortés addressed some 250 pages of correspondence to the emperor, but his account of smallpox amounts to less than a half-page of text.14

Cortés names only one leader who died of smallpox, Maxixcatzin, a Tlaxcalan. In 1519, Maxixcatzin was the first highland ruler to embrace Cortés’ cause, and then, following the Noche Triste (June 30, 1520), the first to provide succor to the badly beaten cristianos. In the ensuing weeks, when the Mexica sought to press their victory by rallying all the native kingdoms against the invaders, Maxixcatzin spoke forcefully and persuasively for Tlaxcalans to remain loyal to Cortés. Fortunately for Cortés,

14 Gonzalo Fernández de Oviedo y Valdés relates Cortés’ story in Juan Pérez de Tudela Bueso (ed.), Historia general y natural de las Indias (Madrid, 1959), V, 84.
Maxixcatzin’s death from smallpox occurred after the loyalty of his people had been assured, but the precise date is unrecorded.\textsuperscript{15}

**Cuitlahuactzin and other native rulers died of smallpox**

Although Brooks flatly denied it, Cuitlahuactzin, the Mexica ruler, also died of smallpox, as did many other native rulers, allies and enemies alike. Within a pair of parentheses, Brooks would consign to the historian’s dustbin the standard story of the Mexica hero’s death from smallpox—without citing a single source or authority. The most trustworthy indigenous source, the *Anales de Tenochtitlan* (Codex Aubin), chronicled Cuitlahuatzin’s death: “The tenth ruler was installed in Ochpaniztli, Cuitlahuatzin. He ruled for only eighty days; he died at the end of Quecholli of the pustules (smallpox), when the Castilians had gone to Tlaxcala.” This account placed the death in the month of Quecholli, which in 1520 fell in late November or early December (not August or September as Brooks stated), scarcely a month before Cortés renewed the assault on the Mexican stronghold, Tenochtitlan.\textsuperscript{16}

Some confusion about Cuitlahuatzin’s death may arise because Cortés did not report the event. Indeed, Cortés’ letters scarcely acknowledged the name of his most formidable opponent. On the night of June 30, the *Noche Triste*, when Cortés’ troop fought their way out of Tenochtitlan, Cuitlahuactzin’s forces nearly annihilated the castellanos and their Tlaxcalan auxiliaries. López de Gómez cited Cuitlahuactzin’s military and diplomatic successes in rallying the natives and also reported the death as occurring from smallpox, before Christmas 1520. Díaz del Castillo remembered Cuitlahuactzin as “the lord who ejected us from Mexico” and attributed his death to smallpox as also having occurred before Christmas. Motolinía cannot be the source for these accounts because the Franciscan chronicler, like Cortés, did not mention Cuitlahuactzin. In Spain, Cuitlahuactzin’s death is first chronicled by Martyr in *De Orbe Novo*, written before his own death in 1526. Martyr reported that Cuitlahuactzin (incorrectly referred to as “Hastapalappa,” the name of the place he last

\textsuperscript{15} Cortés, *Cartas de Relación*, 105.

\textsuperscript{16} Brooks, “Revising the Conquest,” 20; *Anales de Tenochtitlan* (Codex Aubin) in James Lockhart (ed. and trans.), *We People Here: Nahua Accounts of the Conquest of Mexico* (Berkeley, 1993), 279.
ruled) “had been named king at Temistitan [Tenochtitlan], but after a reign of four months had died of smallpox and had been succeeded by his sister’s son, Catamazin [Cuauhtémoc].” Martyr did not reveal his sources, but he was not following any of Cortés’ extant Cartas.17

Sixteenth-century indigenous annals told the same story: “Upon the death of Mutezuma those of Mexico made Cuitlavazí from Estapalapa, brother of Mutezuma, their leader. He was lord for eighty days: smallpox was given to all the Indians and many died, before they [the Castilians] returned to conquer the city.” The Crónica Mexicayotl, written down in 1609, interpreted “Quecholli” as December 3 and noted as well the death of Axayacatzín, Cuitlahuacztín’s son, also from smallpox (totomonaliztli). Sahagún’s personal history of the conquest, completed in 1585, confirmed these accounts and tersely assessed the military significance of the epidemic: “Among the Mexicans who fell victim to this pestilence was the lord Cuitlahuacztín, who they had elected a little earlier. Many leaders, many veteran soldiers, and valiant men who were their defense in time of war, also died.” Orozco y Berra, a meticulous nineteenth-century Mexican historian, ascribed Cuitlahuacztín’s death to smallpox, dated about November 25.18

The Nahuatl sources that report “cause of death” agree that Cuitlahuacztín succumbed to an unusual, terrible pestilence—reported variously as cocoliztli (illness, great plague or pestilence, smallpox), huey zahuatl (great pestilence of smallpox, great ulcerous leprosy), or totomonaliztli (blisters, smallpox). These generic terms describe visible symptoms. A precise translation is impossible because there was nothing like smallpox in the Nahuatl lexicon. Barlow interpreted totomonaliztli as calenturas (fevers) and Lockhart favored “pustules.” A sixteenth-century mexicana-castellana dictionary defined the root term totomonalitl as hazer a otro bexigas o ampollas (to make blisters or pustules [of smallpox] under the skin of another). The Anales de Tenochtitlan recorded Cuitla-


18 “Historia de los mexicanos por sus pinturas,” in Icazbalceta (ed.), Nueva Colección de Documentos para la historia de México (siglo XVI) (Mexico City, 1891; 2d. ed., 1965), 233 (only the 2d ed. contains the pictures); Hernando Alvarado Tezozomoc (ed. Adrián León), Crónica Mexicayotl (Mexico City, 1949), 160. I follow Manuel Orozco y Berra’s chronology in Historia Antigua (Mexico City, 1880), IV, 364–372. Sahagún, Conquest, 103.
Smallpox in Mexico

huatzin’s reign and death. The accompanying pictograph showed his enshrouded corpse encircled with tiny globes (ampollas), the symbol for smallpox according to Orozco y Berra. Chimalpahin, the historian of Chalco, also attributed the death to “pustules and ulcers from smallpox” (ampollas y llagas de viruelas [cahuatl]).

The evidence that smallpox ravaged the native elites pervades the historical record. The story is significant because the epidemic devastated native diplomatic and military capabilities precisely as Cortes prepared to renew his assault on Tenochtitlan. Chimalpahin, a native historian, reported the smallpox-inflicted deaths of some of the lords of Chalco, using the word cahuatl four times in a brief passage. A Nahuatl-French edition of Chimalpahin’s Séptima Relación first published a century ago, invariably translated cahuatl as “variole” (smallpox). Chimalpahin reported:

Year 2-flint, 1520. Then there was the plague [ahuatl] which caused great mortality. From it died the Huehue Yotzintli Tlayllotlac Teuhctli, Señor of Tzacualtitlan Tenanco Amaquemecan. He ruled thirty-three years.

19 All of the most important sources which mention Cuitlahuatzin’s death agree on the essentials, although none in the same words. Consider the following: Jesús Monjarás-Ruiz, Elena Limón, and María de la Cruz Paillé H. (eds.), Obras de Robert H. Barlow, Tlatelolco: Fuentes e Historia (Mexico City, 1989), II, 263; Tezozomoc, Crónica mexicayotl, 160; Bernardino de Sahagún (eds. Charles E. Dibble and Arthur J. O. Anderson), Florentine Codex: General History of the Things of New Spain (Santa Fe, 1955–75), VIII, 4, 22; idem, Conquest, 103; López de Gómar, Historia, II, 14; Díaz del Castillo, Historia Verdadera, I, 414; “Historia de los mexicanos,” in Icazbalceta (ed.), Nueva Colección, 233; Ixtlilxochitl, Décima tercera relación, 13; Anales de Tenochtitlan in Lockhart, We People Here, 279; Chimalpahin (ed. and trans. Silvia Rendón), Relaciones originales de Chalco Amaquemecan escritas por Don Domingo Francisco de San Antón Muñón Chimalpahin Cuauhtlehuanitzin (Mexico City, 1965), 236.

Notwithstanding the relative late recording of the Tenochtitlan annals, Lockhart concluded that “in all likelihood he [the writer] has given us quite untouched and authentic elements of Tenochca oral and written tradition.” Most authorities think the Annals were written in 1528, but Lockhart argued that internal linguistic evidence suggests the 1540s as a more likely date of composition (Ibid., 39). In any case, this is an early indigenous source based on oral tradition.

The Spanish loan word for smallpox, viruelas, does not enter written Nahuatl until the late sixteenth-century. The imputation of smallpox in this translation is by Lockhart; see also Alonso de Molina, Vocabulario en lengua castellana y mexicana y mexicana y castellana (Mexico City, 1970; orig. ed., 1571), 150v. Other episodes of smallpox in 1520 are discussed in Chimalpahin, Relaciones originales, 158. Although written in Nahuatl after 1620, these relaciones were based on pictographs and oral traditions (Lockhart, We People Here, 39). The interpretation of the pictographic evidence is Orozco y Berra, Historia Antigua, IV, 493, n. 1.
And from this same thing died his adviser . . . Also of smallpox [cahuatl] died Señora Tlacochuatzin . . . From the same cause died Itzcahuatzin y Tlatquic, from Itzcahuacan, who succeeded in governing thirty-five years and his own son, the said Necuametzin [also died of smallpox] . . .

Díaz del Castillo attested as well that the lord of Chalco died of smallpox, but López de Gómara only noted the death without stating the cause. Cortés scarcely mentioned the Chalco incident, and Motolinía ignored it entirely. The absence of comments by Cortés or Motolinía is insignificant because there is ample independent evidence of smallpox striking down many of the native elite.20

Other Nahuatl sources related the epidemic in a single sentence, such as the Anales de Tlatelolco, where some 4,000 words were allotted to the conquest but only two lines to the epidemic: “Then a plague [cocoliztli] broke out of coughing, fever, and pox [cahuatl]. When the plague [cocoliztli] lessened somewhat, (the Spaniards) came back.” In Cuauhtitlan, the entry for 1520 reads: “Then Yohualtonatiuh was inaugurated. It was in his time that the Spaniards arrived. Both Citlalcoatl and Yohualtonatiuh died of the smallpox.” Outside the central basin and fifty miles south-east of Puebla in the district of Tepeaca, the surviving copy of the Annals of Tecamachalco, which dates from the 1590s, chronicled the event-of-the-year for 1520 as “very frightful great smallpox” (“cenca temahmauhtí ynic mo chiuh huey zahuatl”). This chronicle omitted any mention of conquest or deaths due to war. Smallpox was the event for 1520.21

The best test would be to tally all the Nahuatl annals by whether smallpox is or is not mentioned for 1520. Pending that exercise, it is evident that any survey of native annals and picto-


graphs will show widespread, almost universal reference to the epidemic and its devastation of the native elite.

The military significance of the pestilence was enormous. Upon accession Mexica rulers quickly sought to establish hegemony and legitimacy through force, by raiding subject towns. In 1520, with the sudden death of Cuitlahuatzin and the ascent of the youthful Cuauhtémoc, there was no opportunity to impose allegiance through war. Instead, Cortés proceeded to pick off subject-towns, often through diplomacy, one-by-one. An authoritative military history contended that ultimately: “Cortés' victory was more political than military, . . . With the fall of Tenochtitlan, the rest of Mesoamerica fell to Spanish domination with little or no struggle.”

MOTOLINIA AND OTHER CONTEMPORARY SOURCES Brooks questioned the veracity of supposed eyewitness accounts of the epidemic claiming that they were derived from a “Franciscan myth,” a history authored by Motolinía and tailored to fit biblical prophecy. Brooks saw “Motolinía’s” *Historia* as the keystone in the argument that smallpox devastated Mexico in 1520. The commonalities among the texts were seen as weakening their credibility, but common threads may strengthen the fabric, reenforcing agreement on key themes. Brooks suggested that López de Gómaras copied from the *Historia* and, in turn, Díaz del Castillo from López de Gómara, yet their descriptions differ, as shown in Table 2. López de Gómaras repeatedly acknowledged his dependence upon Motolinía—a fact long recognized by Mexicanists—but Cortés’ secretary also used a variety of other sources, some of which are no longer available. In turn, Díaz del Castillo’s “True History” was written, in part, to correct the excesses of López de Gómara’s “Conquistas de Cortés.” I was surprised to discover that Motolinía reported only one anecdote regarding smallpox, whereas López de Gómara recounts three, and Díaz del Castillo, five.

Motolinía’s uniqueness lies in his use of biblical allegory and the observation that natives did not know how to deal with

22 Ross Hassig, *War and Society in Ancient Mesoamerica* (Berkeley, 1992), 164.
Table 2 Smallpox Anecdotes in Motolinia, Gómara, and Díaz del Castillo

<table>
<thead>
<tr>
<th>DESCRIPTIONS</th>
<th>MOTOLINIA</th>
<th>GÓMARA</th>
<th>DÍAZ DEL CASTILLO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cempoala (“esta tierra”)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plague</td>
<td>yes</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>black slave as source</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>“pegar” (Indians)</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>slept and ate together</td>
<td>-</td>
<td>yes</td>
<td>-</td>
</tr>
<tr>
<td>great sickness</td>
<td>yes</td>
<td>yes</td>
<td>-</td>
</tr>
<tr>
<td>great mortality</td>
<td>-</td>
<td>-</td>
<td>yes</td>
</tr>
<tr>
<td>some province, half</td>
<td>yes</td>
<td>yes</td>
<td>-</td>
</tr>
<tr>
<td>did not know the remedy</td>
<td>yes</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>bathe often</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>no one to make bread</td>
<td>yes</td>
<td>yes</td>
<td>-</td>
</tr>
<tr>
<td>everyone in a house</td>
<td>yes</td>
<td>yes</td>
<td>-</td>
</tr>
<tr>
<td>pulled the houses down on them</td>
<td>yes</td>
<td>yes</td>
<td>-</td>
</tr>
<tr>
<td>covered with the pox</td>
<td>yes</td>
<td>-</td>
<td>yes</td>
</tr>
<tr>
<td>leprous</td>
<td>yes</td>
<td>yes</td>
<td>-</td>
</tr>
<tr>
<td>filled with holes</td>
<td>yes</td>
<td>yes</td>
<td>-</td>
</tr>
<tr>
<td>Tlaxcala: Cortés’ appointing leaders (Maxixcatzin)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maxixcatzin</td>
<td>-</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>many leaders died of smallpox</td>
<td>-</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>pox so common</td>
<td>-</td>
<td>-</td>
<td>yes</td>
</tr>
<tr>
<td>Indians from distant lands</td>
<td>-</td>
<td>-</td>
<td>yes</td>
</tr>
<tr>
<td>Entry to the Valley of Mexico</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>smallpox weakened warriors</td>
<td>-</td>
<td>-</td>
<td>yes</td>
</tr>
<tr>
<td>Tenochtitlan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cuitlahuatzin died from smallpox</td>
<td>-</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Chalco</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>leader died of smallpox</td>
<td>-</td>
<td>-</td>
<td>yes</td>
</tr>
</tbody>
</table>

NOTE: “-” signifies not mentioned.


smallpox. López de Gómara, unlike other chroniclers, described pox as hitting (pegó) a single house in “Zempoálam” (implied, but not stated in Motolinia) and then spreading “from one Indian to another and because the Indians were many and slept and ate together, spreading widely and quickly, killing as it went throughout that land”—other details which went unreported by Motolinia. Díaz del Castillo was present in Cempoala before the smallpox attack had subsided. He related its spread in terms of “striking and filling all the land with it [smallpox]”, “from which there was great carnage and according to what the Indians said they had never had this illness before.” These authors agreed on the
severity of the attack, but they never cited the same set of episodes to prove their points.24

Any assertion that Díaz del Castillo never saw smallpox in Mexico is simply false. Díaz del Castillo arrived in Cempoala in May 1520 and was present later in Tlaxcala, when Cortés was appointing leaders to replace those felled by the disease. For January 1521, Díaz remarked that, upon beginning the final campaign against Tenochtitlan, he and his companions reentered Texcoco, a twin city of the Aztec capital, without opposition, in part due to the fact that many warriors were still recovering from smallpox and were too weak to fight as a result of the illness which hit and spread throughout the land. Abridged English translations of the Historia Verdadera often omit this and other episodes dealing with smallpox.25

Brooks insisted that Motolinía’s account of the spread of illness came from biblical notions of the clean and the unclean, but it is telling that Motolinía and most sixteenth-century Spanish writers, secular as well as religious, uniformly relied on the word pegar to convey, somewhat metaphorically, the means of transmission of smallpox. The word is used to describe the spread of matlazahuatl (typhus), plague, and other diseases which are now considered contagious. Indeed, Nebrija’s Spanish-Latin vocabulary defined “contagion” as “an illness which sticks” (dolencia que

24 Motolinía, Historia; Díaz del Castillo, Historia Verdadera, I, 373, 378, 425, 438, II, 379. Maurice Keatinge reduces the account to: “a Negro who was in smallpox, an unfortunate importation for that country for the disease spread with inconceivable rapidity, and the Indians died by the thousands” (The True History of the Conquest of Mexico by Capitan Bernal Díaz del Castillo, One of the Conquerors, Written in the Year 1568 [London, 1800], 206). Alfred Percival Maudslay, who based his translation (The Discovery and Conquest of Mexico, 1517–1521 [London, 1928], 399) on the Hakluyt Society’s publication of the Guatemala text, offers a literal phrasing of “pegase e hinchiese toda la tierra de ellas, de lo cual hubo gran mortandad”: “the whole country was stricken and filled with it [smallpox] and from which there was great mortality.” No translator made much of the chronicler’s use of the subjunctive. Hugh Thomas, relying on a seventeenth-century source (Fernando Alva de Ixtlilxochitl), placed the Cempoala outbreak before the expulsion of Spaniards from Tenochtitlan (The Conquest of Mexico [London, 1993], 741, n. 63).

25 The passage paraphrased here is rarely translated in English editions (Díaz del Castillo, Historia Verdadera, I, 438). Alone among the Romance languages, sixteenth-century Spanish used cundir to denote the propagation of pestilence; see Joan Corominas, Diccionario crítico etimológico castellano e hispánico (Madrid, 1980) I, 982; Elio Antonio de Nebrija, Vocabulario de Romance en Latin (Madrid, 1973; orig. ed., 1516) defined cundir as “to spread little-by-little” (this revised version supersedes the 1495 edition).
se pega). Pegar also describes how fire is spread and the means by which one gets vices, customs, opinions, knowledge and, even, jokes. Thanks to the word pegar, by the seventeenth-century, as the theory of communicable disease became respectable among educated Europeans, Spanish folk discourse required little adjustment to explain the transmission of contagious diseases ("Vale tambien comunicar una cosa a otra. Comunmente se dice de las enfermedades contagiosas.").

Motolinía, like Vázquez de Ayllón and many other eyewitness chroniclers, used pegar to describe the spread of smallpox. To explain transmission from the natives of Fernandina to those of Cempoala, han pegado was chosen. Two decades later, Motolinía’s Memoriales employed the same imagery: smallpox spread to the Indians ("pegar a los indios"). Sahagún and his assistants, translating from the Nahuatl, described death from smallpox as "the sticky [spreading?] disease" ("la muerte pegajosa") "of which many died, but others died only of hunger because no one cared for anyone else." When the first measles epidemic struck in 1531, Motolinía described it as "jumping" (saltar) from a Spaniard:

... and from him it jumped to the Indians, and if there had not been much advance warning so that they could be told, prepared and even preached that they not bathe or take other remedies contrary to the illness; and with this pleased the Lord so that not as many died as from smallpox; and they called this the year of the small leprosy (lepra) and for the first, the year of the great leprosy.

The notion of the communicability of disease might not enter formal European discourse until the middle of the sixteenth-century, but, as early as 1431, the imagery was circulating in a Spanish medical manual written in the vernacular to facilitate its dissemination. Later, pegar appears frequently in the writings of the first conquistadores of New Spain.
Also mistaken is the argument that Motolinía simply wrote to emphasize parallels between the suffering of the chosen people in Egypt and the natives in New Spain. Motolinía recounted the Ten Plagues, but then, in a passage expunged from the Historia, challenged popular Spanish beliefs by contrasting the plagues of biblical Egypt with those of contemporary New Spain:

Well considered, there are differences, great differences, between these plagues and those of Egypt. First, in only one of those [of Egypt], and that in the last, were there deaths of people; but here, in each of these there have been many deaths. Second, in each one of the houses there remained someone to mourn the dead, and here, of the plagues already described, many houses were left abandoned, because all their occupants died. Third, in Egypt, all the plagues lasted only a few days, and here, some a very long time. Those, by the commandment of God: most of these by the cruelty and depravity of men, although God permitted it.29

The Franciscan was not guilty of mythopoesis, as Brooks suggested. Motolinía engaged his Catholic readers’ religious beliefs—that the natives’ afflictions were due to God’s wrath—then he disputed the commonplace thesis of conquest as fulfillment of biblical prophesy by emphasizing the vast differences between the plagues of Egypt and those of New Spain. Historians who traffic in English translations miss the subtlety of Motolinía’s argument because they, like Brooks, favor the Historia (first published in 1858; first English edition 1949) over the Memoriales (first published in 1903; no English translation). Confusion reigns because

survives in six slightly varying copies. Chapter VII examines diseases that stick (“De las enfermedades que se pegan”) and places smallpox among them, 34. Vázquez de Ayllón, “Relación,” 42. Translated as “muerte pegajosa” by Alejandra Moreno Tosanco in Daniel Cosío Villegas (ed.), Historia General de México (Mexico City, 1976), II, 9–10. Other sixteenth-century writers who used pegar are: Díaz del Castillo to describe the transmission of modorra (Historia Verdadera, II, 263); Diego Muñoz Camargo (ed. Rene Acuña), Descripción de la Ciudad y Provincia de Tlaxcala de las Indias y del mar océano para el buen gobierno y enoblecimiento dellas (Mexico City, 1981; reprint ed.), 35v: “las viruelas que tru xo y pegó”; Herrera y Tordesillas, Historia General, Decada II, libro 10, cap. IV (398): “las viruelas pegándose con los indios”; Códice Ramírez; Francisco Cervantes de Salazar (ed. Manuel Magallón), Crónica de la Nueva España (Madrid, 1971, Biblioteca de Autores Españoles vol. 245), II, 98; Juan López de Velasco, Geografía y descripción universal de las Indias (Madrid, 1971), 14.

29 Motolinía, Memoriales, 30.
the original manuscripts of both are missing, and the extant copies are incomplete.

Since 1982 scholars have known that the Historia is an abridged version, rather “an atrocious mutilation,” of the Memoriales. The Historia was extracted from the Memoriales, hastily edited and transcribed, perhaps dictated, and certainly altered, probably in Spain by someone poorly informed of conditions in New Spain, wholly ignorant of Nahuatl, unclear about the making of tortillas, and even wrong about the year the Franciscans first arrived in New Spain. Brooks compounded the folly by imagining the Memoriales to be a derivative of the Historia. Motolinía, an informed, sympathetic observer who entered New Spain in 1524, quickly became a skilled Nahuatl linguist and continued his ecclesiastical work in Mexico for almost forty-five years. He would not have committed the factual and linguistic errors unique to the Historia. O’Gorman argued that the Historia was constructed in Spain from Motolinía’s Memoriales to provide testimony for revoking the New Laws. The mutilation of the text is so extensive that O’Gorman maintained that the Historia should no longer be attributed to Motolinía.30

Sixteenth-century chroniclers—López de Gómara, Zorita, Cervantes de Salazar, Mendieta, and Torquemada among others—favored the Memoriales, often quoting long passages from it. Brooks argued that Mendieta “simply copied” Motolinía, which he did (a fact widely recognized by modern historians who rarely cite Mendieta’s account of the conquest), but it is the Memoriales that he relied upon, not the Historia. Twentieth-century historians and translators, unfortunately, favor the Historia. This choice is a double misfortune, because the smallpox story in the Historia is an exaggeration of the Memoriales. The Historia subverts Motolinía’s intentions by excising the contrasts present in the Memoriales. The Historia compounds the offense by heightening the argument of divine punishment through the insertion of the phrase “y castigo esta tierra y a los que en ella se hallaron.” The greatest distortion is inflating the proportion dying from “half” to “more than half”

30 Ibid., viii, ix, lvii-lviii; Brooks, “Revising the Conquest,” 22; O’Gorman, Incognita, 68, 73–74. The cover letter which accompanied the manuscript copy of Historia was used to establish the authorship of the opus. Yet, the document, which is undated and unsigned, reported events occurring as many as two years after the letter bearing Motolinía’s dated signature. See O’Gorman, introduction, Memoriales, lxxxiv-lxxxvi.
and the number of provinces where this was the rule from “some” to “most.” O’Gorman detailed many of the mutilations present in Motolinia’s Historia, although the embellishment of the fraction dying from smallpox is not among them.31

Taken as a whole, the more restrained account in the Memoriales bolsters the credibility of Motolinia’s work. Motolinia did not distort his text to pander to the religious sensibilities of his readers or his own. He had no means of ascertaining the precise fraction of natives who died, but the order of magnitude which he chose (“one-half”) did not come from Revelations, where “one-third” is the constant refrain.32 By using the fraction “one-half,” his Spanish readers would have inferred that the force of the epidemic was enormous, of much greater magnitude than in Spain.

SPAIN AND NEW SPAIN Since Brooks reduced the epidemic of 1520 to a “mild attack of smallpox, such as occurred in contemporary Europe,” a comparison with Europe and with Spain, provides much needed perspective. For the period prior to 1492, Guerra identified the most reliable sources of Iberian epidemiological history as book-length manuscripts by Samuel ben Waqar, Juan de Aviñón, and Alonso de Chirino, three Jewish doctors. All of them ranked smallpox among the most common, but not the most deadly, diseases of their time. Plague, on the other hand, was a different matter. For plague, Chirino’s practical guide for the layperson, which he completed before 1431, offered two bits of advice—first, pray, then flee. For smallpox he recommended deliberate care. Chirino’s manual classified smallpox with diseases that stick (enfermedades que se pegan) and warned that the healthy should not go near, sleep with, nor be in close quarters with anyone ill with these diseases. He did not advise prayer (the victims, being young children, were innocent) or flight (uncalled for given the low levels of mortality).33

32 Rev. 8:7–13.
33 Brooks, “Revising the Conquest,” 16–17, 29; Francisco Guerra, “Origen de las
Aviñón’s manual described three smallpox epidemics striking Seville at intervals of some thirteen years, in 1393, 1407, and 1420. For 1420, he wrote: “smallpox raged among the children, and many of them died; and it was a good year for bread and for wine.” Raging smallpox had no effect on the agrarian economy of Seville.34

For sixteenth-century Spain, Villalba’s classic Epidemiología listed forty-nine epidemics, half attributed to plague (peste) but only six to smallpox. From the brevity of the passages on smallpox, Villalba did not seem to be greatly concerned with the disease. Likewise, Pérez Moreda’s recent, comprehensive history of mortality crises in early modern Spain disposed of smallpox in a few pages. The period of greatest concern was the eighteenth-century, when efforts were being made to limit virulence. Two centuries earlier, smallpox was ubiquitous, but mortality crises due to the disease uncommon. Ashburn reported that “so common was smallpox in Spanish children that Ruy Díaz de Isla cited as remarkable the fact that he knew a man who had not had it until after his twentieth year.”35

Fracastoro classified smallpox with mild diseases of childhood such as chicken pox and measles that “attack children especially, adults rarely, the elderly hardly ever. But they seem to attack everyone once in life.” Fracastoro’s translator noted that “since small-pox, under variola, is so lightly treated by Fracastorius, as a malady to which practically everyone was then subject, it must have been a mild and rarely fatal strain.” According to the most authoritative modern study the strain or strains of smallpox common to that era were exceedingly benign throughout sixteenth-century Europe. Only in the following century and later did it become a virulent killer.36

---

34 Juan de Aviñón, Sevillana Medicina Que trata el modo conservativo y curativo de los que habitan en la muy insigne ciudad de Sevilla, la cual sirve y aprovecha para cualquier otro lugar de estos reinos (Seville, 1885; orig. ed., 1545; manuscript completed 1420), 33–34, 38.

35 Vicente Pérez Moreda, La crisis de mortalidad en la España interior (siglos XVI-XIX) (Madrid, 1980), 351; Joaquin Villalba, Epidemiología Española: o Historia cronológica de los pestes, contagios, epidemias y epizootias que han acaecido en España desde la venida de los cartagineses, hasta el año 1801 (Madrid, 1802); Percy Moreau Ashburn, The Ranks of Death: A Medical History of the Conquest of America (New York, 1947), 86, citing the Tratado contra el mal serpentino . . . (Seville, 1539).

36 Girolamo Fracastoro (trans. Wilmer Cave Wright), De Contagione et Contagiosis Morbis...
In contrast, the smallpox which struck Amerindians, adults as well as children, was severe and often fatal. The impact of smallpox in New Spain was wholly unlike that in Spain. In Spain, it was a disease of childhood, whereas in New Spain the attack of 1520 struck all ages, including many native leaders. Spanish eyewitnesses compared the outbreak with what had happened in the islands, not with anything in Spain or Europe. In New Spain, unlike Spain, smallpox was a lethal pestilence. If we assume that children made up one-third of the native population, then the crude rate of smallpox mortality among the natives would start at three times the rate for European populations that were subject to regular outbreaks of the disease. Among Amerindians, the absence of care and caretakers propelled smallpox mortality to catastrophic levels, but genetic factors probably played a role as well.

SMALLPOX MORBIDITY AND GENETIC DIVERSITY  Genetic immunity is a common explanation for the enormous difference in death rates between Europeans and Amerindians, but there is no proof for this hypothesis. Few genetic differences distinguish new-world populations from the old, and none has a demonstrated advantage against the smallpox virus. Genetic diversity, rather than immunity, may be the key, as Francis Black, a viral epidemiologist, recently argued. Human geneticists reported that Amerindians (along with Polynesians and New Guineans) are unusually homogeneous genetically. The smallpox virus adapts quickly to a host’s immunological response—not mutating into a new strain, but rather preparing for battle with other hosts of nearly identical genetic makeup.

Field research on measles is the most convincing. Measles acquired from a member of one’s family tends to be more virulent than that acquired from a stranger. According to Black, “virus grown in one host is preadapted to a genetically like host and thereby gains virulence.” The genetic key to successfully defending against an attack of virulent smallpox is the production of histocompatibility antigens. Unfortunately, in this regard, Amerindians show only one-sixty-fourth the genetic diversity of Africans or Europeans. The odds worsen when exposure is simultaneous and from multiple sources, particularly from members of one’s own family. The close living quarters, described by López de Gómara and Sahagún, would heighten virulence as the smallpox spread through families and compactly settled communities.37

CARE Whatever geneticists ultimately teach historians about immunity or diversity in explaining the virulence of the disease, the role of social agency is also important. We know, and the Spaniards knew, as Chirino’s medical manual made clear, that nursing reduces smallpox mortality. Whereas Europeans possessed no herbs, antibiotics, or prophylaxes, they, unlike the natives, understood that chances of recovery improved with care—water, food, and clean, warm clothing. What astonished Spanish eyewitnesses of this first epidemic was that it struck adults as well as children. In reaching everyone, the attack left the population without caregivers or nurturers, a fact frequently noted in both Spanish and Nahuatl chronicles. Motolinía’s Memoriales recounted the lethal effects of this horror: “because they all fell ill at a stroke, [the Indians] could not nurse one another, nor was there anyone

to make bread, and in many parts it happened that all the residents of a house died and in others almost no one was left.”

Subsequent smallpox epidemics were less deadly because, on the one hand, lifetime immunity meant that survivors of an earlier epidemic were available to provide nursing and, on the other, Indians quickly adopted more appropriate methods of care. This change so impressed Pomar that his Relación del Texcoco (written in the 1580s) attributed better survival to improved care (however mistaken in his remedy): “until they understood and became accustomed to wrap themselves and to sweat and to do other remedies that necessity and experience taught them with which afterwards here in other times when it [smallpox] has hit them, they have cured themselves.” Muñoz Camargo, in trying to account for the enormous mortality among the Tlaxcalans as a result of the new diseases, offered fatalism as an explanation: “they do not protect themselves from contagious illnesses; upon falling ill they are fatalistic and they permit themselves to die like beasts.” His account is distinct from others in that it looked at the conquest from beyond the Central Basin, at a people who collaborated with the Spanish against the ancestral enemy, the Mexica, but who suffered the catastrophe anyway.

Brooks chided Spanish writers for alleged patronizing cultural chauvinism—that the Indians had no cure for smallpox—but he wrongly imposed on their texts an anachronistic, late twentieth-century meaning for “cure,” as in the elusive “cure for cancer.” Among Spaniards in the sixteenth-century, the most common meaning of curar was simply to care for or nurse the sick (which was precisely the point of Chirino’s manual—to debunk the life-threatening cures of surgeons, physics, and phlebotomists and provide the least damaging care), including the

38 Motolinia, Memoriales, 21.
39 Juan Bautista Pomar, “Relación del Texcoco,” in Icazbalceta (ed.), Nueva Colección, 52; Muñoz Camargo, Descripción de la Ciudad, 77v, 78. Henige insinuated that bathing as a cure should be discounted as a trope (Henige, “When Did Smallpox,” 24), but consider that Sahagún’s Nahuatl informants recommended bathing for a variety of skin-related and other maladies (Florentine Codex, X, 149–157), such as pustules (“nanaoatl”), skin sores, hemorrhoids, stiff neck, coughing, breast tumor, jigger fleas, broken bones, divine sickness (“la lepra” or “Teuculiztli Ianjac”), and benumbed feet—but not for pus or blood in the urine, swelling of the throat, cysts, abscesses of the neck, chest ailments or shortness of breath, swelling from sprains, constant coughing, spitting of blood, stomach pains, colic, bloody flux, diarrhea, tumors, swellings (leg, knee), urinary obstruction, fevers, festering, burns, or cuts.
payment for care (gasto de la cura) and assistance (la asistencia del enfermo). Likewise, for the Spanish remedio, the modern English cognate may be deceptive. Remedio was defined broadly in the early modern era to include “medicine, or anything else, which serves to recover or maintain health.”

The potency of nursing in reducing smallpox mortality is revealed by Frost, who reexamined an epidemic among the Hopi and Pueblo at the end of the nineteenth century. The shockingly high death rates among the Pueblo are well known, but the remedial effect of nursing is not given its due in scholarly histories, even though Crosby stressed its importance in his widely cited essay.

Frost’s reanalysis of the notorious epidemic of 1898–99 confirmed an account by a Bureau of Indian Affairs administrator made almost a century ago. The report showed that among 421 Hopis who were infected by smallpox and elected to receive care, only 24 died compared with 163 deaths in a settlement only half as large, but which declined care. These figures yield crude death rates of 6 percent and 74 percent. Mortality was more than twelve times greater for those without care. Nursing thus reduced smallpox mortality from catastrophic to tolerable levels. Those who were experienced with smallpox recognized the importance of nursing and often tried to alleviate suffering and thereby reduce the death toll. Whether Cortés or his soldiers provided care for their Tlaxcalan allies is unknown, but it is certain that their Mexico enemies received none because as the epidemic enveloped Tenochtitlan the only Spaniards remaining in the city were dead ones.

---

40 Brooks, “Revising the Conquest,” 26. Motolinía wrote (Memoriales, 21): “porque como todos enfermaron de golpe, no podían curar unos de otros.” Diccionario de la lengua castellana, s.v. “curar” (“Se toma también por Cuidar: y en este sentido se usó mucho esta voz en lo antiguo”) and “remedio” (“por lo mismo que medicamento, ú por qualquiera cosa, que sirve para recobrar ó conservar la salud”). Chirino, Menor daño, 80r: “vos guardedes quanto pudierdes de la maldad deethystianos que son muy malos omenes e peores que fisicos si peores se pueden aver.”


42 Frost, “Pueblo Indian Smallpox Epidemic,” 437. For the epidemic of 1520 in Ten-
SEVERITY  A quantitative assessment of the severity of the 1520 epidemic is impossible. At best a consensus on the order of magnitude may emerge from close analysis of a wide range of contemporary sources: early Spanish accounts, native annals, texts, and sixteenth-century histories which compare the relative devastation of war and the early epidemics.

Contemporary Spanish texts reveal that their authors were familiar with smallpox and smallpox mortality. The fact that chroniclers described the epidemic of 1520 in detail suggests unusual severity. Vázquez de Ayllón, Cortés, and others compared the attack with epidemics in the islands, and never with Spain. Motolinía, in the Memoriales but not in the Historia, contrasted smallpox mortality with deaths from the siege of Tenochtitlan, stating that for the former the principal victims were the poor and the children (pobres y pequeños), and in the latter it was the lords and the leaders (señores y principales). Most of the castellanos who accompanied Cortés did not say or write much about the conquest, but those who did commented extensively on the devastation of the pestilence. Vázquez de Tapia, in a claim to the crown for compensation as a participant in the siege of Tenochtitlan, testified:

The pestilence of measles and smallpox was so severe and cruel that more than one-fourth of the Indian people in all the land died—and this loss had the effect of hastening the end of the fighting because there died a great quantity of men and warriors and many lords and captains and valiant men against whom we would have had to fight and deal with as enemies, and miraculously Our Lord killed them and removed them from before us.43

ochtitlan, the Florentine Codex depicted pustules distinctly visible on five smallpox-infected adults. All were wrapped in blankets. Pain could be discerned in faces and body positions. One victim was crying out while another received care from a woman who was touching and consoling the patient. Note that this scene is contradicted by the Nahuatl text, which stated that “no one took care of others.” As generalizations, I trust the text over the pictures. According to Lockhart, Sahagún conceived the pictures as filler, so that the columns of Nahuatl text and Spanish translation could be kept running side-by-side. Illustrations were hastily drawn once the transcriptions of texts were finished. Some illustrations went uncolored, and others were never drawn, their panels left completely blank (Lockhart, We People Here, 11, 185). This important document is widely available in a magnificent facsimile edition: Secretaría de Gobernación, Códice florentino (Mexico, 1979), III, book 12, chap. 29, fol. 53.

43 Vázquez de Ayllón, “Relacion,” 42; Cortés, Cartas de relación, 105; Motolinía, Me-
Native annals, unlike Spanish chronicles, recorded the most important events for each year. Before 1519 native annals reported pestilence or famine only when devastation was prolonged, often for a year or more. In the century before European intrusion (1420–1519), the Annals of Cuauhtitlan reported seven famines and two epidemics—all multiyear phenomena. Then, for 1520, the most notable event was smallpox, when the death of two leaders from the disease was chronicled. Since smallpox outbreaks remain in any one place only for a couple of months, it should be surprising to find smallpox recorded. Yet, 1520 is often named the year-of-the-pox in native annals, such as the Annals of Tlatelolco and the Annals of Tenochtitlan. One of the most interesting annals, the Códice Telleriano Remensis, is rendered useless by the loss of pictographs for 1516 through 1527. Of the surviving pictographs for the postconquest period, 1528–60, this Códice recorded four epidemics: measles (1531), smallpox (1538), a great mortality (“una gran mortandad,” 1544–45), and mumps (1550).44

In Nahuatl texts written in the Roman alphabet, the horror of smallpox is told again and again. The longest native account is in Sahagún’s monumental ethnohistorical treatise, the General History of the Things of New Spain. A distillation of testimony of Nahua leaders and informants in three towns, the clinical, yet melancholic descriptions have made this one of the most widely cited Nahautl texts on the conquest. English translations are available in three editions. The first, published in 1955 by Dibble and Anderson, is often cited in extenso. Brooks used the second translation, published in 1975. I favor a third by Lockhart (1993), the first to offer English translations of both the original Nahuatl (probably completed in 1555) and the accompanying Spanish gloss (written before 1586). The most informed, comprehensive account of smallpox epidemic is in the

Twenty-ninth chapter, where it is said how, at the time the Spaniards left Mexico, there came an illness of pustules of which many local people died; it was called ‘the great rash’ (smallpox).

---

44 Lockhart, We People Here, 259, 279; José Corona Nuñez (ed.), Antiguedades de Mexico: Basadas en la recopilación de Lord Kingsborough (Mexico City, 1964–67), 1, 42–43; Bierhorst, History and Mythology, 79.
Before the Spaniards appeared to us [again], first an epidemic broke out, a sickness of pustules. It began in Tepeihuitl [which is at the end of September,’ according to the accompanying Spanish gloss]. Large bumps spread on people, some were entirely covered. They spread everywhere, on the face, the head, the chest, etc. (The disease) brought great desolation; a great many died of it. They could no longer walk about, but lay in their dwellings and sleeping places, no longer able to move or stir. They were unable to change position, to stretch out on their sides or face down, or raise their heads. And when they made a motion, they called out loudly. The pustules that covered people caused great desolation; very many people died of them, and many just starved to death; starvation reigned, and no one took care of others any longer.

On some people, the pustules appeared only far apart, and they did not suffer greatly, nor did many of them die of it. But many people’s faces were spoiled by it, their faces and noses were made rough. Some lost an eye or were blinded.

The disease of the pustules lasted a full sixty days; after sixty days it abated and ended. When people were convalescing and reviving, the pustules disease began to move in the direction of Chalco. And many were disabled or paralyzed by it, but they were not disabled forever. It broke out in Teotleco, and it abated in Panquetzaliztli. The Mexica warriors were greatly weakened by it.45

45 Lockhart, We People Here, 180, 182; Sahagún (eds. Dibble and Anderson), Florentine Codex, XII, chap. 29 (1st and 2d eds.). The fact that Brooks “cannot recall one [historian] who quotes the qualifications in the second paragraph” is due to faulty memory and flawed transcription (“Revising the Conquest,” 28, n. 40). He omitted text and erased the division between paragraphs two and three. Crosby and Padden quoted paragraphs one and two in their entirety. They omitted paragraph three, perhaps because it seemed less important in the translation from which they worked, but they are in good company. The sixteenth-century Spanish digest of the Nahuatl text omitted all but the first sentence of paragraph three (Codice florentino, III, book 12, chap. 29, fol. 53). See Crosby, “Conquistador y Pestilencia,” 336; Robert C. Padden, The Hummingbird and the Hawk: Conquest and Sovereignty in the Valley of Mexico, 1503–1541 (New York, 1970), 206; Miguel León-Portilla (ed.), The Broken Spears: The Aztec Account of the Conquest of Mexico (Boston, 1962), 93.

Both the English and Spanish translation of the last line of paragraph three changed greatly over the years and with it the significance of the passage for understanding the impact of smallpox. The 1955 edition by Dibble and Anderson (XII, 81) reads: “Then the Mexicans, the chieftains, could revive.” A second edition published in 1975 (cited by Brooks) favors a translation with broader demographic implications (XII, 83): “At that time the Mexicans, the brave warriors were able to recover from the pestilence.” Then, in 1993, Lockhart’s translation elicits nuances unnoted by earlier philologists: “The Mexica warriors were greatly weakened by it.” This reading fits neatly with Díaz del Castillo’s account of smallpox-weakened warriors encountered on the Spaniards’ return to Texcoco in January 1521 (Historia Verdadera, I, 438). Likewise, Muñoz Camargo (Descripción de la
Brooks interpreted the 1975 translation of this passage as evidence that “it is reasonable to credit their collective memory with knowledge that not many died” even though the text itself stated unequivocally that the pustules brought “great desolation,” that “very many died,” and “many just starved to death.” His revisionist zeal divined the ever-present hand of Motolinia in this passage, but consider Sahagún’s own explanation of how the manuscript was composed:

When this manuscript was written (which is now over thirty years ago [that is, 1555]) everything was written in the Mexican language and was afterwards put into Spanish. Those who helped me write it were prominent elders, well versed in all matters, relating not only to idolatry but also to government and its offices, who were present in the war when this city was conquered.46

Chapter 29, unlike the Spanish chronicles, reads like a pictorial history of the Nahuas’ suffering, rendered in their own words. Lockhart characterized the entire book as “authentic oral

Ciudad, 35v) attributes the brevity of the reconquest to the fact that the Mexican warriors were emaciated and sick, recently recovered from the illness [smallpox] (“la qual fue parte para qe mas ayna se acabasse la Guerra de Mexico por que los cogio flacos y enfermos recien salidos de la enfermedad”).

The three renderings of the last sentence of paragraph three (in the Nahuatl: vncan vel caxavaque in Mexica, in tiacaoan) reflect the ambiguities of “tiacaoa.” An authoritative Spanish translation of the Historia general de las cosas de Nueva España by Wigberto Jiménez Moreno—(Mexico City, 1938), IV, 192—translated the word as “caudillo” (chief), whereas Angel María Garibay Kintana, in his translation (Mexico, 1956, IV, 137), elected “guerreros” (warriors). Lockhart reasoned that the term, which occurred many times in book 12, meant something like “our men,” but he “uniformly translated it simply as ‘warriors’” (We People Here, 23). Molina defined tiacaoa as valiant men, brave soldiers, and caxauhqui as weakened, sickly, or enfeebled (Vocabulario, 112v, 13).

The entire English text, based on Garibay Kintana’s Spanish translation but without his extensive bibliographical notes, is available in a paperback edition first published in 1962 and now in its ninth printing (León-Portilla, Broken Spears [Boston, 1993]). José Luis Martínez, El “Códice Florentino” y la “Historia General” de Sahagún (Mexico City, 1989), 93–153.

46 Brooks, “Revising the Conquest,” 28. Sahagún, Conquest, 2; Luís Leal, “El libro XII de Sahagún,” Historia Mexicana, V (1955), 186–204. For an informed, nuanced discussion of Sahagún’s methods, see Ellen T. Baird, The Drawings of Sahagún’s Primeros Memoriales: Structure and Style (Norman, 1993), 14. Few modern ethnohistorians have achieved the methodological sophistication of Sahagún’s work. His method is explained in Florentine Codex, I, 53–54. Lockhart (We People Here, 31) concluded that “. . . I for one have failed to find anything Spanish about the syntax, usage, or general vocabulary [of book XII]."
tradition with an emphasis on visuality” and “an authentic expression of indigenous people.” “Signs of active intervention by Sahagún are minimal.” Motolinía’s influence was nil. Sahagún thought the Nahua conquest narrative to be so one-sided and anti-Spanish that, to redress the balance, he wrote his own history, which he completed in 1585. The comparable passage of Sahagún’s Conquest offers the Spanish view. Note the shift from visual description to interpretive synthesis:

During this epidemic, the Spaniards, rested and recovered, were already in Tlaxcala. Having taken courage and energy because of reinforcements who had come to them and because of the ravages of the [Mexican] people that the pestilence was causing, firmly believing that God was on their side, being again allied with the Tlaxcalans, and attending to all the necessary preparations to return against the Mexicans, they began to construct the brigantines.47

Historians and chroniclers began to compare the severity of the various epidemics toward the middle of the sixteenth-century. Motolinía, writing in 1542, saw three great devastations, which he sought to fit to years ending in “one,” the most important being the war, pestilence, and famine of “1521.” Several years after his manuscript was shipped to Spain (and while its author was in Guatemala), the great devastation of 1545 broke out so we cannot know how his numerology would have taken this into account.48

On November 8, 1576, as the third great epidemic of the century unfolded, Sahagún, in a rare direct intervention in the General History and for which there is no corresponding Nahuatl text, mused whether the present plague would exterminate the native people. He addressed the question directly and forcefully, leaving no doubt that the smallpox attack of 1520 was exceedingly lethal (murio casi infinita gente)—more deadly even than the war—but the deadliest was the matlazahuatl epidemic of 1545, “a very great and universal pestilence where, in all of New Spain, the greater part of the people who lived therein died.” In Tlatelolco

47 Sahagún, Conquest, 103; for Cline’s analysis of the Spanish perspective in Sahagún’s Conquest, see 2–15. Leal argued that book 12 has an authentically native viewpoint which presents the conquistadores in much more negative tones than the Spanish chroniclers, including Sahagún himself (“El libro,” 202). Lockhart, We People Here, 10–11, 34–35.
alone, Sahagún claimed to have buried 10,000 and fell ill to the disease himself. As he wrote in November 1576, the number of deaths mounted daily. According to Sahagún, many were dying of hunger, without care, and with no one even to provide a jar of water—charitable relief having been exhausted. He feared that if the contagion continued for another three or four months that no natives would be left, that the land would revert to wild beasts and wilderness. He reasoned that Spaniards were too few to settle the land, and the Indians were becoming extinct.49

Pomar, the historian of the city of Texcoco, also singled out three great epidemics of the century—1520, 1545, and 1576—but characterized that of 1520 as the worst. He reported that Texcoco, which surrendered to Cortés without a struggle, used to number some 15,000 citizens (vecinos) but did not have 600 as he wrote in the 1580s. Many smaller subject villages had disappeared entirely.50

I prefer the most explicitly quantitatively reasoned assessment, by Muñoz Camargo for the province of Tlaxcala, also drafted in the 1580s but only published in 1981:

I say that the first [1520] ought to be the greatest because there were more people, and the second [1545] was also very great because the land was very full [of people], and this last one [1576] was not as great as the first two because although many people died many escaped with the remedies that the Spaniards and the religious people provided.51

Evidence from a wide variety of sixteenth-century Spanish and Nahuatl sources point to a single conclusion: the smallpox epidemic of 1520 ranked among the three worst demographic crises of the century. The death rate from smallpox and starvation in 1520–21 was probably less than for the matlazahuatl epidemics of 1545–46 and 1576–77. Nonetheless, if we accept the intelligence offered by one of the most celebrated native chroniclers of the colonial era, the smallpox epidemic of 1520 was the greatest

49 Moreno Jiménez, Historia general, III, 355–361.
50 Pomar, “Relación del Texcoco,” 49.
51 Muñoz Camargo, Descripción de la Ciudad, 36.
Consensus is emerging on the scale, causes, and consequences of the demographic disaster which struck sixteenth-century Mexico. There is agreement that a demographic catastrophe occurred and that epidemic disease was a dominant factor in initiating a die-off, beginning, in Mexico, with smallpox in 1520. But the role of disease cannot be understood without taking into account the harsh treatment (forced migration, enslavement, abusive labor demands, and exorbitant tribute payments) and ecological devastation that accompanied Spanish colonization. Killing associated with war and conquest was clearly a secondary factor, except in isolated cases, such as the deliberate destruction of Cholula or the leveling of Tenochtitlan.

A fair-minded cross-examination of the broad range of primary sources for the epidemic of 1520 leaves little doubt that smallpox swept throughout the central Mexican basin, causing enormous mortality. The epidemic ranked with the deadliest disasters that native annals customarily recorded. Whether the fraction of smallpox deaths was one-tenth or one-half, we have no way of knowing, but from my reading of the texts discussed here, the true fraction must fall within these extremes, perhaps near the midpoint.

If we leave aside the controversy over the size of Amerindian populations at contact, there emerges a broad agreement in the Spanish and Nahuatl narratives and in the patterns of decline sketched by historians.

For historians who abide quantification, expert estimates point to overall levels of demographic destruction in sixteenth-

---

52 For accounts of other regions see Antonio de Ciudad Real, Tratado curioso y docto de las grandes de la Nueva España (Mexico City, 1976; orig. ed., 1872), I, 70, 95, II, 73. Alonso de Aguilar, Relación breve de la conquista de la Nueva España (Mexico City, 1954), 97; Nicolás León (trans.), Códice Sierra (Mexico City, 1933), 9; Díaz del Castillo, Historia Verdadera, II, 292. Gerhard (Geografía Histórica) provided a comprehensive town-by-town survey of population figures, which he laboriously extracted from geographical treatises (Relaciones Geográficas), tribute counts, censuses, and other available sources. Sanders saw only two major epidemics in the sixteenth-century, but he did not consider any evidence for 1520: William T. Sanders, “The Population of the Central Mexican Symbiotic Region, the Basin of Mexico, and the Teotihuacan Valley in the Sixteenth-century,” in William M. Denevan (ed.), The Native Population of the Americas in 1492 (Madison, 1976), 129.
century central Mexico exceeding 50 percent, probably ranging beyond 75 percent, and even topping 90 percent in some large regions such as the tropical lowlands. Vociferous debates over population sizes often overlook similarities in the scale of demographic collapse. To reduce historiographical uncertainty further will require much additional, careful sifting of archival and archaeological evidence—tasks which, in recent decades, few seem inclined to undertake.53

In the meantime, I find convincing the testimony of Licenciado Francisco Ceynos, who sums up the opinion of many enlightened sixteenth-century Spanish observers. Ceynos, after five years as fiscal on the Royal Council of the Indies, arrived in Mexico in 1530 to sit on the Real Audiencia of Mexico City. A royal judge (oidor) for more than thirty years, he fought against the widespread practice of enslaving Indians and against the extreme labor and tribute burdens common in that era. On March 1, 1565, he completed a lengthy recommendation on colonization policies suitable for newly conquered regions. As preamble he reviewed briefly the demographic tragedy of Spanish colonization in Mexico:

. . . and it is certain that from the day that D. Hernando Cortés, the Marquis del Valle, entered this land, in the seven years, more or less, that he conquered and governed it, the natives suffered many deaths, and many terrible dealings, robberies and oppressions were inflicted on them, taking advantage of their persons and their lands, without order, weight nor measure; . . . the people diminished in great number, as much due to excessive taxes and mistreatment, as to illness and smallpox, such that now a very great and notable fraction of the people are gone, and especially in the hot country.54

We do not know what number, percentage, or ratio that Ceynos had in mind for “grandes muertes,” “gran cantidad,” or “faltó

muy grande y notable parte de la gente,” but what he wrote has the ring of truth. He reported a disaster on a scale unimaginable to contemporary Europeans. If five centuries later this thesis remains beyond the domain of “reasonable probability” for some historians, their number, too, is diminishing as the evidence of demographic catastrophe accumulates.