

University of Nevada, Reno

**As Hot as the Sun: Aztec Fevers, Medicine, and Magic in 16th-Century Mexico**

A thesis submitted in partial fulfillment of the requirements for the degree of Master of  
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By

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## **Abstract**

Fevers had a significant presence in Mexico's sixteenth-century medical manuscripts, a consequence of the endemic and epidemic infections common to the pre and post-Hispanic eras. The distinctly Aztec conceptualization of these fevers invites further inquiry into the Aztec medical system. The Aztecs recognized multiple types of fevers, both natural and supernatural, manifesting in hot and cold forms. Thus, fevers can serve as a lens through which to examine the Aztecs' perception of the body and the universe, as well as the cosmic structure, dualities, and deities that governed the two. Furthermore, the animistic entities that connected the body to the divine also played a role in the development of fever. To address this state of disequilibrium, health practitioners relied upon their knowledge of the body, disease symptomology, and their vast pharmacopeia. In cases where a condition was suspected of having a supernatural etiology, these practitioners turned to magic.

## **Dedication**

This thesis is dedicated to my parents and my boyfriend, whose support and belief in me fortified me throughout my academic career and to my dog, Buddy, a very good boy.

## Acknowledgements

I want to express my most profound appreciation for my committee chair, Dr. Linda A. Curcio, for her wit, wisdom, and patience. Dr. Curcio's passion for the Aztecs continues to inspire me.

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## Introduction

*One drinks [an infusion of the root of] chichipilli, [with] alum [and] acid water. First one is purged; then [an infusion from] the edible root of the sand tomato is drunk, adding to it the root of tacanalquilitl. The grown people drink [an infusion of] two sand tomato roots; small children drink [an infusion of] four. And five kernels of maize are mixed in this. And when there is fever, one is to drink [an infusion of the root of] aitztoli in acid water.*

“Fever,” *The Codice de la Biblioteca Medicea Laurenziana de Florencia*, 1585<sup>1</sup>

The only surviving records that can provide insight into Aztec medical practices were produced during the first century of Spanish colonization. These manuscripts, informed by Nahuatl physicians, long lost pictographic codices, and oral histories, reveal common illnesses and symptom, methods of diagnosis, and prescribed treatments.<sup>2</sup> It is important, however, to keep in mind that these invaluable texts emerged from Spanish institutions that desired to put an end to the Aztec practices that the Church deemed idolatrous. Nevertheless, enough evidence has been preserved for scholars to gain an understanding of the Aztec’s medical system and the ailments it sought to remedy.

Of the numerous ailments recorded in this medical literature, fever is ubiquitous. An explanation for the pervasiveness of fevers in the historical record can be found in scholarship on the endemic and epidemic diseases that impacted the Aztecs. Respiratory and gastrointestinal infections were common in the pre and post-Hispanic eras, while the arrival of Spaniards resulted in waves of epidemics that lasted for a century.<sup>3</sup> Sherry Lee

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<sup>1</sup> Bernardino de Sahagún, *Florentine Codex: General History of the Things of New Spain*, trans. Arthur J. O. Anderson and Charles E. Dibble, Revised, vol. XI (Salt Lake City, UT: The University of Utah Press, 1981), 160.

<sup>2</sup> Nahuatl is a modern scholarly term that encompassed the Aztecs and other Nahuatl speaking people in Central Mexico, Guatemala, Honduras, and El Salvador.

<sup>3</sup> Sherry Lee Fields, *Pestilence and Headcolds: Encountering Illness in Colonial Mexico* (New York: Columbia University Press, 2009), 5, 8.

Fields notes that the 16th-century ultimately saw fifteen epidemics, the most serious of which were “the well-known smallpox epidemic of 1520–1, and the great epidemics of 1545–8 and 1576–80, either one, or both, of which could have been typhus.”<sup>4</sup> The presence of these epidemics during the creation of the 16th-century Aztec medical literature means that it reflects pre-Hispanic medicine as well as how this tradition was adapted to treat epidemic diseases. Epidemics also ensured that fever, in all of its classifications, remained a constant concern for the Aztecs. To respond to this ever-present symptom, the Aztecs relied on their vast botanical pharmacopeia and their highly skilled physicians.

This work provides an in-depth analysis of Aztec fevers and fever remedies. Given their ubiquity in the 16th-century literature and nuanced conceptualization, fevers present a unique vantage point from which to explore Aztec medicine. Through the lens of fever, it is possible to answer the questions: How did the Aztecs understand fevers, from their etiologies and symptomologies to how they were diagnosed and treated? What do these elements reveal about Aztec medicine? Firstly, fevers reveal how the body mirrors the cosmos in its structure, dependence upon cosmic dualities, and susceptibility to supernatural interference usually manifested within the body’s animistic entities. Secondly, fevers were understood through the cosmic duality of hot/cold, which accounts for the Aztecs recognizing both hot and cold fevers, and the cosmic duality of equilibrium/disequilibrium understood medically as health/illness. Thirdly, fevers, a state of disequilibrium, stemmed from internal and external causes, both natural and

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<sup>4</sup> *Ibid.*, 8.



supernatural; though, the ultimate cause of fever(s) was generally supernatural. Lastly, the diagnosis and treatment of fevers reveal rationalistic, empirical, and magical elements indicative of a holistic medical system.

The earlier epigraph is the primary entry for fever in the *Codice de la Biblioteca Medicea Laurenziana de Florencia*, or the *Florentine Codex*.<sup>5</sup> This entry is not, however, fully representative of how the Aztecs conceptualized the ailment. Rather, this single entry is a reflection of the Spaniard's singular term for fever, *fiebre*. Aztec physicians held that there were, in fact, many varieties of fever, each with its own etiology: *totonqui* and *motlehuia*, general terms for fever, referred to hot fevers located in the head often accompanied by swelling in the stomach and suppuration of the skin; the hot fever *tletl*, possibly synonymous with *totonqui*, required cooling herbal treatments; *iztac totonqui*, known as "white fever" or a "high fever," was a hot fever with swelling and suppuration of the flesh; and the hot fever *matlaltotonqui*, or "green fever," presented with dark bruising. The Aztecs also recognized a cold fever called *atonahuitzli*, or "aquatic fever," a supernatural ailment originating from the Tlaloc deity complex.<sup>6</sup> The historical record also reveals two other supernatural fevers, *tlallatonahuitzli*, "aquatic fever of the earth," and *yoallatonahuitzli*, "aquatic fever of the night."

The study of Aztec medicine extends beyond the bounds of the pre-Hispanic era, as indigenous healing traditions formed the foundation of medicine in the Colonial era. The Aztec's medical system immediately drew the admiration of the Spanish invaders,

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<sup>5</sup> Book Ten of the *Florentine Codex*'s singular fever entry uses the term *motlevia*, an ethnographic variation of *motlehuia*.

<sup>6</sup> Tlaloc is a god associated with rain, moisture, and fertility.

who recognized its sophistication and efficacy. Franciscan Friar Toribio de Benavente, known by his native name, Motolinía, meaning "poor one," wrote the *History of the Indians of New Spain* after he arrived in Mexico in 1523 at the request of Hernán Cortés.<sup>7</sup>

Motolinía's account of the Aztec medical system is effusive in its praise. He states:

They have their own doctors, experienced natives who know how to apply many herbs and medicines, and this suffices for them. Some of these doctors are so experienced that they have cured many serious and long-standing illnesses which Spaniards had suffered for many days without finding a remedy.<sup>8</sup>

Francisco López de Gómara, Cortés's secretary and biographer, was similarly impressed by the botanical gardens that housed the Aztec's herbal pharmacopeia, noting that "Moctezuma had many pleasure houses with lovely gardens, some of medicinal and aromatic herbs, others of flowers, roses, and sweet-smelling trees in infinite numbers."<sup>9</sup> Aztec physicians and the medicinal herbs in their vast pharmacopeia were so well renowned for their efficacy that the King of Spanish sent physicians, including the Protomedicato, and scientists to study medicine in New Spain.<sup>10</sup> The Spaniards attempted to impose a system of academic, professionalized medicine in their colonies through establishing Protomedicato tribunals to regulate which practitioners held legitimacy and which did not. Under this institution, only academically trained affluent *criollos*, Spaniards who could prove their lineage, could practice legally. However, the

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<sup>7</sup> Hernán Cortés, *Fernando Cortes: His Five Letters of Relation to the Emperor Charles V*, trans. Francis Augustus MacNutt, vol. 1 (Glorieta (N.M.): Rio Grande Press, 1977), Bibliographical Note, 115.

<sup>8</sup> Motolinía Toribio, *Motolinía's History of the Indians of New Spain*, trans. Elizabeth Andros Foster (The Cortés Society, 1950), 155.

<sup>9</sup> Francisco López de Gómara, *Cortés: The Life of the Conqueror by His Secretary*, trans. Lesley Byrd Simpson (Berkeley: University of California Press, 1966), 153.

<sup>10</sup> Michael Ernest Smith, *The Aztecs*, 2nd ed. (Malden, Mass: Blackwell Publishers Ltd, 2003), 255.

Protomedicato had limited reach outside of urban centers, and New Spain had few physicians. As a result, the majority of the population, including many Spaniards, relied upon *curanderos*, indigenous and *mestizo* healers. *Curanderos* transmitted pre-Hispanic medical knowledge into a colonial environment where European, indigenous, and African traditions coincided and coalesced.<sup>11</sup> Through his analysis of Mexican folk medicine, Bernard R. Ortiz de Montellano concludes that Galenic theory's hot/cold classification of diseases and treatments and emphasis on reestablishing balance in the humors was sufficiently compatible with the Aztec's hot/cold classification system and their emphasis on reestablishing equilibrium to allow for syncretism in both Spanish and indigenous medicine. Montellano also demonstrates that Tlaloc's herbs, *iztauhyatl* and *yauhtli*, continued to be used in the colonial period for indigenous ailments as well as new applications.<sup>12</sup>

### Sources

Historical accounts of Aztec medicine were written solely after the Conquest and intended for a Spanish audience. The richest of these sources, the *Florentine Codex*, is a twelve-volume ethnohistory of the Nahuas compiled by Franciscan friar Bernardino de Sahagún. The document includes the original Nahuatl script accompanied by Spanish translations, as well as illustrations in the Nahuatl pictographic style and glyphs. Sahagún (1499-1590) arrived in New Spain in 1528.<sup>13</sup> Though his primary charge was to convert

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<sup>11</sup> John Tate Lanning and John Jay TePaske, *The Royal Protomedicato: The Regulation of the Medical Professions in the Spanish Empire* (Durham: Duke University Press, 1985).; Luz María Hernández-Sáenz, *Learning to Heal: The Medical Profession in Colonial Mexico, 1767-1831* (New York: Peter Lang, 1997).

<sup>12</sup> Bernard R. Ortiz de Montellano, *Aztec Medicine, Health and Nutrition* (New Brunswick, NJ: Rutgers University Press, 1990), 193-210.

<sup>13</sup> Francisco Guerra, "Aztec Medicine," *Medical History* 10, no. 04 (1966): pp. 315-338, 317.

the indigenous populace, much of Sahagún's efforts were directed toward research and educating elite, young Nahua men at the Imperial School of the Holy Cross of Tlatelolco, established in 1536. The Franciscan college's curriculum centered on linguistics, Nahuatl, Latin, and Spanish, religion, arts, and the sciences. Four of the institution's students, Antonio Valeriano, Martín Jacobita, Andrés Leonardo, and Alfonso Vejarano, all prominent Nahua intellectuals in their own right, conducted and transcribed the interviews that informed the codex, making them, in many respects, the "true authors of the *Florentine Codex*."<sup>14</sup> The transcription and translation of the oral histories and Nahuatl manuscripts that informed the codex spanned nearly fifty years. Though the document was not completed until decades after the Conquest, the Nahuas, whom Sahagún and his colleagues consulted, remembered and documented life before the arrival of the Spanish.<sup>15</sup>

Sahagún was motivated to create this text by both a genuine interest in Aztec culture and as a guide to aid evangelization. He desired to preserve what he deemed the beneficial aspects of Aztec culture in order to pave the way for its reemergence as a Christianized nation. For this reason, Sahagún valued detail and accuracy. Furthermore, by chronicling the beliefs and practices of the indigenous, informed by elders with access to pre-Columbian codices in Tenochitlán, Tepeuico, and Tlatelolco, Sahagún believed that members of the clergy would be able to more clearly spot instances of idolatry, even when hidden under the guise of Catholicism. This fear of heresy, however, impacted the

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<sup>14</sup> Linda Curcio, *The Florentine Codex* (Reno, NV: University of Nevada, Reno, 2019), 1.

<sup>15</sup> León-Portilla, ed., *The Broken Spears*, 180.

interview questions and what information, conveyed in Nahuatl, was translated into Spanish.<sup>16</sup>

Early versions of the manuscript were in existence in the 1540s; however, the Spanish translation did not begin until the 1570s.<sup>17</sup> After the translated document was released, Sahagún came under the suspicion of the Crown and the Inquisition for creating a document that appeared too strongly in favor of the indigenous. This criticism led to an edition of the work known as the *Madrid Codex*, more favorable to a Spanish audience.<sup>18</sup> The original version of the document was edited and released as the *Historia universal de las cosas de Nueva España* in 1585.<sup>19</sup>

The *Florentine Codex* offers unparalleled insights into pre-Hispanic medical practices, etiology, and herbology. The document also denotes the Aztec's many healthcare practitioners, such as physicians, midwives, sorcerers, confessors, and bonesetters as well as the qualities and characteristics that defined them. Rituals and deities associated with illness are similarly outlined. The Codex also illuminates what constitutes a healthy body and the animistic souls that govern its wellbeing. The medical portion of the Codex, dedicated to disorders and herbal medicine, was informed by practicing indigenous physicians and modeled after Pliny's *Natural History* and other similar, contemporary texts.<sup>20</sup> The resulting product, while encyclopedic, either omits completely or censors elements of Aztec medicine Sahagún thought might tempt readers

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<sup>16</sup> Curcio, *The Florentine Codex*, 1.

<sup>17</sup> *Ibid.*

<sup>18</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 18.

<sup>19</sup> Curcio, "The Florentine Codex," 1.

<sup>20</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 18.

into heresy by instructing them in idolatry, such as prognosticating rituals and healing incantations.<sup>21</sup>

The Imperial School of the Holy Cross of Tlatelolco also known as the Colegio de la Santa Cruz de Tlatelolco is linked to another document important to the study of Aztec medicine, the *Codex de la Cruz-Badiano*, sometimes referred to as the *Aztec Herbal, 1552*, or the *Badianus Codex*. The first Bishop of Mexico, Juan de Zumárraga and the first viceroy, Antonio de Mendoza, established the college, originally as a Franciscan church and convent in 1536.<sup>22</sup> The Codex was commissioned by Antonio de Mendoza's son, Francisco de Mendoza, who intended it as a gift for King Charles V of Spain. Charles V died before its completion, so the book was rededicated to King Phillip II, though there is little evidence to suggest he read it.<sup>23</sup> At that time, there was growing interest in the "exotic" practices of the indigenous and the resources of the New World in Spain. More pressingly, the school was in desperate need of funding that had stopped with Phillip II's ascension.<sup>24</sup> Francisco tasked the physician of the College and an influential Nahua intellectual, Martín de la Cruz, with writing the work.<sup>25</sup>

The illustrated work is comprised of 13 chapters chronicling illnesses and their plant, animal, and mineral-sourced cures. There is some speculation whether Cruz is also responsible for the illustrations.<sup>26</sup> Some of the plant depictions are inaccurate while other plants have yet to be identified. Juannes Badianus, a Nahua Latin instructor at the

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<sup>21</sup> Interestingly, songs and hymns to the gods were recorded in the Codex.

<sup>22</sup> *Ibid.*, 20.

<sup>23</sup> *Ibid.*

<sup>24</sup> *Ibid.*

<sup>25</sup> Debra Hassig, "Transplanted Medicine: Colonial Mexican Herbals of the Sixteenth Century," *Res: Anthropology and Aesthetics* 17-18 (1989): pp. 30-53, 36.

<sup>26</sup> *Ibid.*

college, translated the work into Latin. Cruz, aware of the intended audience and their beliefs regarding the indigenous and their practices, edited the work accordingly. For example, in the Codex's introduction, Cruz credits his work to god, and states that he hopes the work will "commend the Indians, though so unworthy, to his royal Sacred Caesarean Catholic majesty," adding, "we poor and unfortunate Indians are inferior to all mortals, and thus our insignificance and poverty implanted in us by nature, merit forbearance."<sup>27</sup> Furthermore, there are no mentions of the hallucinogens commonly used to address illnesses of a supernatural origin. Cruz does, however, keep the supernatural elements of the Aztec's medical system.

Though the *Badianus Codex* is the oldest of the Aztec medical manuscripts, it incorporates more elements of European medicine than the *Florentine Codex*. Undoubtedly, Cruz was under considerable pressure to display the botanical medicine of New Spain and his medical know-how to their best advantage. It is also reasonable to assume that Cruz would want to demonstrate his knowledge of European medical traditions to establish rapport with his Spanish audience. The *Badianus Codex*, like the *Florentine Codex*, contains traces of humoral theory, the predominant western medical ideology of the era.<sup>28</sup> The doctrine of signatures, the belief that a plant's appearance indicates its uses within the body, is present as well.<sup>29</sup> As an example, a plant that looked like a human heart would be considered a suitable remedy for ailments of the heart. In the

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<sup>27</sup> Martín de la Cruz., *An Aztec Herbal: The Classic Codex of 1552*, trans. William Gates (Mineola, NY: Dover Publications, 2000), 1-2.

<sup>28</sup> Hassig, "Transplanted Medicine," 34.

<sup>29</sup> *Ibid.*, 36.

Codex, one example of such a plant was tonatiuh ixihuah ahhuachchoh, or dew-covered sun's herb, used to treat edema, an excess of fluid in the flesh.<sup>30</sup>

In the Codex's primary entry for fever, still more evidence of European influence is present. Cruz advises that multiple bezoars, or stomach stones, be gathered from different birds.<sup>31</sup> Bezoars were common to the European pharmacopeia.<sup>32</sup> Cruz then directs that a number of herbs be "crushed in woman's milk."<sup>33</sup> The use of breastmilk in medicine was a Galenic practice.<sup>34</sup> Additionally, Cruz's fever remedy includes a potion of green pearl, precious stones, and burned human bone. The use of stones in healing, with the exception of *eztetl*, a jasper stone held in one's hand to stop bleeding, was introduced by the Spaniards.<sup>35</sup> Ingesting human bones was also a European practice, though the Aztecs believed that bones retained vital forces.<sup>36</sup> Furthermore, the document's use of Latin makes it difficult to discern the type of fever and the recommended treatments. Therefore, the *Codex Badianus* works best as a source on Aztec medicine when its information is corroborated in other 16<sup>th</sup>-century documents and compared with what is known about Aztec medicine.

## Methodology

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<sup>30</sup> *Ibid.*

<sup>31</sup> Cruz., *An Aztec Herbal*, 75-77.

<sup>32</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 18.

<sup>33</sup> Cruz., *An Aztec Herbal*, 75-77.

<sup>34</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 175.

<sup>35</sup> *Ibid.*, 176-177.

<sup>36</sup> Alfredo López Austin, *The Human Body and Ideology: Concepts of the Ancient Nahuas*, trans. Bernard Ortiz de Montellano and Thelma Ortiz de Montellano, vol. 1 (Salt Lake City, UT: Univ. of Utah Press, 1988), 166.



Methodologically, this work merges cultural history, focusing on the lived experience of Aztec medicine, and epidemiologic data. The work that most inspired this work's cultural approach is Caroline Dodds Pennock's *Bonds of Blood: Gender, Lifecycle and Sacrifice in Aztec Culture*.<sup>37</sup> Pennock's interdisciplinary inquiry relies on the *Florentine Codex* and other traditional texts like the *Codex Chimalpahin* and the *Durán Codex*, along with archaeological materials. Pennock attempted to capture the emotional nuances and complexity of the Aztecs. She emphasizes their religiosity and the possible meaning that was derived from individual life-cycle rituals and communal rituals, humanizing a society so often reduced to the practice of human sacrifice. A similar approach can be applied to how the Aztecs experienced illness and healing through the lens of fever. This history, centered on medicine, will incorporate discourse analysis, etymology, and religion. An interdisciplinary approach incorporating archaeology and medical scholarship will also be employed to contextualize the experience of fever.

The *huehuetlatolli*, or admonishment of the elders, found in Book Six of the *Florentine Codex*, "Rhetoric and Moral Philosophy," conveys attitudes and beliefs that are essential to understanding disease etiology from an Aztec perspective. The admonishments extolled certain behaviors, particularly moderation, productivity, and social cohesion, while rebuking behaviors that disrupted the social order such as intoxication or sexual immorality. Moderation and immoderation were tied to the cosmic duality equilibrium and disequilibrium, which governed the universe and its inhabitants. In the human body, equilibrium and disequilibrium expressed themselves as health and

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<sup>37</sup> Caroline Dodds Pennock, *Bonds of Blood: Gender, Lifecycle, and Sacrifice in Aztec Culture* (New York, NY: Palgrave Macmillan, 2011).

illness, respectively. Consequently, wellbeing, or lack thereof, was closely tied to personal actions. It is important to keep in mind that the *huehuetlatolli* are the words of the elite, and the Aztecs were not monolithic; however, this does not undermine the admonishments' value as a cultural record. Sahagún's motivation in creating the Codex was to preserve as much as he could of pre-Hispanic indigenous culture in order to identify idolatry and aid conversion. His ultimate aim was for the work to serve as a reference point for the restoration of the Aztec empire but under the dominion of Spain and the Catholic Church. To these ends, the friar sought accuracy in his work and relied upon Nahua intellectuals to perform much of the legwork. Furthermore, by reproving specific actions and behaviors, the *huehuetlatolli* can be read as a record of dissent for those who did not adhere to the empire's social code.

The Aztecs did not entirely separate the natural and supernatural aspects of their medical system; therefore, a complete understanding of etiology, diagnosis, and treatment of fever requires the incorporation of religion and magic. The entities in the body that maintained equilibrium reflect the animistic elements of Aztec religion. Disequilibrium, or ill health, was the result of damage to these entities resulting from natural or supernatural causes. Ailments suspected to be of the supernatural variety often required divine intervention. Practitioners would often ingest a hallucinogen in order to make contact with the spiritual realm to determine the cause of these diseases, such as a deity or a malevolent sorcerer, and determine what actions were to be taken to lift a curse or appease a deity. Practitioners also performed rituals to offer patients a prognosis on the outcome of their illness.

Because Nahuatl uses descriptive suffixes and prefixes that correlate with the characteristics of the item being named, etymology is a useful tool for deducing the qualities of the many forms of fevers. For example, the fever term *totonqui* and its derivatives use the prefix "tona," or "to be hot or sunny."<sup>38</sup> Thus, one can infer that the nature of the fever was hot. The prefix "tona" is also shared with *tonalli*, a hot animistic entity or vital, animating force residing in the head. Furthermore, another fever term, *tletl*, is a synonym for *tonalli*. This connection between the fever and an animistic force reveals more about the etiology of the fever. In these examples, *totonqui* and *tletl* were related to disequilibrium in the vital force *tonalli*.<sup>39</sup> Nahuatl to Spanish translations generated during the 16th-century were consulted to best approximate beliefs and concepts from this era. These sources include Alonso de Molina's *Vocabulario en lengua castellana y mexicana y mexicana y castellana, 1571*, and the *Florentine Codex*.

To further elucidate the medical experience, I will utilize an interdisciplinary approach incorporating scholarship from the fields of archaeology and medicine to analyze the 16th-century medical texts. Book Eleven of the *Florentine Codex*, titled "Earthly Things," contains a chapter on medicinal remedies. The entries note the medicine, a description of its appearance, how it is prepared and consumed, and the ailments and symptoms it is intended to treat. The *Badianus Codex*, or *Aztec Herbal*, on the other hand, is arranged by illnesses. Each illness is followed by remedies, often

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<sup>38</sup> Stephanie Wood, ed., "Nahuatl Dictionary," University of Oregon (Wired Humanities Projects, the National Science Foundation, and the National Endowment for the Humanities, 2020); the definition was sourced from Alonso de Molina, *Vocabulario en lengua castellana y mexicana y mexicana y castellana, 1571*, part 2, Nahuatl to Spanish, f. 149r. col. 2.

<sup>39</sup> Stuart Fleming, "Science Scope: Health Problems in the Ancient New World," *Archaeology* 35, no. 1 (1982): pp. 66-67, 66-67.

potions, other recommended therapeutics, and the symptoms specific to the ailment. The symptoms in these sources can be compared to archeological, historical, and medical data to further situate what the texts reveal. For example, Stuart Flemmings' archaeological review of skeletal remains pinpoints the common ailments of pre-Hispanic America in addition to uncovering the relative health of the population.<sup>40</sup> Furthermore, historians have investigated the fever inducing contagions that afflicted the Aztecs in the post-Conquest era, and medical scholarship details the symptoms of these illnesses.<sup>41</sup> This research contextualizes fever in regard to etiology, diagnostics, and curative practices.

### **Literature Review**

The trajectory of scholarship on the role of medicine and illness in pre and post-Conquest Mexico has developed from two branches: the study of immunology and epidemiology as it relates to the demographic collapse following the conquest and surveys of pre-Columbian medicine, converging into cultural histories that prioritize the lived experience of illness and health. Scholarship by Alfred Crosby, David Noble Cook, and William H. McNeill argues that European diseases proved catastrophic to the indigenous population. These historians also argue that microbes resulted in more deaths than the Spaniard's military prowess or their brutal mistreatment and exploitation of the indigenous, a characterization sometimes referred to as the "Black Legend."<sup>42</sup> Crosby,

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<sup>40</sup> Stuart Fleming, "Science Scope: Health Problems in the Ancient New World." *Archaeology* 35, no. 1 (1982): 66–67.

<sup>41</sup> Historical works relevant to this topic are addressed in the Literature Review. Relevant medical scholarship includes William J. Moss, "Measles," *The Lancet* 390, no. 10111 (December 2, 2017): pp. 2490-2502; and Stephen Berger, *Epidemic Typhus: Global Status* (Los Angeles, CA: GIDEON Informatics Inc, 2017).

<sup>42</sup> Alfred W. Crosby, "Conquistador y Pestilencia: The First New World Pandemic and the Fall of the Great Indian Empires," *The Hispanic American Historical Review* 47, no. 3 (1967): 321,326; Noble David Cook, *Born to Die: Disease and New World Conquest, 1492-1650* (Cambridge: Cambridge

nevertheless, acknowledges that the abuse made the Indians more susceptible to illness.<sup>43</sup> Syphilis, sometimes depicted as the Aztec's revenge upon the colonist, is also addressed. "The Early History of Syphilis: A Reappraisal," Crosby's fourth essay in *The Columbian Exchange: Biological and Cultural Consequences of 1492*, offers an informative overview of the three schools of thought surrounding the origins of syphilis as well as insight into its treatment at various phases of the Colonial period. He concludes that the virus's country of origin is not truly known, and it is possible that it could have been a preexisting strain of a European disease that grew in virulence.

More recent scholarship on the epidemic has debated the extent of disease's role in the Conquest. Francis J. Brooks refers to reports of large-scale die-off following the smallpox outbreak in central Mexico as the "Franciscan Myth," noting that, "No such catastrophe actually occurred."<sup>44</sup> However, upon reviewing Brooks' thesis, Robert McCaa found flaws in his argument as well as overlooked sources that reaffirm the epidemic's high death toll<sup>45</sup> Noting that the loss of indigenous lives post-Contact is challenging to quantify, McCaa states, "... expert estimates point to overall levels of demographic destruction in sixteenth-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."<sup>46</sup> Essentially, modern scholarship on disease in the New

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University Press, 2004), 12, 69; William H. McNeill, *Plagues and Peoples*, 3rd ed. (Garden City: Anchor Books, 1998), 19-20, 215.

<sup>43</sup> Crosby, "Conquistador y Pestilencia," 326.

<sup>44</sup> Francis J. Brooks, "Revising the conquest of Mexico: Smallpox, sources, and populations." *Journal of Interdisciplinary History* 24, no. 1 (Summer93 1993): 28, 30.

<sup>45</sup> McCaa, "Spanish and Nahuatl Views," 398.

<sup>46</sup> *Ibid.*, 422.

World has focused on establishing disease as a determining factor in the Conquest at a quantitative level.

Francisco Guerra's 1966 article, "Aztec Medicine," is a foundational work from the second branch of disease and medicine scholarship. In this article, Guerra reevaluates earlier Spanish language publications on the various aspects of the Aztec medical system with an updated, and arguably more comprehensive approach. Previous works, as he demonstrates, relied almost exclusively on the 16th-century Nahuatl to Castilian Spanish dictionary, Alonso Molina's *Vocabulario en lengua castellana y mexicana*, for physiological terminology. Guerra notes that Molina, a Spanish friar, intended his work to be useful to physicians. This work is invaluable to historians; however, Guerra cautions that the European translations found within it must be treated with skepticism. Drawing primarily from the *Florentine Codex* and the *Codex de la Cruz-Badiano*, "Aztec Medicine" offers a literature review of the subject from the 19th-century to the works of his contemporaries followed by a broad survey of the topic at hand.

Guerra explores medical hagiology with an overview of the Aztec cosmology, which includes the organization of their multi-layered universe, social order and its relationship to health, and deities related to illness and healing. He follows with an overview of physicians. Guerra addresses their status and training, as well as the many areas of medical specializations such as surgeons, phlebotomists, and midwives. His discussion on anatomy and physiology reveals that the *Florentine Codex* is a richer source of anatomical insights than Molina's dictionary. He notes that "Molina compiled

only a fraction of the anatomical terminology collected by Sahagún.”<sup>47</sup> He adds that this terminology included “appearance and texture” and posits that the practice of human sacrifice informed the observations reflected in the lexicon. The remainder of his work addresses pathologies, obstetrics, epidemiology and therapeutic treatments.

Though the supernatural elements of Aztec Medicine are often emphasized, modern scholarship has lauded its empiricism and efficacy. On this topic, Guerra states:

Medical art *ticiotl* was believed by the Aztecs to have been developed among the Toltecs by four wise men, *Oxomoco*, *Cipactonal*, *Tlatetecui* and *Xochicaoca*. Sahagún also recorded that these scholars knew the nature and qualities of herbs, which were good, bad, harmful, deadly or medicinal; in addition these Toltec men of science had developed the astronomical calendar *Tonalamatl*, were familiar with the influence of the stars upon the body and were able to interpret dreams. These two elements, one attached to medical botany and the other supernatural, shaped Aztec medicine.<sup>48</sup>

He later notes that the “repeated observation of disease among the Aztecs led to a pathology made up of a collection of symptoms and regional syndromes.”<sup>49</sup> A more recent assessment by Michael E. Smith concludes, “In the realm of naturally caused ailments and injuries, Aztec medicine was highly empirical and practical.”<sup>50</sup> Guerra’s discussion of practitioners’ familiarity with skin-grafting, prosthetics, and embriotomy confirms the sophistication of pre-Hispanic medical practices in Mexico. “Aztec Medicine” is relatively brief; nevertheless, it is a text referenced by scholars who have advanced the field.

Alfredo López Austin’s *The Human Body and Ideology: Concepts of the Ancient Nahuas*, 1988, is a double volume set translated by Thelma and Bernard Ortiz de

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<sup>47</sup> Francisco Guerra, “Aztec Medicine,” *Medical History* 10, no. 04 (1966): pp. 315-338, , 323.

<sup>48</sup> Francisco Guerra, “Aztec Medicine,” *Medical History* 10, no. 04 (1966): pp. 315-338, 321.

<sup>49</sup> *Ibid.*, 324.

<sup>50</sup> Smith, *The Aztecs*, 55.

Montellano. The work was originally published in 1980 under the title *Cuerpo humano e ideología*. This work draws from 16th-century documents, such as those by Fray Bernardino de Sahagún and Fray Alonso de Molino. Austin's approach is etymological, tracing the evolution of Nahuatl as it pertains to physiology and informed by his extensive knowledge of Nahua politics and religion. He also incorporates ethnography based in Central Mexico as well as other parts of Mesoamerica to test his findings. These combined approaches are used to uncover the ideological systems underpinning Nahua conceptualizations of the body and society as a whole. Through this endeavor, Austin demonstrates that Nahua physiology, animism, and nahuatlism paralleled and justified the hierarchical organization of society. To elucidate Nahua ideology as it pertained to the body and the universe, Austin explores all elements related to the human body: gender, age, the animistic souls, deity complexes, the hot-cold dichotomy, and political organization, etc. Volume II is comprised entirely of extensive appendices devoted to paleography, translations of primary sources, and Nahua physiology as well as a glossary and bibliographies. The combined work is replete with informative illustrations and applicable images from codices.

The field of Aztec Medicine was expanded by the translator of *The Human Body and Ideology*, Bernard R. Ortiz de Montellano in his monograph, *Aztec Medicine, Health and Nutrition*. Specifically, Montellano draws upon López Austin's etymological work, and his assessment of the Nahua understanding of the body, the animistic souls, and the hot-cold dichotomy. That is not to say, however, that the authors agree on all topics. In eight chapters, Montellano examines Aztec medicine with consideration to the nutritional value of their diets, the spiritual beliefs that shaped their idea of the body, and the



political context both pre and post-Conquest. Montellano focuses on four primary sources dating from the 16th and 17th centuries, the *Florentine Codex*, the *Badianus Codex*, Ruiz de Alarcón's *Treatise on Superstition*, and Francisco Hernández's *Historia Natural de la Nueva España*.

Methodologically, Montellano's approach is emic, meaning he measures the efficacy of Aztec medicines in relation to how the indigenous expected them to perform per their etiology, and etic, as he assesses a remedy's efficacy independent of Aztec etiology and physiology. To accomplish this task, he consults existing studies and chemical data on herbs and animal-based treatments and evaluates using a four-point scale. Montellano expands his interdisciplinary scope to include nutritional analysis and ethnography to provide insights on the quality of the Aztec's pre-Hispanic diet and the syncretism still present in modern Mexican folk healing. Through this research, he concludes that the Aztecs had a diet nutritionally superior to most of their European contemporaries and possessed an exceptionally sophisticated and holistic medical system informed by empiricism.

Building on the works of Crosby, Austin, and Montellano, among others, *Pestilence and Headcolds: Encountering Illness in Colonial Mexico* by Sherry Lee Fields represents the rise of cultural history about colonial Mexican medicine from 1521 to 1808. Fields looks at the significance and beliefs surrounding everyday health concerns, wellness, and the ever-present epidemic and endemic diseases for the average person experienced illness in the colonial context. What did laypeople view as the cause of disease? What framework did they rely upon to understand their health? To answer these

questions, Fields consults with the traditional institutional archival material, as well as newspapers and gazettes, 16th and 17<sup>th</sup>-century medical texts, voyager's accounts, and recetarios. She also makes innovative use out of *Ex-Votos*, paintings of miracles accompanied by text, and emigrant letters to glean insights into the anxieties invoked by sickness and descriptions of death.

*Pestilence and Headcolds* is organized chronologically into five chapters. The first chapter focuses on pre-Hispanic illness, the introduction of European viruses, and common endemic diseases and ailments eyewitness accounts. Following in the footsteps of John Tate Lanning and Luz María Hernández-Sáenz, chapter two details the function of the Protomedicato, the array of healthcare practitioners, and the efficacy of hospitals in the colonial landscape.<sup>51</sup> The next chapter focuses on Nahua etiology and their understanding of the body. The same themes are explored in regard to the Europeans in chapter four. The last chapter examines the “culture of sickness” in relation to the constant presence of death and the lure of miraculous cures.

Fields compiles a fascinating collection of the beliefs, rituals, and habits specific to common ailments. The emotional insights surrounding disease in the colonial era that she manages to discern are important contributions to the medical historians' understanding of the everyday experiences and beliefs that shaped medicine. Fields also adds to the available scholarship on women's health concerns, such as breastfeeding menstruation, and the challenges of pregnancy and delivery. Finally, her assertion that

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<sup>51</sup> Lanning and TePaske, *The Royal Protomedicato.*; Hernández-Sáenz, *Learning to Heal.*

she is examining etiological frameworks “through the prism of the sickroom” introduces the study of space into historical medicine.<sup>52</sup> Field’s work, as she states, is not intended to deeply analyze gender, class, and race, thus paving the way for future inquiries into these topics. It should be noted that she does, in fact, touch on all of these subjects.

### **Outline**

Chapter one discusses the Aztec’s cosmology as it relates to the body and health. This chapter also examines the functions of the animistic entities tonalli, teyolia, and ihiyotl. Chapter two explores fevers from the Aztec perspective, examining the cosmic duality of hot and cold, as well as the symptomology and etiology of the ailment. The last chapter details fever diagnosis, remedies, and the role of healthcare practitioners. These subjects are contextualized within the cosmic duality of equilibrium and disequilibrium, and the Aztec’s conceptualization of natural versus supernatural and ultimate versus proximate disease causes.

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<sup>52</sup> Fields, *Pestilence and Headcolds.*, x.

## Chapter 1: Aztec Cosmology, the Body, and Health

Aztec understandings of the body and health, essential to their conceptualization and treatment of fevers, are grounded in their cosmology. The Aztecs believed that structure and dualities governing their outer world, their neighborhoods, empire, and multi-level universe, also governed the inner world of the human body. Specifically, the Aztecs recognized their own form of sacred geometry, a horizontal-vertical division intersecting a supernaturally significant central point, and the organizing principle of duality, cosmic pairings of contrasting and intermingling elements and forces. Orchestrating this intricate system was a complex, multi-natured pantheon of deities. The human body's connection to the divine extended beyond cosmic structures and dualities, however. The creation of humankind through the god Quetzalcoatl's blood incurred a sacrificial debt. The religious restructuring initiated by the influential royal advisor Tlacaelel to further the empire's expansion increased this demand for sacrifices to an unprecedented level. The body was also linked directly to the divine through animistic entities that justified the Aztec's social hierarchy, imparted vitality, and determined an individual's wellbeing.

### Time and Place

The Aztecs settled in Mexico's Central Valley and established the city of Tenochtitlan in 1325.<sup>53</sup> At the time of the Conquest, in 1521, the city held approximately a quarter million inhabitants.<sup>54</sup> The growth during the post-classical era can be traced to

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<sup>53</sup> León-Portilla, ed., *The Broken Spears*, xxxii.

<sup>54</sup> *Ibid.*, xxv, xxxvii.

the formation of alliances and an ideological shift that favored warfare and necessitated expansion. Tenocha ruler Itzcoatl, who ruled from 1428 to 1440, joined with the king of Texcoco, Nezahualcoyotl, to form the triple alliance, or *hueitlatocayotl*, of Tenochtitlan, Texcoco, and Tlacopan (Tacuba) that stood until the arrival of the Spaniards.<sup>55</sup> Itzcoatl, through his nephew and royal counselor, Tlacaelel, also established lasting ideological changes that formed the belief systems for close to a century. Tlacaelel recorded a new history that tied the Aztec's lineage to the Toltecs.<sup>56</sup> In the 9<sup>th</sup>-century, the Toltecs expanded the culture already established in Teotihuacan, and were renowned for their artistry, tradesmanship, and religiosity.<sup>57</sup> The Toltecs worshipped the creator gods Quetzalcoatl and Tezcatlipoca as the pinnacles of their pantheon.<sup>58</sup> The Aztecs kept these deities, but with modifications that reflected a shift in ideology. Huitzilopochtli, a warrior god that fought the night, was elevated to the highest position in their pantheon and Quetzalcoatl was now worshipped through his avatar Tlahuizcalpantecuhtli, the "warrior of the dawn."<sup>59</sup> The exaltation of warrior gods was not the sole spiritual drive behind war. Constant battle with neighboring tribes was a practical necessity as the divine sun required blood to continue its daily journey across the sky.

### **The Ideology of an Empire: Human Sacrifice**

The Aztec's myth of the five suns exemplifies the cycles of equilibrium that descend into disequilibrium, until order is restored once again. According to this myth, the current era of humanity is the fifth sun and there have been four previous suns, or

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<sup>55</sup> *Ibid.*, xxxvii-xxxviii.; López Austin, *The Human Body and Ideology*, 83.

<sup>56</sup> León-Portilla, ed., *The Broken Spears*, xxxviii.

<sup>57</sup> *Ibid.*, xxix-xxx.

<sup>58</sup> *Ibid.*, xxxviii.

<sup>59</sup> López Austin, *The Human Body and Ideology*, 79.

iterations of the earth with varied inhabitants under the rulership of a different god each time. Tezcatlipoca ruled the first sun, Ocelotonatiuh, when acorn eating giants populated the earth until it was destroyed by jaguars. Quetzalcoatl ruled over humans that sustained themselves on piñón nuts during the second sun, Ehecatonatiuh, which was brought to an end by severe winds. The rain god, Tlaloc, oversaw the third sun, Tletonatiuh, destroyed by a downpour of fire. Tlaloc's female counterpart, Chalchiutlicue, reigned over the fourth sun, Atonatiuh, ultimately ended by a flood. This era's population lived on a plant similar to, but predating, corn.<sup>60</sup> The Aztecs believed that the current sun will be brought to an end by earthquakes.

The myth of the five suns also illustrates the life-sustaining and stabilizing effects of ritual sacrifice. At the dawning of the fifth sun, the gods gathered in Teotihuacan to recreate the world, which required one of attendees to sacrifice themselves in a fire to transform into the new sun. Two of the gods, the wealthy Tecciztecatl and the "Little Pimple One," Nanahuatzin, vied for the honor. Tecciztecatl showed cowardice thrice while Nanhuatzin jumped bravely into the flames. Ashamed, Tecciztecatl tried following Nanhuatzin, but the other gods turned him into the moon as punishment for his cowardice. Nanahuatzin, now the sun, remained stationary. The gods fed the sun their own blood so he could move.<sup>61</sup> The Aztecs continued this sacrificial practice, utilizing a constant supply of conquered people for the mandatory ritual deaths. Tlacahelel, who also advised Motecuhzoma I and later Axayacatl, initiated the construction of Templo Mayor,

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<sup>60</sup> H. B. Nicholson, "Religion in Pre-Hispanic Central Mexico," in *Handbook of Middle American Indians*, ed. Robert Wauchope, Evon Zartman. Vogt, and Robert Cooper. West (Austin, TX: University of Texas Press, 1971), pp. 395-446, 398-402.

<sup>61</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 41.

or Coatepec, the great temple dedicated to Huitzilopochtli in Tenochtitlan where countless captives were sacrificed.<sup>62</sup> Archaeological evidence shows that the Aztecs were not the first to perform human sacrifices in the Valley of Mexico; yet, their practice was the most extensive.<sup>63</sup>

Human sacrifice went beyond perpetuating war and appeasing the sun in order to maintain its life-sustaining trajectory. Alfredo López Austin states:

These ritual deaths originated in the concept of gods in need, starving, desirous of vital force. Man, dependent on divine gifts, must restore vigor to his benefactors by surrendering energy from the different components of his own organism. And, just as the force of the sacrificial victims could revitalize the gods, so their representatives on earth, the *tlaoque*, participated in order to strengthen and prolong their own lives. The payment was also made to appease the irrepressible longings of the gods for aggression, among whom were the Earth goddess and *Miclantecuhtli*, lord of the realm of the dead. It was believed that if the hunger of dangerous gods was satisfied, starvation, mortality, illness, and violent manifestations of nature could be avoided.<sup>64</sup>

From this perspective, it is clear that human sacrifice did not serve the sun alone; it benefited other gods, the ruling class, and the wellbeing of the entire empire. All levels of Aztec society, and, on a grander scale, the order of the universe, relied upon ritualized bloodshed.

### **The People: Social Structure in the Empire**

The Aztec empire was clearly stratified under a theocracy, though some opportunities for upward mobility existed. This stratification is essential to understanding the Aztec's concept of the human body. The king, or *tlaotoani*, occupied a near divine

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<sup>62</sup> León-Portilla, ed., *The Broken Spears*, xxxix.; David Carrasco, *Quetzalcoatl and the Irony of Empire: Myths and Prophecies in the Aztec Tradition*, Rev. (Boulder, CO: University Press of Colorado, 2000), 167.

<sup>63</sup> León-Portilla, ed., *The Broken Spears*, xxxix

<sup>64</sup> López Austin, *The Human Body and Ideology*, 377.

position at the pinnacle of the *tlatocayotl*, the unifying government structure, as the representative of the ruling deity.<sup>65</sup> The *tlatoani* had to be born to a dynastic family and elected by a panel of 15-20 eminent nobles, the *tlatocan*, who also oversaw all political proceedings.<sup>66</sup> The *tlatoani*, or “chief speaker” was aided by the *cihuacoatl*. The *cihuacoatl*, or “snake woman,” presided over military, judicial, and religious matters.<sup>67</sup> The position of “snake woman” was occupied by a man, but symbolically represented the divine feminine in rulership.<sup>68</sup> Operating under the *cihuacoatl*, the *tonalpouhque* held the knowledge of the sacred calendar and interpreted the omens of destiny, a skill believed to prevent misfortune, illness, and death.<sup>69</sup> High-ranking lords, *tecuhtli*, held prominent positions in the government and military.<sup>70</sup> The nobles, *pipiltin*, inherited their status and had access to the majority of the society’s wealth.<sup>71</sup> The *pipiltin* engaged in administrative duties for the *tlatocayotl* and received tribute as a reward. Their position was justified not only through inheritance, but through their rigorous education at the schools for nobles (the *calmecac*), productivity, and the belief that they were divinely granted authority.<sup>72</sup> The *pochteca*, men and women who engaged in trade locally and abroad, occupied a unique position in society. They were able to gain considerable power

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<sup>65</sup> *Ibid.*, 75-76.

<sup>66</sup> *Ibid.*, 77.; Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 10.

<sup>67</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 10.

<sup>68</sup> López Austin, *The Human Body and Ideology*, 76.

<sup>69</sup> *Ibid.*, 78.

<sup>70</sup> Michael E. Smith, “Aztec Culture: An Overview,” Arizona State University, 2006, <http://www.public.asu.edu/~mesmith9/1-CompleteSet/Smith-AztecCulture-WWW.pdf>, 3.

<sup>71</sup> Smith, “Aztec Culture: An Overview,” 3.; López Austin, *The Human Body and Ideology*, 77.

<sup>72</sup> López Austin, *The Human Body and Ideology*, 77.



and wealth. Furthermore, their job involved danger when conducted in hostile territories, allowing them a near-warrior status.<sup>73</sup>

Over 90% of the empire's population were commoners, or *macehualtin*.<sup>74</sup> In addition to working in agriculture or in craft or labor-based trades, all able-bodied male commoners served as warriors. Military service was also expected of all those who occupied higher-status positions. Priests, however, were exempt from military obligations.<sup>75</sup> Despite the well-defined hierarchy, some upward mobility was possible through military service. Outstanding performance on the battlefield, quantified by the number of captives taken, allowed the common man to elevate his status and privileges; however, commoners were unlikely to become nobles.<sup>76</sup> Like the *macehualtin*, merchants and priests were also able to accrue wealth and increase their public standing.<sup>77</sup>

16th-century Aztec society was undoubtedly defined by warfare and expansion; however, the inhabitants of Tenochtitlan still relied heavily upon agricultural and the manufacturing of tradable goods produced by the *macehualtin*. The state was divided into communally owned land plots allotted for specialized production determined by geographical location. These plots, or *capultin*, served as neighborhoods populated by kinship groups made of families and individuals who shared a trade. The *capulli*, as a property of the entire community, passed on to the offspring of the inhabitants. The structure of the *capulli*, though integrated into the Aztec state through religion, military contribution, and a system of mandatory tributes, was generally self-sustaining through

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<sup>73</sup> Pennock, *Bonds of Blood*, 18.

<sup>74</sup> Smith, "Aztec Culture: An Overview," 3.; López Austin, *The Human Body and Ideology*, 78.

<sup>75</sup> Pennock, *Bonds of Blood*, 11, 18.

<sup>76</sup> Smith, "Aztec Culture: An Overview," 3.

<sup>77</sup> *Ibid.*

farming.<sup>78</sup> Members of the *calpulli* claimed a common ancestor, and shared schools (*telpochcalli*), temples, and patron deities (*calpulteotl*) usually related to the shared trade of the *capulli*.<sup>79</sup> The *mayeque*, or land-bound serfs, also participated in agricultural production, but had lower social standing than the *macehualtin*.<sup>80</sup>

Slaves, or *tlacotli*, occupied the lowest strata of the empire's hierarchy; however, slavery was generally a temporary state. The Aztecs acquired slaves through multiple channels. Debtors were enslaved to settle their accounts. During times of famine or financial strife, families had the option of selling a member into slavery in exchange for food. Other family members could swap places with the enslaved member if the arrangement proved more suitable. The Aztecs also gained new slaves through war captives. Slaves were barred from military service and any other high-level labor reserved for citizens who could indulge in the associated privileges. The enslaved were expected to be obedient and productive, and those who violated the agreement risked being enslaved permanently or being sold for sacrifice. The later fate was only possible if the slave had been found to be lazy or delinquent and traded three times. Despite these rigid guidelines, slaves were allotted rights. Slave owners had to provide for their slave's basic needs and could not sell their slave without their permission unless they proved insubordinate. Slaves were protected from abuse, allowed to marry those of the same or a higher caste, and their children were born free. Slaves were freed when their debts were paid per their contract, but they could also be liberated through mass manumissions

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<sup>78</sup> Pennock, *Bonds of Blood*, 11.

<sup>79</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 10.; López Austin, *The Human Body and Ideology*, 76.

<sup>80</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 10.

during festivals, the wills of their deceased masters, or by stepping in human excrement while running away to the *tlatoani*'s palace from the market where s/he was to be sold.<sup>81</sup>

In the Aztec Empire, religiosity justified and shaped society's structure, and permeated every aspect of an individual's daily life. Caroline Dodds Pennock summarizes the Aztec's mentality, stating:

Every Aztec felt himself or herself to be part of a greater cycle, a repeated and recreated universe in which successive world were born lived and died. Their part in this evolution of worlds was temporary and transient. They were spokes of a wheel which continually turned, essential yet tiny parts of a larger system. As individuals they were insignificant, but their shared activity perpetuated their world and sustained the gods.<sup>82</sup>

Roles and purpose were clearly defined and imbued with meaning. The *tlatoani* and *chihuacoatl* were conduits for the divine. The *tonalpouhque* interpreted knowledge passed on from the gods. *Pipiltin* performed administrative duties for their exalted ruler and were expected to set a moral standard. *Pochteca* traveled long distance to engage in commerce that contributed to the state's wealth. The *macehualtin* and *mayeque* produced the crops that sustained the empire. The former was also likely to engage in a trade ordained by their *capulteotl* and necessary to the economy. All working-class men contributed to the expansionism that allowed for the ritual sacrifices that maintained cosmic order. Finally, the young received instruction at their schools, informing them of the part they were to destined play as they matured and indoctrinating them into their community and state's religion, beginning the cycle anew.

## **The Universe**

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<sup>81</sup> Pennock, *Bonds of Blood*, 18-19.; López Austin, *The Human Body and Ideology*, 400-405.

<sup>82</sup> *Ibid.*, 12.

The Aztecs conceptualized the universe as highly structured macrocosm containing multiple layers of microcosms, all of which were organized along a horizontal and vertical axis, with central axial point holding great significance. David Carrasco notes that “the Aztecs saw their city [Tenochtitlan] and empire as the center of the universe, contemporary and eternal” and that its center, the Templo Mayor, was “the quintessential example of Aztec symbolization of cosmic order and political aggression.”<sup>83</sup> This conceptualization was literal in regard to Aztec cosmology. The Aztecs believed there were thirteen celestial levels and nine underworld levels; vertical arrangement, Tenochtitlan occupied the bottommost celestial level. The horizontal space of this level was divided into equal quadrants or a “four-petaled flower with a jade bead in the middle,” with Tenochtitlan as the jade bead. The quadrants were surrounded by a disc of water.<sup>84</sup> This sacred geometry was repeated within the city, at the behest of the god Huitzilopochtli, who desired Tenochtitlan to be divided into four equal quadrants with his temple at the center. The pattern was again repeated on a smaller scale, in each quadrant, or *nauhcampa* (“four directions of the wind,”) and then again in each *calpulli*.<sup>85</sup>

A system of cosmic duality added further order to the universe. Duality was not only a way to understand the organization of the universe, it also accounted for the universe’s underlying functions and movements. The first cosmic dichotomy was the horizontal separation of sky (the Great Father) from the Earth (the Great Mother).<sup>86</sup> The creation of the first basic elements of the universe, the gendered upper and lower portion

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<sup>83</sup> Carrasco, *Quetzalcoatl and the Irony of Empire*, 161.

<sup>84</sup> *Ibid.*, 162.

<sup>85</sup> *Ibid.*, 164.

<sup>86</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 37.

of the universe (*tlactli* and *tlalchi*), was mirrored in the divine creators that resided in Omeyocan (“The Place of Duality,”) Ometecuhtli (“The Lord of Duality”) and Omecihautl (“The Lady of Duality,”) and then again in the Aztec’s ruling structure of a masculine *tlatoani* and a feminine *cihuacoatl*.<sup>87</sup> In addition to these primordial dichotomies, other dual pairs included:

<b>Mother</b>	<b>Father</b>
Underworld	Heavens
Below	Above
Death (Night Stream)	Life (Stream of Blood) or Fertility
Female	Male
Minor	Major
Cold	Hot
Humidity	Drought
Wet	Dry
Water	Fire
Wind	Fire
Night	Day
Down	Up
Ocelot	Eagle
Flint Stone	Flower
Weakness	Strength
Sharp pain	Irritation
Foul Smell	Perfume
Ascending influence	Descending influence

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The dichotomies of equilibrium/disequilibrium and suffering/pleasure are similarly essential to the Aztec world view; however, the orientation of these pairs on the “Mother/Father” polarity are unclear.<sup>89</sup>

## Religion

<sup>87</sup> *Ibid.*, 38.; López Austin, *The Human Body and Ideology*, 164, 208. It is speculated that Omeyocan (“The Place of Duality”) is located in the twelfth level of heaven.

<sup>88</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 37-38.; López Austin, *The Human Body and Ideology*, 52-53.

<sup>89</sup> López Austin, *The Human Body and Ideology*, 247-251, 255-282.

Duality also appeared in the domains and manifestations of the Aztec's deities. Gods and goddesses contained oppositional powers such as fertility and death, seen in the earth-mother complex of goddesses; or, in the case of the Tlazolteotl, the power to incite sexual transgressions and cure the resulting "filth diseases."<sup>90</sup> Furthermore, the gods and goddesses did not have absolute, fixed forms. Deities had anthropomorphic and animal (*nahualli*) manifestations, and dual or quadruple identities. In an attempt to make sense of the numerous deities and their manifestations, H. B. Nicholson categorized them under three common themes.<sup>91</sup> These themes are used in Bernard Ortiz de Montellano's consolidated list of deity complexes with the addition of Quetzalcoatl:

1. Celestial Creativity-Divine Paternalism  
Ometecuhtli complex (God of Duality)  
Tezcatlipoca complex (Creator God)  
Xiuhtecuhtli complex (Fire God)
2. Rain-Moisture-Agricultural Fertility  
Tlaloc complex (Rain God)  
Centeotl complex (Corn God)  
Xochipilli complex (God of Spring)  
Ometochtli complex (agricultural fertility)  
Teteo Innan complex (Earth Goddess)  
Xipe Totec complex (fertility and Spring)
3. War-Sacrifice-Sanguinary Nourishment of Sun and Earth  
Tonatiuh complex (Sun God)  
Huitzilopochtli complex ("Hummingbird on the Left"—solar patron god of the Aztec)
4. Quetzalcoatl- a very complex deity who combined the characteristics of several themes. He was a prime Creator God but also participated in the Rain-Fertility complex.<sup>92</sup>

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<sup>90</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 40; Catherine R. DiCesare, *Sweeping the Way: Divine Transformation in the Aztec Festival of Ochpaniztli* (Boulder, CO: University Press of Colorado, 2009), 69-102.

<sup>91</sup> Nicholson, "Religion in Pre-Hispanic Central Mexico," pp. 395-446.

<sup>92</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 46,48.

This list of deities is by no means complete.<sup>93</sup> Each strata of the social order, and each trade had its own tutelary deity. As discussed previously, each *capulli* also had their own patron deities (*calpulteotl*) associated with the barrios' lineage and trade. The expansion of the empire added more complication to the pantheon. When a *tlatocayotl* was conquered, they were allowed to keep their government and their deities were incorporated into the Aztec's pantheon.<sup>94</sup> This arrangement allowed the Aztecs to execute a form of psychological domination through the supposition that their victory proved the superiority of their patron god, and conversely, the inferiority of the conquered neighbor's patron god.<sup>95</sup>

Montellano describes Aztec religion as an "ecclesiastical state institution," but clarifies that "it differed from most state religions in that it retained elements such as shamanism and animism from its past as a hunter-gatherer society."<sup>96</sup> Peter T. Furst's research provides the most detailed overview of Aztec religion's shamanistic features:

the skeletal soul of man and animal, and the restitution of life from the bones; all phenomena in the environment as animate; separability of the soul from the body during life (e.g., by soul loss, by straying during sleep, or by rape or abduction, or else the soul's deliberate projection, as by shamans in their ecstatic dreams); the initiatory ecstatic experience, especially of shamans, and 'sickness vocation' for the latter; supernatural causes and cures of illness; different levels of the universe with their respective spirit rulers, and the need for feeding these on spirit food; qualitative equivalence of different life forms, and man-animal transformation – indeed, transformation rather than creation as the origin of all phenomena; animal spirit helpers, alter egos, and guardians; supernatural masters and mistresses of animals and plants; acquisition of supernatural or 'medicine' power from an outside source.<sup>97</sup>

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<sup>93</sup> Nicholson provides an in-depth overview of the pantheon.

<sup>94</sup> *Ibid.*, 45.; López Austin, *The Human Body and Ideology*, 79-83.

<sup>95</sup> López Austin, *The Human Body and Ideology*, 80-81.

<sup>96</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 10.

<sup>97</sup> Peter T. Furst, *Flesh of the Gods: The Ritual Use of Hallucinogens* (Prospect Heights, IL: Waveland Press, 1990), 6.

Elements of shamanism influence not only the Aztec's understanding of the world around them and their relationship to the deities, it permeated all aspects of physical wellbeing and medicine.

### **The Body**

The Nahuatl term for the body is *tonacayo*, “the whole of our flesh,” which is also applied to corn, the Nahuas' revered food source.<sup>98</sup> Other metaphorical terms for the human body included: *in tlallotl*, *in zoquiotl* or *in tlalli*, *in zoquitl* translating to “the earth, the mud,” and *chicomoztoc*, meaning “the place of the seven caves,” a term used in magical incantations when referring to the body. The later term references the Aztec's belief that there are seven orifices: two eye sockets, two nasal cavities, the mouth, the navel, and the anus.<sup>99</sup> *Chicomoztoc* is also the name of the cavernous mountain from which the seven nations of men emerged, each created by their own patron deity at different points in time.<sup>100</sup> The metaphorical terms that suggest a connection between the body and earth or mud may stem from the Aztec's myth on the creation of the first man and woman.

Man's indebtedness to the gods is embedded in the mythical origins of the human body. According to Aztec myth, Quetzalcoatl journeys to the underworld, Mictlan, to gather the skeletal remains of the first sun's inhabitants.<sup>101</sup> As discussed earlier, during the first era, Ocelotonatiuh, acorn eating giants created by Tezcatlipoca populated the

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<sup>98</sup> López Austin, *The Human Body and Ideology*, 162.

<sup>99</sup> *Ibid.*, 163.

<sup>100</sup> *Ibid.*, 242-244.

<sup>101</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 41.



earth. Before Quetzalcoatl could gather the giants' bones, he was met by obstacles put in place by Mictlantecutli, the god of the underworld. Quetzalcoatl overcame the challenges and reached the bones; however, Mictlantecutli still did not want Quetzalcoatl to take the giants' remains. Mictlantecutli sent forth a quail to attack Quetzalcoatl, causing the god to faint and drop the bones. The quail then pecked the fallen bones into pieces. A weeping Quetzalcoatl pulverized the bones and blended the powder with blood from his pierced penis, symbolically fertilizing the mixture. After four days, a male child sprang forth from the paste, and his female counterpart emerged after four more days. This pair populated the earth of the fifth sun.<sup>102</sup> From this myth, it is clear that the Aztecs believed that humankind was created from the efforts and sacrificial blood of a god, resulting in a cosmic debt that extended beyond feeding the sun. This premise is in alignment with Austin's argument that, for the Aztecs, man's relationship to the gods was transactional. Men gave the deities sacrificial byproducts of blood and hearts, along with quails, fire, and copal incense in exchange for health and bountiful harvests. As evidence of this mercantilistic dynamic, he notes that *nextlahualiztli*, the term for sacrifices, translates to 'act of payment,' and *tlenamaca*, the term for offerings of fire means 'to sell fire.'<sup>103</sup>

The structure and cosmic duality that governed the universe was emulated in the microcosm of the human body. The Aztecs believed that the body was divided into four quadrants like the horizontal level of the universe that man inhabited. The upper half (comprised of the two uppermost quadrants), beginning at the navel and ending at the top

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<sup>102</sup> *Ibid.*, 41-43.

<sup>103</sup> López Austin, *The Human Body and Ideology*, 74.

of the head, was termed the *tlactli*, or ‘the body of man from the waist up,’ or ‘trunk’.<sup>104</sup> The navel, or *xic*, was essential to the body schema. It was thought of as the body’s central point from which all other body parts branched from and held magical significance.<sup>105</sup> This arrangement mimics Templo Mayor’s position in the city of Tenochtitlan. The temple was referred to metaphorically as the city’s “navel.”<sup>106</sup> There is not a term in the records for the lower half of the body, though Austin identified that *tlan*, meaning “below” or “under” was used in terms describing parts of the lower body such as the knee, the *tlancuaxicalli*.<sup>107</sup> In like manner, *tlan* is the suffix of Mictlan, the name of the underworld. The left and right sides of the body were also differentiated. Vital animistic forces were most concentrated on the left side of the body in general, both inside and outside of the animistic centers, the head, heart, and liver.<sup>108</sup> The left was associated with authority and supernatural forces as well.<sup>109</sup> Additionally, there is evidence that a distinction was made between the front and back of the body, but its cosmic significance remains unclear.<sup>110</sup>

### **Animistic Centers and Entities**

Austin conducted extensive research on both the ancient and modern day Nahuas of the High Central Plateau’s understanding of the body and its animistic centers and entities. He defines an animistic center as:

part of the human organism in which there is a concentration of animistic forces or vital substances and where the basic impulses originate for directing the

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<sup>104</sup> *Ibid.*, 162.

<sup>105</sup> *Ibid.*, 167, 173, 197-198.

<sup>106</sup> Carrasco, *Quetzalcoatl and the Irony of Empire*, 164.

<sup>107</sup> López Austin, *The Human Body and Ideology*, 164.

<sup>108</sup> *Ibid.*, 200.

<sup>109</sup> *Ibid.*, 164-165.

<sup>110</sup> *Ibid.*, 165.

processes that give life and movement to the organism and permit the fulfillment of psychic function. In diverse cultural traditions, the centers are conceived of in various ways. They can correspond or not to a particular organ. They can be singular or plural within each organism. In the latter case, they can be differentiated according to function, and they can even be ranked hierarchically.<sup>111</sup>

In essence, the Aztecs conceptualized the human body is both a vessel for and animated by animistic forces that served distinct purposes.

The distinction between animistic centers and animistic energies is important.

Austin provides the following explanation of the energies in relation to the center:

Animistic energy which supposedly resides in an animistic center, is often considered to be a structured unit capable of independence, in certain circumstances, from the place in the organism where it is located. This necessitates distinguishing between the normal locus of a force and that of the structural unity of the force as a separate entity. As with the concepts of animistic centers, the characteristics of animistic entities are quite varied: singular or plural, divisible or indivisible, possessing specific hierarchical functions, material or immaterial, separable or inseparable from the human organism, mortal or immortal, transcendent to the life of a human being or finite on the human scale, or even possessing a consciousness distinct and independent of the human being to whom they pertain.<sup>112</sup>

Austin also draws parallels between the three animistic entities recognized by the Aztecs, their centers, the universe, and the nuclear family. The animistic entity *tonalli* resides in the head of the human body, corresponding with the upper sky and the father; the entity *teyolia* resides in the heart, corresponding with the lower sky and children; and the entity *ihiyotl* resides in the liver, corresponding with the underworld and the mother.<sup>113</sup> Despite the concentrations of animistic entities in animistic centers, these forces were able to

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<sup>111</sup> López Austin, *The Human Body and Ideology*, 182.

<sup>112</sup> *Ibid.*, 181-182.

<sup>113</sup> *Ibid.*, 347-348.

transcend these boundaries, as exemplified by the presence of vital forces throughout the body.

### ***Tonalli***

The nature of the animistic entity *tonalli* was hot, luminous and gaseous. A synonym for *tonalli* is *tleyotl* (fame or honor), which derived from the word *tletl* (fire). *Tonalli*, despite its fiery nature, also served as an internal temperature regulator, protecting the body from overheating.<sup>114</sup> As the force is concentrated in the head, it was believed that hair, particularly from the crown of the head contained *tonalli* and acted as a cover to protect from the loss of the entity. For example, after a person died, a lock of hair was kept along with a lock taken at birth as a memento that contained their vital force, and sick children were directed to grow out their hair to prevent further *tonalli* loss.<sup>115</sup> According to the Aztec's understanding, blood allowed for growth and strength in the body, and contained a vital force which could be passed on from direct contact with its source.<sup>116</sup> Based on information from modern day Nahuatl speakers, it is possible that the vital force in blood is *tonalli*.<sup>117</sup> One of *tonalli*'s most significant functions in the body was serving as a link to the divine.<sup>118</sup>

*Tonalli* was thought to be present at the time of conception, but the concentration of this entity was subject to change over a person's lifetime.<sup>119</sup> Nobles (*pipiltin*) were born with more *tonalli* than commoners (*macehualtin*), while slaves (*tlacotli*) had the

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<sup>114</sup> *Ibid.*, 216-218.

<sup>115</sup> *Ibid.*, 220-221.

<sup>116</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 168.

<sup>117</sup> Jill Leslie McKeever Furst, *The Natural History of the Soul in Ancient Mexico* (New Haven, CT: Yale University Press, 1995), 130.; López Austin, *The Human Body and Ideology*, 214.

<sup>118</sup> López Austin, *The Human Body and Ideology*, 218.

<sup>119</sup> *Ibid.*, 209.

least; thus, justifying their positions in the hierarchy.<sup>120</sup> However, performing duties for the state, demonstrating bravery on the battlefield, and making or having others make sacrifices on your behalf increased one's vital force.<sup>121</sup> For slaves, the end of their enslavement, whether through fulfilling their contract or a by taking a purifying bath after escaping, changed their being.<sup>122</sup> It seems likely that this change in a slave's internal state meant an increase in *tonalli*.

*Tonalli* was also influenced by a person's date of birth, and its associated meanings as determined by the *tonalpouhque* ("enumerators of the tonalli"). The Aztecs utilized two calendars the *tonalamatl* (260-day) and a 365-day solar calendar. The *tonalamatl* is comprised of twenty-day names accompanied by the numbers one through thirteen. The solar calendar contained eighteen twenty-day months and one five-day month. Each month of the solar calendar was marked by festivals and ceremonies pertaining to agriculture, war, and ritual sacrifice as well as to honor patron gods. A person's birthday, in accordance with the *tonalamatl*, determined a person's physical wellbeing as well as their occupation. The fortunes of the *tonalamatl* were not, however, immutable. The *tonalpouhque* were able to change a child's baptismal date to a more favorable day. Behavior also altered one's fortune; unethical and immoral behavior manifested the negative aspects of the fate associated with the birth date.<sup>123</sup>

### ***Teyolia***

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<sup>120</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 54.

<sup>121</sup> *Ibid.*, 59.

<sup>122</sup> López Austin, *The Human Body and Ideology*, 404-405.

<sup>123</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 11, 55-58.

Concentrated in the heart, *teyolia* was associated with vitality, inclination, fondness, and knowledge.<sup>124</sup> Emotions and personality also resided in the *teyolia*.<sup>125</sup> A divine fire was believed to exist in the heart of any person who excelled in art, divination, or imaginative fields.<sup>126</sup> Additionally, the most elevated members of the priesthood, the *quequetzalcoa*, Quetzalcoatl's earthly successors, were deemed "divine of heart."<sup>127</sup> The *teyolia*, in addition to being the seat of a person's character, animated the body and was the force that went on to the underworld.<sup>128</sup> After death, the *teyolia* was thought to become a winged creature.<sup>129</sup> For example, the *teyolia* of deceased infants and toddlers, departed to the sky realm of Tonacatecutli to drink nectar from a nursing tree as a hummingbird or butterfly would instead of journeying to the underworld.<sup>130</sup> Furthermore, *teyolia* was thought to also exist in animals, lakes, the ocean, the mountains, towns, and the sky.<sup>131</sup>

### ***Ihiyotl***

The *ihiyotl*, housed in the liver, was a luminous gas with the power to attract items to its host.<sup>132</sup> This entity was the breath imparted by Citlallatonc, Citlalicue, and the *ilhuicac chaneque* (heaven dwelling sprites) when a child was baptized. The baptism had the additional purpose of purifying an infant of malignant influences and cleansing the

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<sup>124</sup> López Austin, *The Human Body and Ideology*, 231.

<sup>125</sup> Furst, *The Natural History of the Soul in Ancient Mexico*, 20.

<sup>126</sup> López Austin, *The Human Body and Ideology*, 231-232.

<sup>127</sup> Carrasco, *Quetzalcoatl and the Irony of Empire*, 172.

<sup>128</sup> Furst, *The Natural History of the Soul in Ancient Mexico*, 17.

<sup>129</sup> *Ibid.*, 23.

<sup>130</sup> *Ibid.*, 25-26.

<sup>131</sup> López Austin, *The Human Body and Ideology*, 232.

<sup>132</sup> *Ibid.*, 234.

liver.<sup>133</sup> The liver was the source of feelings, life, passions and vigor. Negative qualities such as greed, appetite, desire, and anger also originated in this center. Anger manifested in the form of viscous blue and green bile.<sup>134</sup> An honorable character was associated with a clean liver, while immorality of a sexual nature caused emissions that were harmful to other living creatures-- people, animals, and crops-- as well as business deals, sacred offerings, and cooking.<sup>135</sup> A corpse could also emanate *ihiyotl*. For example, the force was believed to flow out from the finger of a woman who died during childbirth.<sup>136</sup> Along these lines, the word *ihiyotl* was also the term used to describe the noxious odor expelled from the body when passing gas.<sup>137</sup> *Ihiyotl* also meant to “to shine and glow with rich vestiments.”<sup>138</sup> Finally, replenishment through breathing and eating was an essential requirement to maintain this vital force.<sup>139</sup>

## Conclusion

The horizontal-vertical division intersecting a supernaturally significant central point, and the organizing principle of cosmic duality, present in the Aztec’s multi-level universe was repeated throughout their empire and again in the human body. The Aztecs believed that these configurations and forces were subject to the influence of a complex, multi-natured pantheon. The body was intimately connected to these deities through sacrificial debt. This debt could be paid through incense, fire, and quail; however, blood

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<sup>133</sup> *Ibid.*, 233-234.

<sup>134</sup> *Ibid.*, 234.

<sup>135</sup> *Ibid.*, 235.

<sup>136</sup> *Ibid.*, 235-236.

<sup>137</sup> *Ibid.*, 234.

<sup>138</sup> Furst, *The Natural History of the Soul in Ancient Mexico*, 167.

<sup>139</sup> López Austin, *The Human Body and Ideology*, 236.

was particularly valuable. The value of sacrifice and blood was modeled by the gods in the creation of the life-giving sun and the initiation of its mobility and in the creation of humankind. In turn, sanguinary offerings were required to maintain the sun's course. This mercantilist system was reinforced by the religious restructuring initiated by Tlacaehel through the elevation of Huitzilopochtli to the top of the pantheon, the veneration of Quetzalcoatl's warrior avatar, as well as the construction of Templo Mayor. The vitality imparting animistic entities, *tonalli*, *teyolia*, and *ihiyotl*, also linked the human body to the divine, particularly the *tonalli*. Furthermore, these forces justified the social hierarchy, imbued people with their defining qualities, and determined their wellbeing. Personal behavior, such as moral transgressions, and external influences, like astrology, negatively impacted one's vital forces, causing disequilibrium. The next chapter will explore disequilibrium in the animistic entities as it related to the Aztec's conceptualization of fever.



## Chapter 2: Aztec Fevers

Fevers, as the Aztecs conceived of them, were rooted in the belief that the macrocosm of the universe was reproduced in the microcosm of the human body, and that both systems were governed by cosmic dualities. The cosmic duality of hot and cold played a particularly significant role in the etiology of the various Aztec fevers. The Aztecs recognized at least four forms of hot fever: *totonqui*, *motlevia*, *iztac* *totonqui* (white fever), and *matlaltotonqui* (green fever). The fever *tletl* may have also been a distinct form of hot fever. Hot fevers were linked to the animistic entity *tonalli* through etymology, etiology, and symptomology. The Aztecs also recognized a cold aquatic fever, *atonahuiztli*, associated with the Tlaloc deity complex. An earlier version of the *Florentine Codex* indicates the existence of two other supernatural fevers, *tlallatonahuiztli*, “aquatic fever of the earth,” and *yoallatonahuiztli*, “aquatic fever of the night.” The historical record presents complications, aside from this example of censorship. There are inconsistencies between the symptoms described by Sahagún’s informants and their choice of fever terminology. Similar inconsistencies are found in duplicated entries for remedies that do not treat the same set of symptoms, and in entries for divine herbs used to treat fevers devoid of supernatural symptomology. The *Badianus Codex* also presents unique challenges regarding determining the etiologies of the fevers described, owing to the document being written in Latin. The complications presented by the historical record are by no means insignificant; however, the agglutinative nature of Nahuatl, and what the record reveals about the Aztec’s understanding of medicine and the body provide avenues for investigating the complexities of Aztec fevers.

## Hot/Cold Duality and Fevers

As stated earlier, the Aztec's understanding of fever(s) is connected to the cosmic duality of hot and cold. Sherry Lee Fields details the nature of this connection:

Those that emanated from a celestial god would manifest themselves as “hot,” while those that were derived from actions of the tlaloques, the earthly spirits of the Tlaloc deity group which lurked in streams and damp mountain ravines, were of a “cold” nature. The historical sources mention various kinds of wind, for example, such as the warm solar or celestial wind, *tona ehécatl*, or the cold aquatic wind, *ehécatl atl*, or the even more frigid airs, *mictlan ehécatl*, emanating from the dark underworld, all of which could shift the body into a state of disequilibrium.<sup>140</sup>

Hot/cold duality is clearly essential to understanding how the Aztecs perceived the various forms of fevers recognized by their medical system. However, the Aztecs' perception of fever etiology was much more nuanced. The association between celestial gods, the solar wind *tona ehécatl* and “hot fevers” reflects the Aztec's belief that the upper sky corresponds with *tonalli*, the hot animistic entity residing in the head. Similarly, the source of cold winds, Mictlan, is directly associated with the animistic entity concentrated in the liver, *ihiyotl*. *Ihiyotl* is, by nature, colder than *tonalli*, and is both a force that draws desired objects to a person and a harmful element that emanates from the living and the dead. Both this entity and the underworld are linked to the “mother,” who represents half of the governing cosmic dualities. The cold and wet elements associated with the Tlaloc deity complex, water and *ehécatl atl*, also belong to the mother side of the dualities, while heat is under the domain of the father.

## Hot Fevers

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<sup>140</sup> Fields, *Pestilence and Headcolds*, 46.

The connection between *tonalli* and heat is reflected in the etymology of the common Nahuatl term for fever, *totonqui*. The word “*totonqui*,” is a combination of “*tona*” and “*motlehuia*.”<sup>141</sup> *Tona* translates as “to be hot or sunny” and *motlehuia* means “to have fire within.”<sup>142</sup> The *Florentine Codex* contains slight orthographic variations in the spelling of these terms when referring to fever: *totonquj* is used instead of *totonqui*, and *motlevia* is used in place of *motlehuia*. Synonyms used in the Codex for hot fever include *totonjliztica*, *totonjliztli*, and *totonjllotl*.<sup>143</sup> *Totonjllotl* also means “feverishness” as does *totonjlizçotl*.<sup>144</sup> Similarly, the Codex uses the term *totonja* to describe when a body “burns” is “feverish” or is “fevered,” and *totonje* when the “body is hot.”<sup>145</sup> The term “*totonqui*,” as well as its many derivations, share the prefix “*tona*” with the animistic entity *tonalli*. This commonality is significant as Nahuatl, by nature, is an incredibly descriptive language in which the elements of and qualities pertaining to an object are represented in its name.<sup>146</sup> This form of hot fever was often located in the head, in general, including the eyes, face, mouth. In some instances, the fever was located in the abdomen or chest. These fevers were often accompanied by swelling of the stomach, inflamed eyes, and skin disorders- festering sores, blisters, abscesses, and pustules. Ailments of the heart such as an “anguished heart,” pain in the heart, or being “faint” or

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<sup>141</sup> Bernard R. Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 158.

<sup>142</sup> Wood, ed., “Nahuatl Dictionary,” the definition for *tona* was sourced from Alonso de Molina, *Vocabulario en lengua castellana y mexicana y mexicana y castellana, 1571*, part 2, Nahuatl to Spanish, f. 149r. col. 2.; *Ibid.*

<sup>143</sup> Bernardino de Sahagún, *Florentine Codex: General History of the Things of New Spain*, trans. Arthur J. O. Anderson and Charles E. Dibble, Revised, vol. XII (Salt Lake City, UT: The University of Utah Press, 1981), 160, 165, 169, 173, 176, 178.

<sup>144</sup> *Ibid.*, 181, 172.

<sup>145</sup> *Ibid.*, 154, 159, 165, 166, 176, 186

<sup>146</sup> López Austin, *The Human Body and Ideology*, 21.

“sick” of heart were also associated with this form of hot fever.<sup>147</sup> Treatments for this fever involved purging phlegm and pus from the body, bring the fever to the surface of the skin, and a therapeutic bath.<sup>148</sup>

The term *tletl* is also used for fever throughout the Nahuatl informant’s accounts of medicinal herbs recorded in the *Florentine Codex*.<sup>149</sup> *Tletl* may be synonymous with *totonqui*; however, there are some indications that it may have been a particularly high form of fever. “*Tletl*,” meaning “fire,” is a synonym for *tonalli*. This direct etymological link to the animistic force *tonalli* is suggestive. Additionally, many of the herbs used to treat it, are noted as “cooling,” “cooling the body,” or lowering “the temperature.”<sup>150</sup> These herbs are not, however, the only fever remedies noted to be cooling. The herb *tetzmitic* or *quauhल्ली*, used to treat *motlevia*, and *tlalmizqitl*, used to treat *totonja*, are also described as having a cooling effect.<sup>151</sup>

There are two other recognized forms of hot fever, *iztac totonqui* and *matlaltotonqui*. *Iztac totonqui*, translates to “white fever.”<sup>152</sup> This fever is characterized by festering, abscesses, and swelling underneath the skin.<sup>153</sup> Remedies for *iztac totonqui* are taken internally and applied topically to draw fever and pus to the surface of the skin.<sup>154</sup> *Matlaltotonqui* is known as “green fever.”<sup>155</sup> *Matlaltotonqui* is noted to be a

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<sup>147</sup> Sahagún, *Florentine Codex*, vol. XII, 142, 144, 148, 150, 154-155, 156, 158-159, 161, 165, 167, 169, 173, 174-175, 176, 177, 182, 186, 189.

<sup>148</sup> *Ibid.*, 144, 148, 153, 154-155, 156, 159, 178.

<sup>149</sup> *Ibid.*, 143, 148, 149, 151, 154-155, 156, 175, 182.

<sup>150</sup> Sahagún, *Florentine Codex*, vol. XII, 148, 149, 154-155, 175.

<sup>151</sup> *Ibid.* 161,157.

<sup>152</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 158.

<sup>153</sup> Sahagún, *Florentine Codex*, vol. XII, 163-164, 168, 177.

<sup>154</sup> *Ibid.*

<sup>155</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 158.

“high fever” that manifests as bruises and dark spots on the skin. Once the green fever is brought to the skin’s surface it is lanced with a sharp obsidian tool. For *matlaltotonqui* brought on by phlegm destroying the heart, the phlegm is purged in order to lower the fever.<sup>156</sup>

The connection between hot fevers and *tonalli* is significant to the etiology of the ailment. *Tonalli* is concentrated in the head, specifically the face and crown of the head.<sup>157</sup> The location of this animistic force correlates with the symptomologies of hot fevers that manifest through heat concentrating in the head, face, or eyes, and when fevers are accompanied by inflammation in the eyes.<sup>158</sup> Though it resided primarily in the head, *tonalli* was integral to the health of the entire body. This animistic force connected the human body to the divine and imbued it with vigor. *Tonalli* also served a defensive purpose in the body. Alfredo López Austin notes that “the *tonalli* was one of the sources of the body’s inner warmth; but, at the same time, it was an entity that controlled heat and kept other sources from dominating an organism by raising its temperature to dangerous levels.”<sup>159</sup> The beings that invade the body and devour *tonalli* are aquatic deities. Interestingly, the response of the *tonalli* to invading forces, raising the internal temperature of the body to the point that it becomes inhospitable, parallels our modern understanding of how the immune system fights harmful microorganisms through fever. This is not to say that only external invaders could harm or deplete *tonalli*. Austin adds that:

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<sup>156</sup> Sahagún, *Florentine Codex*, vol. XII, 181.

<sup>157</sup> López Austin, *The Human Body and Ideology*, 214.

<sup>158</sup> Sahagún, *Florentine Codex*, vol. XII, 154-155, 161, 169.

<sup>159</sup> López Austin, *The Human Body and Ideology*, 216.

Harm to the *tonalli* was done on the inside as well as the outside of an individual. Within, an imperfect coordination of the animistic entities, rude or stupid acts, and transgressions could injure it or lessen its powers. Also, the *tonalli* inside a person was subject to the effects of divine punishment for impious, licentious, or arrogant behavior or suffered the acts sorcerers effected on a fraction of *tonalli* still adhering to hair, acts that from a distance could still wound the interior *tonalli*. Another kind of damage to the *tonalli* on the inside of the body was the intrusion of beings with the will or the power to attack the animistic entity. On the outside, the *tonalli* could suffer other kinds of harm. Nowadays a distinction is made between a violent departure due to an accidental or intentional scare and a normal withdrawal in which the ‘shadow’ wanders, is led on by the attraction of pleasant places, or is intercepted on its return path. It is believed that if the *tonalli* is separated in any way from its body, those beings greedy for its energy – those who intentionally frighten people- take it prisoner or devour it.<sup>160</sup>

Understanding the causes behind suboptimal *tonalli* levels in the body is crucial to understanding the etiology of fever. There is evidence that demonstrates that the body did not only produce a fever response to an invader. Intercourse with a partner whose *tonalli* was depleted, such as a new mother, resulted in the healthy participant getting a fever.<sup>161</sup> The Aztecs also believed that physical exertion, for example, walking done to the point of fatigue, heated the body and required rest, or *tonalcehuia*, meaning “to cool down the *tonalli*.”<sup>162</sup> Furthermore, *tonalli* loss in general could lead to fever as well as other illnesses and even death.<sup>163</sup> That is not to say that all cases of *tonalli* loss caused the body to overheat. Nevertheless, it is possible that a loss of *tonalli* was the ultimate cause behind all fevers. Austin notes that according to an eighteenth-century document, Nahuas believed a fever meant that *tonal*, from the sun, had departed the body.<sup>164</sup> There is no proof that this belief, held two centuries after the Conquest, is entirely pre-Hispanic, yet

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<sup>160</sup> *Ibid.*, 225.

<sup>161</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 152.

<sup>162</sup> Fields, *Pestilence and Headcolds*, 102-103.

<sup>163</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 54, 60.

<sup>164</sup> López Austin, *The Human Body and Ideology*, 225.

this indigenous explanation of fever echoes earlier understandings of *tonalli*'s connection to the sun and the negative impact its loss had on health. Regardless of whether or not all fevers stemmed from damage to or depletion of *tonalli* through external, internal, or independent means, hot fevers were intrinsically linked to this animistic force etymologically and often through etiology as well.

### **Cold Fever**

The term “*atonahuiztli*” is used to refer to cold, aquatic fevers of a supernatural origin. The symptomology of *atonahuiztli* is found in its etymology. *Atonahuiztli* is defined as “a fever that alternates with a feeling of being cold” or a fever accompanied by chills.<sup>165</sup> The orthographic variation “*atonavizpatli*” is used in the *Florentine Codex*, as is *atonavi*, or *atonahui*, which means “to have a fever and be cold at the same time.”<sup>166</sup> The etymology of “*atonahuiztli*” presents an interesting conundrum. The word appears to be comprised of “*atotonilli*” meaning “hot water” and “*huitzli*,” a suffix frequently used in the names of illnesses.<sup>167</sup> Complications arise given that the fever, *atonahuiztli*, is associated with cold and water. To further expound upon this idea, the Nahuatl term for “cold water” is “*itztic atl*.”<sup>168</sup> Therefore, etymologically, the name of this cold, aquatic fever translates as “hot water ailment.” Though further descriptions of how the disease

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<sup>165</sup> Wood, ed., “Nahuatl Dictionary,” the definition was sourced from Alonso de Molina, *Vocabulario en lengua castellana y mexicana y mexicana y castellana*, 1571, part 2, Nahuatl to Spanish, f. 9r. col. 1.; Francisco Guerra, “Aztec Medicine,” 320.

<sup>166</sup> Sahagún, *Florentine Codex*, vol. XII, 146, 147; Wood, ed., “Nahuatl Dictionary,” the definition was sourced from Alonso de Molina, *Vocabulario en lengua castellana y mexicana y mexicana y castellana*, 1571, part 2, Nahuatl to Spanish, f. 9r. col. 1

<sup>167</sup> Wood, ed., “Nahuatl Dictionary,” the definition for *atonilli* was sourced from Alonso de Molina, *Vocabulario en lengua castellana y mexicana y mexicana y castellana*, 1571, part 2, Nahuatl to Spanish, f. 9r. col. 1.

<sup>168</sup> Wood, ed., “Nahuatl Dictionary,” the definition was sourced from Alonso de Molina, *Vocabulario en lengua castellana y mexicana y mexicana y castellana*, 1571, part 2, Nahuatl to Spanish, f. 43r. col. 2.

manifests in the body are frustratingly scarce, the herb *xoxouhcapatli*, used to treat *atonahuiztli*, is also indicated festered flesh or scabies.<sup>169</sup> Additionally, *atonahuiztli* is one of a group of related supernatural diseases. Aquatic fever is closely linked to gout through the use of entheogenic remedies used to treat the diseases, such as *picietl* (tobacco) and *toloa*, though the herbs are used topically for gout.<sup>170</sup> *Atonahuiztli* is also tied to *tlanatonahuiztli*, aquatic fever in the teeth, an illustration of which containing the hieroglyph for water is depicted in the *Florentine Codex*.<sup>171</sup> In general, all rheumatic conditions associated with coldness and water, and the degenerative symptoms related to excessive alcohol, pulque, consumption were sent by the Tlaloc deity complex.<sup>172</sup> However, *atonahuiztli*'s link to Tlaloc extends beyond this generalization.

Through his research, Bernard R. Ortiz de Montellano proves the link between *atonahuiztli* and the Tlaloc deity complex via three avenues: First, he points to “water” being part of the illnesses name. Secondly, he notes the usage of the *iztauhyatl* and *yauhtli*, herbs “closely identified with Tlaloc” to treat the fever. Thirdly, he deduces that Fray Bernardino de Sahagún removed similar divine illnesses found in *Primero Memoriales*, an earlier draft of the *Florentine Codex*, from later versions of the text. The divine illnesses censored by Sahagún included:

*tlallatonahuiztli*, “aquatic fever of the earth;” and *yoallatonahuiztli*, “aquatic fever of the night.” Other eliminated diseases were also clearly related to religion-*necihuaquetzaliztli*, “the elevation of a woman,” which referred to women who died at first birth, and *netlahuitequiztli*, “lightning strike,” which referred. to death ordained by Tlaloc.<sup>173</sup>

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<sup>169</sup> Sahagún, *Florentine Codex*, vol. XII, 146.

<sup>170</sup> Sahagún, *Florentine Codex*, vol. XII, 146, 147.

<sup>171</sup> Sahagún, *Florentine Codex*, vol. XI, 146.

<sup>172</sup> Guerra, “Aztec Medicine,” 320.

<sup>173</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 158-159.



Like hot fevers, the cold fever *atonahuiztli*'s origin was tied to the animistic forces. Alfredo López Austin illuminates *atonahuiztli*'s etiology when recounting the ways in which the animistic entity, *teyolia*, is damaged:

mishaps to the *teyolia* and to the heart can be divided into: a, those deriving from immoral conduct, chiefly involving the sexual life; b, those caused by certain illnesses that cover the heart with phlegm, press upon it, or darken it, illnesses often related to "aquatic fevers," these, in turn, caused by possession by water beings; c, harm caused by *teyollopachoaime* sorcerers who devour and put pressure on their victims' hearts.<sup>174</sup>

López's account reveals the mechanism through which aquatic fever develops in the body, phlegm oppressing the heart and possession.

Phlegm had a role in the etiology of both hot and cold fevers. For example, the herb *acaxilotic*, used to treat a hot fever, *totonja*, worked as a purgative, voiding the body of yellow phlegm and pus, indicating that the cause of the disease and action of the cure were observable, and thus natural.<sup>175</sup> The phlegm on the heart associated with aquatic fevers, on the other hand, stems from a supernatural cause.<sup>176</sup> López asserts that Sahagún's texts recognized four types of phlegm: white, yellow, green, and purulent.<sup>177</sup> However, this classification seems generous. The *Florentine Codex*'s entry for the herb *iztaquiltic*, describes a condition where one vomits phlegm, associated with epilepsy, and distinguishes only three types of phlegm: "And for one who vomits blood or phlegm-yellow, white, green – it expels the phlegm; thus it cures."<sup>178</sup> Yellow, white, and green phlegm are clearly identified, but purulent fluid, or pus, is not included among the

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<sup>174</sup>López Austin, *The Human Body and Ideology*, 232.

<sup>175</sup> Sahagún, *Florentine Codex*, vol. XII, 159.

<sup>176</sup> *Ibid.*, 131, 165, 181.

<sup>177</sup>López Austin, *The Human Body and Ideology*, 178.

<sup>178</sup> Sahagún, *Florentine Codex*, vol. XII, 160.

colored phlegms. Furthermore, purulent discharges are referred directly to in other entries.<sup>179</sup> These distinctions are also made in the aforementioned entry for *acaxilotic*, which treats yellow phlegm and pus as two, separate fluids. The use of distinct terms for both phlegms and purulent fluids suggests that the Aztecs did not conflate them, though the expulsion of both substances through purgatives and diuretics was believed to improve health and cure some forms of fever.

The possessing water beings associated with *atonahuiztli* are the *tlaloque*, who reside in the earthly paradise Tlalocan. These deities, also known as the Tlalocs, are the companions of Tlaloc, and are responsible for precipitation, lightning, and thunder.<sup>180</sup> The Tlalocs, specifically the *ahuaque* and *ehecatonin*, were both beneficial and malevolent actors, bringing the rain necessary for crops and inflicted lightning, hail, and illness out of anger against sin.<sup>181</sup> The essence, or *teyolia*, of a person killed by lightning or an aquatic disease, such as *atonahuiztli*, went on to reside in Tlalocan; as opposed to Mictlan, where the essences of those who died by natural causes went; or Tonatiuh Ilhuicatl, “the Sky of the Sun,” where the essences of slain warriors, women who died in childbirth and individuals sacrificed to the sun journeyed to; or Chichihualcuauhco, the heaven of nursing infants.<sup>182</sup> Those who died a water or lightning death also had the ability to invade the body of a living person and cause madness.<sup>183</sup> Furthermore, water

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<sup>179</sup> *Ibid.*, 148, 159, 178.

<sup>180</sup> Bernardino de Sahagún, *Florentine Codex: General History of the Things of New Spain*, trans. Arthur J. O. Anderson and Charles E. Dibble, vol. VII (Salt Lake City, UT: University of Utah Press, 1969), 35.; Bernardino de Sahagún, *Florentine Codex: General History of the Things of New Spain*, trans. Charles E. Dibble and Arthur J. O. Anderson, vol. VIII (Salt Lake City, UT: The School of American Research and the University of Utah, 1978), 18.

<sup>181</sup> López Austin, *The Human Body and Ideology*, 340.

<sup>182</sup> *Ibid.*, 318-319.; Furst, *The Natural History of the Soul in Ancient Mexico*, 21.

<sup>183</sup> López Austin, *The Human Body and Ideology*, 340.

and earth deities that inhabited cold, wet environs, such as caves, streams, canyons, and the forest, desired the warming force *tonalli* that vitalized humans.<sup>184</sup> These beings' desire for *tonalli* links them to hot as well as cold fevers.

Though aquatic fever is not referenced directly in the *Florentine Codex's* list of ailments, it is mentioned among the symptoms treated in a few of the documents' entries for medicinal herbs.<sup>185</sup> An analysis of the medicinal herb entries also reveals that traces of another divine illness linked to *atonahuitli* remains in the Codex. The entry for the herb *hecapatli* reads:

Also its name is quauhxiuitl. It grows in the forest. It is ground. He who has gone out in the wind or a child who has been struck by lightning drink it. And near him it burns, so that there is incensing. It is mixed together with quauhyayauatl and iztauhiatl.<sup>186</sup>

Though the lightning struck illness, *netlahuitequitzli*, is not referenced directly, there are several elements that suggest the herb is treating symptoms of a supernatural origin. The most prominent connection is that *hecapatli* is indicated for one struck by lightning, *tlatlatzin*, an action believed to come from Tlaloc. In the same sentence, wind is mentioned. The Nahuatl term used for "wind" in the passage is "*ehecatl*," Tlaloc's cold aquatic wind. The herb's use as an incense is also suggestive as incense is a form of offering to the gods. Furthermore, in prayer, Tlaloc is referred to as "O lord of incense."<sup>187</sup> Finally, it is indicated that *hecapatli* is mixed with *iztauhiatl*, or *iztauhyatl*, one of Tlaloc's herbs.

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<sup>184</sup> *Ibid.*, 225.

<sup>185</sup> Sahagún, *Florentine Codex*, vol. XII, 147.

<sup>186</sup> *Ibid.*

<sup>187</sup> Sahagún, *Florentine Codex*, vol. VII, 35.

### Fevers in the *Florentine Codex*

The *Florentine Codex's* entry for fever is in Book Ten, "The People," in the chapter dedicated to bodily ailments and their cures. The ailments in this chapter are organized using a loose head-to-toe arrangement. As an example, "Splitting of the hair," is the first entry.<sup>188</sup> Along these lines, disorders belonging to specific body regions, such as "Swelling of the throat," "Stiff neck, benumbed neck," growths found in that region (throat cysts and neck abscesses), and coughing that irritates the throat, are grouped together.<sup>189</sup> Fever falls outside the head-to-toe schematic, and is categorized under "other ailments," along with skin disorders- pustules, sores, "Festering; or burns, cuts"- swelling of the knees and legs, foot disorders- "Benumbed feet" and "Humors of the feet"- and diarrhea.<sup>190</sup>

The primary entry for "fever" in the *Florentine Codex* is generalized, including only the remedies. The passage reads:

One drinks [an infusion of the root of] chichipilli, [with] alum [and] acid water. First one is purged; then [an infusion from] the edible root of the sand tomato is drunk, adding to it the root of tacanalquilitl. The grown people drink [an infusion of] two sand tomato roots; small children drink [an infusion of] four. And five kernels of maize are mixed in this. And when there is fever, one is to drink [an infusion of the root of] aitztoli in acid water.<sup>191</sup>

The entry uses the Nahuatl term "*motlevia*" for "fever;" however, no other defining symptoms are included to distinguish the condition. Representing only a hot fever in the Codex's official section on disorders may reflect religious censorship on the Sahagún's

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<sup>188</sup> Sahagún, *Florentine Codex*, vol. XI, 139.

<sup>189</sup> *Ibid.*, 149-150.

<sup>190</sup> *Ibid.*, 157-160.

<sup>191</sup> *Ibid.*, 159.

part; particularly, his concerns about passing on idolatrous information that might undermine the Spaniards' conversion of the indigenous. *Motlevia* has a more naturalistic etiology, unlike the supernatural *atonahuiztli*, a fever tied directly to the pre-Hispanic deities whom the Church thought of as devils. Furthermore, the herbal remedies for *motlevia* were far more favorable to a Spanish audience than the entheogens, including peyote, used to treat supernatural fevers. The decision to choose *motlevia* as the official representation of fever may also reflect hot fever's ubiquity in comparison to the supernatural aquatic fever.

The medicinal herbs section of the *Florentine Codex* found in Book Eleven, "Earthly Things," contains a more complete representation of the Aztec's complex conceptualization of fever. Of the section's 141 total entries, fifty-one mention fever among the symptoms treated. However, two of the herbs, *iztac quauitl* and *iztac patli* are given double entries, owing to them having other names they were known by, *uauauhtzin* and *teçonpatli* respectively.<sup>192</sup> The medicinal herbs portion of "Earthly Things," despite its name, also includes non-herbal remedies such as stones, ocelot flesh, and worms, as well as the therapeutic sweat bath, the *temazcalli*.<sup>193</sup> Of this animal, mineral, and therapeutic subsection, the remedy *atl chipin*, a cold, spongy, and jagged stone, is indicated for "one who is fevered, who has a fever within."<sup>194</sup>

Breaking down the number of fever remedies in Book Eleven of the *Florentine Codex* hints at the prevalence of fever in general, and a breakdown of the terminology

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<sup>192</sup> Sahagún, *Florentine Codex*, vol. XII, 148, 158, 163-164, 182.

<sup>193</sup> *Ibid.*, 188-191.

<sup>194</sup> *Ibid.*, 189.

used for fever in the text can offer similar insights into the pervasiveness of specific forms of fever. However, the chosen terminology may also be reflective of the preferred jargon of the physicians who compiled the information and regional differences.

Regarding terms for hot fevers, *motlevia* is used twelve times, whereas *totonqui* and its derivations appear twenty-seven times.<sup>195</sup> *Tletl* is mentioned nine times, including two references made in the entry for *chichilquiltic*, which also uses the term *motlevia*.<sup>196</sup> *Iztac totonqui*, white fever, appears three times in the section, in the first of two entries for *iztac patli*, in the entry for *ocopiaztl* (or *tlilpotonqui*), and the entry for *yoalxochitl*.<sup>197</sup> The second entry for *iztac patli* appears under the herb's alternative name, *teçonpatli*, and uses the terms *totonquj* and *tletl* for fever.<sup>198</sup> This disparity in fever terminology is significant and will be discussed in more detail shortly. Green fever, *matlaltotonquj*, appears twice, in the entries for *uauauhtzin* (or *iztac quauitl*) and *haacxoyatic*. Both entries also use “*totonquj*” and “*totonjllotl*,” respectively.<sup>199</sup> In total, there are fifty-three references made to hot fevers in the Codex's medicinal herb section. The cold fever, *Atonahuiztli* is mentioned in four separate entries; however, this count may not accurately portray the supernatural fever's representation in the text.

### **Inconsistencies in the *Florentine Codex*: *Atonahuiztli***

Three entries in Book Eleven of the *Florentine Codex* appear to indicate an aquatic fever is being treated despite the use of hot fever terminology. The entry for the

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<sup>195</sup> *Totonqui* appears twelve times, and the derivations have fifteen mentions.

<sup>196</sup> *Ibid.*, 156.

<sup>197</sup> *Ibid.*, 163-164, 168, 177.

<sup>198</sup> *Ibid.*, 182.

<sup>199</sup> *Ibid.*, 158-178.

herb *tlatlanquaie*, despite the use of the word “*totonquj*” for fever in the passage, describes an aquatic illness:

It is required by one who purges blood, when much flows from his rectum...And one who purges from his rectum and vomits, when it cannot be stopped, they quickly give it to drink. Thus it is stopped at both ends. And one who has a pain in the side which begins in his side and reaches into his heart, as if he would suddenly faint; or who has an ailment settled in the chest, as if he would sleep, [as if] he were about to die of it -- [this one] is to drink it; it will quiet him. And one who is sluggish, [who] starts in vain, whose arms become paralyzed, whose mouth becomes twisted, whose arms become paralyzed, [whose] legs wobble-- he drinks it. Some bathe themselves in it. The medicine is warm, tepid...And also one who is already suffering from a swelling stomach drinks it in order to recover. Also whatever the ailment, it thereby leaves; and it cleanses the insides. And one who encounters fever and chills, so that there is pain in the sides, in the chest, in the nerves, as if the heart were seized, beginning in the sides-- [this one] is to drink it. It will cast [the sickness] out; thus it will be ended.<sup>200</sup>

The description of pain in the side and heart possibly followed by fainting, as well as the paralyzation of the arms and disfiguration of the mouth, emulates the symptoms of epilepsy, a lightning disease associated with Tlaloc. The Aztecs believed epilepsy was a severe type of fainting caused by pressure on the heart.<sup>201</sup> The reference to pain in the nerves is also suggestive. Damage to the nerves was believed to originate from outside the body, from phlegms or *atonahuiztli*, and was treated by therapeutic bathing.<sup>202</sup> Furthermore, the fever described is accompanied by chills, the symptomology of *atonahuiztli*. Adding to the likelihood that a cold fever, as opposed to a hot fever, is being treated is the fact that the herb is described as “tepid” rather than cold or cooling.

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<sup>200</sup> *Ibid.*, 174-175.

<sup>201</sup> López Austin, *The Human Body and Ideology*, 175.

<sup>202</sup> *Ibid.*, 167.

The entry for *chichilquiltic* also appears to be describing an aquatic fever. The passage states:

He who has a fever, a fever located internally while there are chills on the surface of the body, or settled in the nerves, drinks [an infusion of] its roots. Thereafter the fever, which is within, comes up to the surface; thereby the nerves are quieted.<sup>203</sup>

When fever is mentioned in this entry, the terms “*motlevia*” and “*tletl*” are used. Though relatively few symptoms are included, they are evocative of *atonahuiztli*. First, chills are characteristic of a cold fever. Chills alone may not be sufficient proof of the fever having a supernatural etiology, but the reference to nerves being quieted add to this likelihood.

The entry for Tlaloc’s herb, *iztauhyatl*, also presents a paradox. It is intended to treat fever, and the terms “*totonjllotl*” and “*totonja*,” indicating hot fevers, are used in this passage. The entry states:

When some one has much phlegm settle in him, when it seems that it will make him dizzy, he drinks it thickened. And one who has a relapse drinks it; it throws off the fever which is within one. And it cleanses the urine. And one whose head is fevered or whose head blisters is relieved therewith. And when someone is anguished in his heart, or a humor is oppressive, *iztauhyatl* and *quauhyayual* are ground up...One who coughs also drinks it.<sup>204</sup>

*Iztauhyatl*, as one of the herbs associated with Tlaloc, is used when treating cold, aquatic ailments. *Iztauhyatl* was mentioned previously in the analysis of *hecapatli*, the herb used to treat lightning struck illness, *netlahuitequitztli*. These two remedies were blended with the herb *quauhyayual* to treat the disease. Regarding the fever *iztauhyatl* is intended to treat, there are no mentions of chills accompanying the fever. However, *iztauhyatl*’s

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<sup>203</sup> Sahagún, *Florentine Codex*, vol. XII, 156.

<sup>204</sup> *Ibid.*, 165.



connection to Tlaloc and the description of an anguished heart may point to a cold, aquatic fever. If the fevers treated by *tlatlanquaie*, *chichilquiltic*, and *iztauhyatl* are, in fact, *atonahuiztli*, the total references to cold aquatic fever in Book Eleven of the *Florentine Codex* is seven.

### **Inconsistencies in the *Florentine Codex*: *Iztac Totonqui***

*Atonahuiztli* is not the only fever in the Codex that may be miscategorized. Based on the symptomology associated with *iztac totonqui* and the application of the herbs associated with the condition, it is possible the herb *xoxotlatzin* is intended to be a remedy for white fever. The herb's entry reads:

It is required by one on whom a high fever has settled; perhaps he has a swelling or an abscess. It is placed thereon; [the abscess] is encircled. And when the abscess has burst, then, mixed with saltpeter [the *xoxotlatzin*] is inserted there where the abscess has formed a hole, where it has burst. Thus it heals.<sup>205</sup>

The term "*totonqui*" is used for "fever" in the passage. Direct comparison elucidates the parallels between the symptomology described in this entry and those of other herbs intended to treat *iztac totonqui*. One such herb is *yoalxochitl*. Its entry states:

It is required by one who contracts a high fever, such as the white fever, when the body swells. It is placed there where the body swells, in order to gather [the swelling], which later breaks or dissolves. And all the abscesses or sores are bathed with it, so that the flesh heals over where the sores were.<sup>206</sup>

Upon comparison, both fevers are classified as "high" fevers accompanied by swelling and, possibly, abscesses. The abscesses are also healed in a similar fashion, they are made to burst and the herb is then applied topically until the remaining wounds are healed. If

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<sup>205</sup>*Ibid.*, 167.

<sup>206</sup>*Ibid.*, 177.

the fever treated by *xoxotlatzin* is, in fact, *iztac totonqui*, the total references to white fever in Book Eleven of the *Florentine Codex* is four.

### **Inconsistencies in the *Florentine Codex*: Duplicated Entries**

As stated earlier, the second entry for *iztac patli*, listed under the name *teçonpatli*, uses the terms *tononquj* and *tletl* for fever. The symptomology, though somewhat similar to that of *iztac totonquj*, is not similar enough to warrant a recategorization. Furthermore, the herb being entered into the *Florentine Codex*'s medicinal therapeutics section twice under separate names, may indicate a regional difference in not only the herb's name, but its applications as well. Specifically, it is possible that in the region the physician gathered information about this herb, it was not used to treat *iztac totonquj*. Along these lines, it is also possible that not all of the physicians used the same classification system for fevers, even if they recognized the same cluster of symptoms as defining a certain fever, or an herb's ability to treat said symptoms. Other possible explanations for the same herb treating two different fevers accompanied by diverging symptoms is raised by another set of double entries for a fever herb. *Iztac quauitl* treats the fever *tletl*, as well as nocturnal emissions, head wound, and eye disorders. The same herb, under the name *uauauhtzi*, is indicated for green fever, or *matlaltotonqui*, with bruising and an unspecified disorder of the genitals. It is possible that the physicians that used these herbs simply differed in their experimentation with the substances. It is also possible that they had varying levels of success in using the herb for certain ailments and that was reflected in the information presented.

### **Fevers in the *Badianus Codex*: Hot or Cold?**

The Aztec-European hybridization of the *Badianus Codex* is reflected throughout the document. The Codex's author, the Nahua physician Martín de la Cruz, and the work's translator, a Nahua professor of Latin, Juannes Badianus, embody the merging of Nahua and Spanish traditions. The Codex itself is composed in Latin, yet pre-Hispanic remedies, disease etiologies, and understandings of the body intermingle with European practices. Due to its hybridized nature, the *Badianus Codex* poses a challenge in regard to the type of the fevers being addressed in these entries. The various Nahuatl words for fever are embedded with taxonomy, which indicates the etiology of the fever. Since the *Badianus Codex* was recorded in Latin, with the exception of the indigenous plants, animal products, and stones, the types of fevers Cruz is discussing must be determined in other ways. An analysis of the symptoms presented in the entries offers the clearest avenue of investigation to determine the etiology behind the diseases in the *Badianus Codex*.

Like the list of ailments and cures in Book Ten of the *Florentine Codex*, "The People," the *Badianus Codex* details diseases and disorders using a head-to-toe schema. Chapter one addresses diseases of the head, and the eighth chapter covers ailments from the groin to the soles of the feet. Fever is addressed in chapter nine alongside treatments for blackblood, skin eruptions, and lightning struck disease. The inclusion of lightning disease, as well as remedies for "bad wind" and herbs to protect one when crossing a river, found in the tenth chapter, reveal that divine diseases, particularly those associated with the Tlaloc complex were well represented.

The *Badianus Codex* includes two entries for fever under the titles "fever" and "excessive heat." The first entry, "fever," reads:

The face in marking fevers has various changes, at times flushed, at times darkened, again blanched. He also spits blood, the body jerks and turns hither and thither, he sees little. At times bitterness, no burning, now sweetness of a kind fills the mouth, or rather palate. One who is such certain has his stomach corrupted. Although the urine is whitish, unless you avert the danger quickly the medicine will be prepared too late. Wherefore you will help him wonderfully if you macerate the plants centaon-xochitl, teo-iztacuiltil, a-quiztli, tlanextia xihuitl, cuauhtla huitz-quilitl, tonatiuh yxiuh, tlazolco-zacatl, mamaxtla-nelhuatl, oco-xochitl, zaca-matalin, the bush tlanextia quahitl, the stones you find in the stomachs of these birds: the huitlalotl, huactli, aztatl, apopotli, tlacahuiloto, huexo-canauhtli, xih-quechol-tototl, tototl, tlapal-tototl, noch-tototl, acatzanatl, zolin; the precious stones, fine green pearl, greenstone, sardonyx and xih-tomolli, with burned human bone, from all which a liquor is to be heated quickly and then drunk. This potion being prepared, the stone texalli is ground in water, and a part of the liquor poured on his head, his feet bathed with a part, and the throat moistened with part. Also let him drink some. Then these plants are to be crushed in bitter water, the xih-ecaptli, tetzmitl, oco-xochitl, centzon-xochitl, tepe-chian, tzom-pachtin, iztac-oco-xochitl, tonatiuh yxiuh, all of which are to be gathered in the fervent heat of the sun; then adding the willow and laurel and human bone, he is to be wet with their liquor. With this the tooth of a corpse is placed on the crown of the head. The plants teco-xochiti--xihuitl and tlazol-patli are crushed in woman's milk, and with this the occuput and nostrils are to be anointed; after all this is done, take heed that he smell a flower of some kind, and sleep during the day.<sup>207</sup>

The first defining characteristic of the fever Cruz addresses, is that it makes the face alternate between flushed, darkened, and blanched. This darkening of the flesh is similar to the dark spots those in the *Florentine Codex's* entry for *uauauhtzi*, that describes the green fever, *matlaltotonqui*.<sup>208</sup> However, Cruz describes neither bruising, nor the need to lance the darkened spots. The next symptoms he notes, spitting blood and body spasms, parallels the uncontrollable purging of blood and “twisting” and “wobbling” of limbs represented in the *Florentine Codex's* entry for epilepsy accompanied by fever.<sup>209</sup> The references Cruz makes to a “corrupted stomach” and “whitish” urine may be speaking to

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<sup>207</sup> Cruz., *An Aztec Herbal*, 75-77.

<sup>208</sup> Sahagún, *Florentine Codex*, vol. XII, 158.

<sup>209</sup> *Ibid.*, 174-175.

the presence of phlegm and pus in the body, both of which contribute to hot and cold fevers. The pouring of the potion on top of the head and the placement of a corpse's tooth on the crown of the head is almost certainly done in order to positively impact the body's *tonalli*, as the crown contains the highest concentration of this force. Finally, Cruz's directive to smell a flower is also revealing of the etiology behind the fever he is addressing. The Aztecs believed that pleasant smells like flowers, tabaco, and copal, originated from the upper portions of the universe, attracted *tonalli*, and repelled earth and water deities.<sup>210</sup> Based on this analysis, the primary entry for fever in the *Badianus Codex* has an etiology in alignment with an indigenous understanding of disease and the body. The epileptic symptoms, actions done to improve the *tonalli*, and the recommendation for aromatherapy, point to the likelihood of the fever being *atonahuiztli*, an aquatic fever.

The second entry for fever, "excessive heat," is also found in chapter nine of the *Badianus Codex*. It reads:

The body when overheated is relieved by the ground roots of the huitz-quilitl, xal-tomatl, tlaca-camotli, teo-iztaquilitl, the stone a-camollotetl, the ezetl, tlacal-huatzin, red earth, white earth, and the stones found in the stomachs of a cock and the noch-totl, with sharp stones, all then put in water. This is drunk and the abdomen purged with a clyster. A potion is also prepared from tzayanal-quiltl roots, the acacapac-quilitl, tol-patletli, the bushes tetzmitl, iztauhyauh, huitz-quilitl, with added salt. The body is anointed with the latex squeezed from the acapac-quilitl, coyo-xihuitl, tlal-ecapatli, Tonatiuh-yxiuh, iztac-oco-xochitl, centzon-oco-xochitl, which are herbs; also using the leaves of the laurel, the bush tetzmitl, and the fruit trees xa-xocotl, the plant cohua-xochitl, leaves of the pine. This medicine is then divided, some poured on the head, some that is quite thick is applied as ointment on the body. If the heat rises, take the blood of the huitzitzilin, the gall of the huexo-canauhtli, the viscera of a quail, bladder of the

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<sup>210</sup> López Austin, *The Human Body and Ideology*, 358.

cocotli, skin of the pe Zotli, burned together. These and the above are to be mixed together.<sup>211</sup>

The descriptions for this fever, “excessive heat” and the body being “overheated,” may indicate a hot fever caused by loss of *tonalli*, which overheats the heart.<sup>212</sup> The recommendation to purge the stomach is similar to the treatment of other hot fevers, particularly ones involving phlegm.<sup>213</sup> Once again, Cruz directs that a complicated concoction be poured over the head, where the majority of the body’s *tonalli* resides. All of these elements suggest that the fever has a pre-Hispanic etiology and based on the available clues the fever is probably hot.

### **Conclusion**

The Aztec conceptualization of fever, in its many forms, operated within their belief that the structure of the universe was mirrored in the structure of the human body, and thus both were governed by a system of cosmic dualities. The cosmic duality most essential to the Aztec understanding of fever(s) was hot and cold. Heat was associated with the upper levels of the universe, the animistic entity *tonalli*, and the head. Cold was associated with the lower levels of the universe, the animistic entity *ihiyotl*, and the liver. The Aztecs recognized at least four forms of hot fever: *totonqui*, including its derivations; *motlevia*; *iztac totonqui* or white fever; and *matlaltotonqui* or green fever. They may have also recognized *tletl* as a distinct form of “high fever” requiring cooling herbs. Hot fevers were linked to the animistic entity *tonalli*, which increased the body’s internal

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<sup>211</sup> Cruz., *An Aztec Herbal*, 79.

<sup>212</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 54.

<sup>213</sup> Sahagún, *Florentine Codex*, vol. XII, 159, 181.

temperature in response to harm to and loss of this vital force. *Atonahuiztli*, a cold, aquatic fever characterized by chills, was linked to the Tlaloc deity complex.

Etiologically, this fever was caused by *tlalocs* invading the body, and the resulting phlegm. There is also evidence that the Aztecs recognized two other supernatural fevers, *tlallatonahuiztli*, "aquatic fever of the earth," and *yoallatonahuiztli*, "aquatic fever of the night;" however, these ailments were censored out of the final version of the *Florentine Codex*. Other inconsistencies in the historical record add further complication to our ability to gain a clear picture of fever from the Aztec perspective. The primary entry for fever in the *Florentine Codex* is devoid of symptoms. The medicinal remedy entries in the Codex can also be problematic — Sahagún's informants appear to have not adhered to a strictly standardized use of fever terms, which is apparent in entries where the type of fever does not correspond to the symptoms described, and when a remedy is entered under two names and indicated for two different fevers. In the *Badianus Codex*, the two fevers listed have less than clear etiologies owing to the document being written in Latin as opposed to the taxonomically richer Nahuatl. Nevertheless, there are numerous fever remedy entries in the *Florentine Codex* that are replete with detailed symptomology from which a greater sense of Aztec fever etiology can be gained, and the symptoms and therapies for the fevers in the *Badianus Codex* are specific enough to compare to Aztec understandings of ailments, therapies, and the body. The nature of equilibrium and how it is restored after it has been disrupted by a hot or cold aquatic fever, from diagnosis, to the modes of action behind the treatments, will be discussed in the next chapter.

### Chapter 3: Fever Diagnosis and Treatment

In the medicinal herbs section of the *Florentine Codex*, fifty-one of the 141 entries, mention fever among the symptoms treated. Put another way, a little over one third of the medicinal herbs and treatments are indicated for the treatment of fever. These treatments were intended to restore equilibrium in the body. Both internal and external causes could create a state of disequilibrium or ill-health. Internal causes included transgressive behaviors that damaged the animistic forces and spiritual offenses. Disruptive external forces included deities, accidents, and contagions. Disequilibrium could impact an individual's hot/cold balance, creating hot and cold fevers. Fever remedies were selected based on the Aztec's complex disease etiology —ailments were categorized as either more natural or more supernatural; however, regardless of where the illness fell on this spectrum, the ultimate cause was often divine. Diseases could also have a divine proximate cause. To deal with both the empirical and spiritual elements of illness, the Aztecs relied on skilled, specialized healers and practitioners that acted as intermediaries with the supernatural realm. After diagnosis, physicians prescribed remedies that worked through expelling disease-causing fluids from the body, restoring the body's hot/cold equilibrium, or through their inherent magical properties, as was the case with hallucinogenic herbs.

#### **Equilibrium and Disequilibrium**

For the Aztecs, treating fevers and other ailments meant restoring a state of equilibrium in the body. Equilibrium and disequilibrium, like hot and cold, are a cosmic dual pair that govern processes in the universe and the body. Sherry Lee Fields notes that moderation, or “the middle way,” was the ideal for the Nahuas, as excesses invited



“peripheral dangers,” while uninterrupted order led to “sterility and stagnation,” adding that their concept of health was depicted as “a state of equilibrium between the human body and the cosmic forces with which it was constantly interacting.”<sup>214</sup> Every individual, therefore, had to practice moderation in all things to preserve health, and in the instance of ill health, restore equilibrium.

The emphasis placed on personal behavior in relation to moderation is clear in the “discourse of the elders,” or *huehuetlatolli*, in the *Florentine Codex*. These admonishments addressed almost all aspects of human actions and interactions from the perspective of the elites, and thus represented an ideal. The extent to which these speeches impacted the average citizen cannot be discerned as there is no record of the general populations’ adherence or dissent. However, there is plenty of evidence demonstrating that the populace participated in other examples of socioreligious ideology overseen by the ruling class, such as expansionism and human sacrifice, demonstrating that the elite’s ideology held weight in the collective conscience. In one *huehuetlatolli* addressed to the people, the ruler admonished them to avoid jimson weed, *octli* (agave sap wine), and *pulque* (fermented agave juice), substances that made them “besotted” and “deranged,” or in the case of *pulque* specifically, turned them into drunkards bragging about occupying a higher social station than they actually do and thoughts of grandiosity. Citizens were also warned against adultery, thievery, and gluttony.<sup>215</sup> In other speeches, parents admonished their children to be productive.<sup>216</sup> The admonishments also

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<sup>214</sup> Fields, *Pestilence and Headcolds*, 102.

<sup>215</sup> Sahagún, *Florentine Codex*, vol. VII, 68-69.

<sup>216</sup> *Ibid.*, 92, 95.

cautioned young women against casting “filth” upon their family’s legacy, and from carnality which was equated to “excrement” and “refuse.”<sup>217</sup> These admonitions served to maintain social equilibrium, from the boundaries of the social hierarchy, to the existing division of resources, to the fidelity of the family unit. The emphasis placed on productivity certainly benefited society, but it also revealed a societal need for physical wellbeing. The admonishments regarding sexual transgressions reveal another facet of the role of personal behavior in maintaining equilibrium outside of and within the body, the avoidance of filth.

Filth, or *tlazolli*, was synonymous with immorality, often of a sexual nature, and was believed to accumulate in the liver, where the animistic force *ihiyotl* was concentrated.<sup>218</sup> Each person was born with *tlazolli* originating from the sexual act that resulted in conception, and had to be ritually bathed by the midwife to remove the substance.<sup>219</sup> *Tlazolli* resulting from transgressions acted as a contagious pollutant capable of harming the host and others, as well as animals, crops, and products that it came into contact with.<sup>220</sup> Infants, elderly men, and spouses of adulterers were particularly susceptible to the dangerous effects of filth as evidenced by group of *tlazolli*-related illnesses outlined by Bernard Ortiz de Montellano:

Diseases collectively called *tlazolmiquiliztli* (“filth death”), caused by the *ihiyotl* of sexual sinners, can be divided into three types: an illness of children who wake up screaming and sick, or certain incurable adult diseases; similar infantile diseases involving fainting or epileptic fits called *tlazolmimiquiliztli* (“frequent filth death”), with the reduplicative element *mimi* perhaps referring to the repetitive nature of the seizures; and *netepalhuiliztli* (“harm due to dependence on another”), a weight loss and wasting away as if from consumption. The

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<sup>217</sup> *Ibid.*, 97.

<sup>218</sup> Fields, *Pestilence and Headcolds*, 94.

<sup>219</sup> *Ibid.*

<sup>220</sup> López Austin, *The Human Body and Ideology*, 235.

emanations of adulterers could also give their spouses *chahuacocoliztli* (illness due to adultery”).<sup>221</sup>

This complex of filth diseases illuminates the threat to public health posed by an individual’s misbehavior. Furthermore, public health practices, such as ritual bathing in the steam bath and sweeping, were implemented to mitigate the threat filth posed to bodily equilibrium and reflected *tlazolli*’s association with dirt. <sup>222</sup>

Sexual practices were also capable of disrupting equilibrium through their impact on *tonalli*. Having sex with a person in a diminished health state of low *tonalli*, such as a woman who had recently given birth or a person recovering from illness, was dangerous to both parties. As an example, sex with a woman too soon after she gave birth caused fever in her partner and led to her relapsing into poor health.<sup>223</sup> Sexual activity among healthy participants could also pose a threat to health. Engaging in sex too early negatively impacted a young man’s *tonalli* and thus inhibited growth and development.<sup>224</sup> Excessive sexual activity was also thought to lower the energy bestowed through *tonalli* that allowed noblemen to perform their duties for society.<sup>225</sup> This energy was so vital to a noble that Sahagún lists it as one of their defining characteristics.<sup>226</sup> Temporary *tonalli* loss was associated with sex in general; however, the emission of semen appears to be more directly tied to *tonalli* leaving the body, possibly explaining why women were not

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<sup>221</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 151-152.

<sup>222</sup> Fields, *Pestilence and Headcolds*, 94.

<sup>223</sup> López Austin, *The Human Body and Ideology*, 222; Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 152.

<sup>224</sup> López Austin, *The Human Body and Ideology*, 222

<sup>225</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 152.

<sup>226</sup> Sahagún, *Florentine Codex*, vol. XI, 16.

thought to experience the same depletions as men during intercourse.<sup>227</sup> Along these lines, interrupted coitus was believed to diminish *tonalli*, possibly owing to the entity being unable to return to the body.<sup>228</sup> The harmful effect of coitus interruptus may also be associated with the belief that fright caused *tonalli* to leave its host.<sup>229</sup> The connection between *tonalli* and ejaculation is also present in the belief that wet dreams diminished the vital entity.<sup>230</sup> The cooling herb *iztac quauitl* or *uauauhtzin*, used to treat hot fever, is also used to restore health after “nocturnal emissions” when combined with *coanepilli*.<sup>231</sup> The use of a cooling herb is in alignment with the Aztec’s belief that a loss of *tonalli* overheated the body. Finally, other immoral actions, such as drunkenness, also depleted *tonalli*.

Equilibrium/disequilibrium operates both separately from and within the cosmic duality hot/cold in relation to the body’s state of balance. Fields states that:

lack of equilibrium was often expressed by Nahua sources as an opposition—or, more accurately, a dialectical unity—between hot and cold, qualities that were applied to a whole range of beings and things in the world.<sup>232</sup>

The cosmic duality of hot and cold mirrored the structure of the universe, with its hot celestial levels and cold underworld, Mictlan, as well as the body, which housed the hot animistic entity *tonalli* in the head, and the cooler entity *ihiyotl* in the liver. Located between the head and liver, the entity residing in the heart, *teyolia*, likely had a middling temperature. Similarly, humans, existing on the lowest of the celestial levels, occupied a

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<sup>227</sup> Fields, *Pestilence and Headcolds*, 97.

<sup>228</sup> *Ibid.*

<sup>229</sup> *Ibid.*; López Austin, *The Human Body and Ideology*, 222

<sup>230</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 153.

<sup>231</sup> Sahagún, *Florentine Codex*, vol. XII, 148.

<sup>232</sup> Fields, *Pestilence and Headcolds*, 103.

point in between hot and cold. Disequilibrium, manifested as a fever, was attributed to an imbalance in one of the entities brought on by a cold earth or water deity who desired the warmth of the *tonalli*, or by misdeeds that damaged or caused an imbalance of a vital force.

### **Diagnostic Considerations: Supernatural or Natural?**

Diagnosing fevers to determine the necessary course of action was not a straightforward task for Aztec healers. The etiology of both hot and cold fevers had supernatural elements, though the cold aquatic fever, *atonahuiztli*, was arguably understood to be entirely of a divine origin. However, recent scholarship shows that the Aztecs categorized some ailments as relatively natural, despite all illnesses' fundamental link to the divine. Alferedo López Austin clarifies the ancient Nahuatl's understanding of an ailment's naturalistic or supernatural origin:

The origin of illness is complex, including and often intertwining two types of causes: those that we would call natural— excesses, accidents, deficiencies, exposure to sudden temperature changes, contagions and the like— and those caused by the intervention of non-human beings or of human beings with more than normal powers. For example, a native could think that his rheumatic problems came from the supreme will of Titlacahuan, from the punishment sent by the tlaloque for not having performed a certain rite, from direct attack by a being who inhabited a certain spring, and from prolonged chilling in cold water; the native would not consider it all as a confluence of diverse causes but as a complex.<sup>233</sup>

This dichotomic, yet overlapping, understanding of disease etiology as generally natural or supernatural is useful in that it provides a basic system for viewing ailments. This “intertwining” dichotomy also implies that when an illness's cause could be determined

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<sup>233</sup> López Austin Alfredo, “Sahagún's Work on the Medicine of the Ancient Nahuas: Possibilities for Study,” in *Sixteenth Century Mexico: The Work of Sahagún*, ed. M.S. Edmondson (Albuquerque, NM: University of New Mexico Press, 1974), pp. 205-224, 216-217.

empirically— as was the case, for example, with visible external damage, like a wound, or a catching illness where multiple people displayed similar symptoms and a newly sick person was likely known to have prior contact with a person who had the illness— it was considered primarily natural. This system also implies that when the mechanisms behind an illness, such as rheumatism, epilepsy, or madness, were not as apparent, they fell under the auspices of the divine.

Bernard Ortiz de Montellano further explains the differentiation between natural and supernatural etiology through defining proximate and ultimate causes:

Natural etiological systems focus mainly on proximate causes and the process of disease. Supernatural and magical systems are more concerned with ultimate cause, that is, why a particular disease affects a particular person. Again, a dichotomy may be more apparent than real. The god Tlaloc may be the ultimate (supernatural) cause of a disease, but he acts by sending an *ahauaque* (one of his helpers) to take possession of the afflicted individual. The *ahauaque* is a proximate cause who needs placating as much as Tlaloc.<sup>234</sup>

Montellano's assertions build upon Austin's, demonstrating that the Aztecs had an etiological system that was neither definitively natural nor entirely supernatural. While Aztec healers concerned themselves with natural proximate causes and disease symptomology, hallmarks of a natural etiological system, the supernatural ultimate and proximate causes were just as integral to understanding and treating illness. The Aztec's loose division between natural and supernatural ailments extended to fevers. On the surface both hot and cold aquatic fevers could fall under a supernatural etiology given that most were caused by changes in or damage to an animistic entity through a divine

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<sup>234</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 130.

ultimate and/or proximate cause. However, hot fevers frequently accompanied conditions considered to have a generally natural etiology, such as injuries and contagion.

Book Eleven of the *Florentine Codex*, “Earthly Things,” provides remedies meant to treat fevers that accompanied bodily injuries. *Iztac quauitl* or *uauauhtzin* is indicated for a fever, *tletl*, and head wounds.<sup>235</sup> The entry for *cozcaquauhxiuitl* recommends that the herb be used to treat a feverish body, *totonje*, and states that “it is required by one who has received a blow, who has broken a bone, who perhaps has fallen from a roof terrace, who has damaged his bones or his nerves.”<sup>236</sup> These injuries, head wounds, broken bones, and damaged nerves can be accounted for by everyday accidents, such as falls and battlefield wounds, the latter of the two was surely common amongst the empire’s warrior class.

It is reasonable to assume that some of the fever remedies in the *Florentine Codex* also reflect the contagions that afflicted the Aztecs before and after the Conquest. In the pre-Hispanic era, the Aztecs experienced persistent contagious diseases in the form of respiratory and gastrointestinal infections that continued into post-Hispanic era.<sup>237</sup> In the century prior to the Spaniard’s invasion, the Aztecs recorded two epidemics.<sup>238</sup> William H. McNeill clarifies that the diseases are of an unknown source and their method of contagion is also a mystery, but the records show they were linked to famine.<sup>239</sup> Aztec records of the Conquest note that in addition to the smallpox that ravaged them after the Spaniards arrival, many were afflicted by severe coughs, possibly from a streptococcal

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<sup>235</sup> Sahagún, *Florentine Codex*, vol. XII, 148.

<sup>236</sup> *Ibid.*, 177.

<sup>237</sup> McCaa, “Spanish and Nahuatl Views,” 209.

<sup>238</sup> *Ibid.*, 424.

<sup>239</sup> McNeill, *Plagues and Peoples*, 209-210.

infection or pneumonia.<sup>240</sup> The pervasiveness of pre-Columbian cases of pneumonia has been proven; however, the extent to which it affected the Aztecs remains unconfirmed.<sup>241</sup> Fevers with coughing are described in the *Florentine Codex*. As an example, *coco xiuatl* is indicated for one “who goes about coughing” and fever.<sup>242</sup> Archaeologists have also found evidence of intestinal worms and protozoa among the Aztecs.<sup>243</sup> Unsurprisingly, the Codex contains multiple entries for herbs used to treat fever and symptoms of gastrointestinal distress, such as diarrhea and poor digestion.<sup>244</sup> It is important to note that the pathologies behind the conditions described in the *Florentine Codex* are unclear; though, a comparative analysis between their symptomology and that of the era's common illnesses is possible.

In addition to endemic contagions, the Conquest began a century of deadly epidemic outbreaks brought over from Europe with the Spanish conquistadors. The most devastating of the outbreaks was the first, the smallpox epidemic of 1520–1 that resulted in a demographic collapse of the indigenous population in Central Mexico and the tropical lowlands.<sup>245</sup> Measles followed shortly after, resulting in a single year epidemic beginning in 1530.<sup>246</sup> The two most notable outbreaks of the 16th-century, aside from smallpox, occurred in 1545–8 and 1576–80.<sup>247</sup> Typhus is suspected to be the contagion behind these great epidemics and appears to have impacted both the Natives and

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<sup>240</sup> Alfred W. Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492*, 30th Anniversary (Westport, CT: Praeger, 2003), 49.

<sup>241</sup> Fleming, “Science Scope,” 66-67.

<sup>242</sup> Sahagún, *Florentine Codex*, vol. XII, 153, 165.

<sup>243</sup> McNeill, *Plagues and Peoples*, 209-210.

<sup>244</sup> Sahagún, *Florentine Codex*, vol. XII, 148, 150, 151, 157, 172.

<sup>245</sup> McCaa, “Spanish and Nahuatl Views,” 422.

<sup>246</sup> McNeill, *Plagues and Peoples*, 217.

<sup>247</sup> Fields, *Pestilence and Headcolds*, 8.



Spaniards alike.<sup>248</sup> Smallpox and measles remained recurring epidemics throughout the 16th and 17<sup>th</sup>-centuries.<sup>249</sup> In this climate of ongoing epidemics, fevers were undeniably common, and their prevalence is reflected in the Aztec pharmacopeia.

Three hot fever remedies, *ixyayauatl*, *iztauhyatl*, and *quetzaluexotl*, appear to be smallpox remedies. The herbs are intended to treat fevers as well as sores, pustules, and blisters on the head.<sup>250</sup> Suppuration on the skin is indicative of infection; however, the location of these afflictions on the body, the head, as well as fever is characteristic of smallpox. Smallpox's incubation period ranges from eight to twelve days, followed by three to four days of high fever and vomiting. Soon after, the characteristic skin eruptions began, covering the entirety of the body and face, continuing for a week to ten days.<sup>251</sup> The symptoms of smallpox, including the sores and their location on the body, were recounted to Fray Bernardino de Sahagún by an Aztec witness:

Sores erupted on our faces, our breasts, our bellies; we were covered with agonizing sores from head to foot. The illness was so dreadful that no one could walk or move. The sick were so utterly helpless that they could only lie on their beds like corpses, unable to move their limbs or even their heads. They could not lie face down or roll from one side to the other. If they did move their bodies, they screamed with pain.<sup>252</sup>

The remedies, *tlachichinoa xiuitl* and *chichic patli*, are also recommended for hot fevers with festering sores which may also be indicative of smallpox, though the location of the

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<sup>248</sup> *Ibid.*; McNeill, *Plagues and Peoples*, 217-218.

<sup>249</sup> McNeill, *Plagues and Peoples*, 218.

<sup>250</sup> Sahagún, *Florentine Codex*, vol. XII, 150, 165, 169. The Nahuatl terms for fever used in each entry are as follows: *ixyayauatl* is indicated for *motlevia* and *tletl*, *iztauhyatl* is indicated for *totonjllotl*, and *quetzaluexotl* is indicated for *motlevia* and *totonjllotl*.

<sup>251</sup> Crosby, "Conquistador y Pestilencia," 326.; Cook, *Born to Die*, 67.

<sup>252</sup> Bernardino de Sahagún, *Florentine Codex: General History of the Things of New Spain*, trans. Arthur J. O. Anderson and Charles E. Dibble, vol. XIII (Salt Lake City, UT: School of American Research and The Univ. of Utah, 1975), Ch. 29.

sores is not specified.<sup>253</sup> The entry for *tlachichinoa xiuitl* specifically states the herb is to be applied on the “festering sores or the itch.”<sup>254</sup> The sores or “itch” are in alignment with the symptoms of the measles. Measles is spread through cough, and once contracted, it incubates for approximately ten day, then a fever develops, followed in four more days by the development of a rash.<sup>255</sup>

Typhus related fevers may also be represented in the *Florentine Codex*. The fevers that *chichiquiltic* and *tlatlanquaie* treat are etymologically hot fevers.<sup>256</sup> This designation is paradoxical because the hot fevers occur with chills, a symptom generally associated with cold aquatic fevers, *atonahuiztli*. Furthermore, *tlatlanquaie* is also indicated for epilepsy, a supernatural ailment.<sup>257</sup> However, in addition to treating fevers with chills, both fevers are described as being in the nerves.<sup>258</sup> The entry for *tlatlanquaie* also notes that the fever and chills are accompanied by “pain in the sides, in the chest, in the nerves, as if the heart were seized, beginning in the sides.”<sup>259</sup> Fever, chills, and body and chest pain are present in the symptomology of epidemic typhus. Typhus is characterized by the sudden onset of high fever with chills, severe muscle pain, and red eyes. A depressed level of consciousness owing to inflammation of the brain is possible in half of all severe cases. Inflammation of the heart is another possible complication.

Between the second and sixth day of infection, lesions develop on the trunk, spreading

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<sup>253</sup> Sahagún, *Florentine Codex*, vol. XII, 176, 186. Both entries use the term “*totonje*” for fever.

<sup>254</sup> Sahagún, *Florentine Codex*, vol. XII, 176.

<sup>255</sup> Moss, “Measles,” 2492.

<sup>256</sup> Sahagún, *Florentine Codex*, vol. XII, 156, 174-175. The Nahuatl terms for fever used in each entry are as follows: *chichiquiltic* is indicated for *motlevia* and *tletl*, and *tlatlanquaie* is indicated for *totonquj*.

<sup>257</sup> *Ibid.*, 174-175.

<sup>258</sup> *Ibid.*, 156, 174-175.

<sup>259</sup> *Ibid.*, 174-175.

across the body with the exception of palms, soles, and face. Rash occurs in less than one third of the afflicted.<sup>260</sup>

### **Healers, Diagnosis, and Prognosis**

The Aztecs relied upon a system of specialized healers to address fevers and other ailments. Physicians, both female and male, had to maintain a personal state of equilibrium by being morally upstanding and abstaining from sexual sin in order to be effective curers. They were also expected to observe the social/spiritual mandate of moderation in their practice of medicine. Physicians of both sexes were skilled in a variety of medical practices, including phlebotomy, bone-setting, and the healing ritual of covering a patient with ashes. They were also knowledgeable about the properties of roots, herbs, trees, and stones and able to administer them as medicines.<sup>261</sup> However, some practices were gendered. For example, female physicians practiced massage and anointing. Additionally, disorders of the anus, festering of the skin, the surgical removal of eye growths, and making prognoses fell under their purview.<sup>262</sup> Male physicians, on the other hand, were noted for their work as diagnosticians, and ability to give stitches and make incisions. They were also responsible for administering potions, purgatives, and emetics.<sup>263</sup>

Aztec healers relied upon empirical knowledge to diagnose illnesses, even when supernatural causation was suspected. Sensory experience was of particular importance in relation to the cosmic duality of hot and cold. Fields elaborates that:

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<sup>260</sup> Berger, *Epidemic Typhus*, 6.

<sup>261</sup> Sahagún, *Florentine Codex*, vol. XI, 30, 53.

<sup>262</sup> *Ibid.*, 53.

<sup>263</sup> *Ibid.*, 30.

For diagnostic purposes, the hot/cold paradigm was easily linked to the larger processes playing themselves out in the Mesoamerican universe. Because the hot and cold properties of all beings and natural phenomena were detectable through the use of the senses, native healers had a tool through which they could interpret the mechanism of deities' actions. Depending on who caused an illness, a series of actions were set into motion, producing specific symptoms in the patient, which could then be read by the *titici*, or physician, and explained in terms of internal equilibrium and in changes of warmth and cold.<sup>264</sup>

Physicians read the symptoms produced in a patient through multiple channels. *Tonalli* levels were read through taking the pulse to test its strength and observing the top of the head for signs of irregularity. In some cases, a female doctor, or *atlan tlachixque*, would determine the strength of a child's animistic force by evaluating a child's reflection in water. A clear reflection meant a favorable prognosis, whereas a darkened or shadowed reflection indicated *tonalli* loss.<sup>265</sup>

Mecatlapouhque "the one who counts [the meaning of the ropes,]" were able to divine if a patient would live or die by tying knots along a length of rope and pulling. Loosened knots meant the patient would recover while knots that tightened pointed to death.<sup>266</sup> Prognosis could also be made by observing the behavior of maize kernels cast onto a cloth or mat or into water. For example, kernels that sank indicated a positive outcome, while floating kernels indicated death.<sup>267</sup> Practitioners could also prognosticate by determining how many handspans they could fit across a patient's arm, from the

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<sup>264</sup> Fields, *Pestilence and Headcolds*, 103.

<sup>265</sup> Alarcón Hernando Ruiz de, *Treatise on the Heathen Superstitions That Today Live Among the Indians Native to This New Spain 1629*, trans. J. Richard Andrews and Ross Hassig (Norman, OK: University of Oklahoma Press, 1984), 161-162.

<sup>266</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 144.

<sup>267</sup> *Ibid.*, 144-146.

elbow to the outermost fingertip. If the handspans lined up perfectly, not extending past the fingertip, it meant the patient would die.<sup>268</sup>

In the *Florentine Codex*, many of the aforementioned methods of diagnosis and prognosticating were attributed to “bad” female physicians. Sahagún states:

A bad woman physician pretends to have professional knowledge. She has a friction-loving vulva. She does evil, bewitches, makes drink potions, kills people with drugs, endangers the sick. She deceives people, seduces them, perverts them, blows evil upon them, removes objects from them, sees their fate in water, reads their fate with cords, casts lots with grains of maize, draws worms from their teeth. She draws paper, stones, worms from them.<sup>269</sup>

Divining the source of an illnesses, prognosticating, and representing illnesses through objects removed from the body were pre-Hispanic practices. Therefore, the categorization of these female medical practices as “bad” reflects a Spanish bias as opposed an indigenous viewpoint. Comparatively, Sahagún notes that the “bad” [male] physician:

is a fraud, a half-hearted worker, unskilled, a killer with his medicines because of overdose, he worsens the condition of the sick, endangers others' lives, he pretends to be a counsellor, adviser and chaste. He bewitches, is a sorcerer, a soothsayer, a caster of lots, he seduces women and bewitches them.<sup>270</sup>

It is clear that “bad” male physicians also engaged supernatural practices, such as sorcery, soothsaying, and casting lots, though their activities lack the specificity and variety found in the entry for their “bad” female counterparts.

Many fevers were accompanied by symptoms linked to specific deities or deity complexes that had to be considered when treating a patient. Tezcatlipoca, also known as Titlacahuan, sent forth plagues and catastrophes as punishment for an individual’s

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<sup>268</sup> *Ibid.*, 147-148.

<sup>269</sup> Sahagún, *Florentine Codex*, vol. XI, 53.

<sup>270</sup> *Ibid.*, 30.

excessive pride in possessions, breaking of an oath, or sexual transgressions.<sup>271</sup> He also punished communities for collective misdeeds or lack of faith.<sup>272</sup> The god of pleasures, Xochipilli, meted out hemorrhoids and genital diseases.<sup>273</sup> The goddess of love, Xochiquetzal, sent scabies as well as buboes and rashes, among other infections.<sup>274</sup> Festering sores, pimples, and eye disorders were linked to the “Flayed One,” Xipe Totec, the god of Spring and patron god of jewelers.<sup>275</sup> Patients with these conditions obtained relief by leading the processions during tlacaxipehualiztli, Xipe Totec’s festivities, while dressed in the skin of a human sacrifice.<sup>276</sup> In instances of suspected divine afflictions, practitioners, like a *nahualli* or a *paini*, who were capable of making contact with the divine realm acted as an intermediary between the patient and deity. A *paini*, “one who drinks medicine,” imbibed entheogenic herbs to converse with deities to determine a disease’s cause and the actions necessary for a cure, often a form of propitiation.<sup>277</sup>

### **Treatments: Purgatives and Diuretics**

The action of many fever remedies in the 16th-century medical texts involved voiding the body of illness through vomit, urine, excrement, or a combination of these channels. In the *Florentine Codex*’s primary fever entry and the *Badianus Codex*’s recommendations for “excessive heat,” purging is an essential part of the recommended treatment process that involved ingesting multiple herbal infusions, along with anointing

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<sup>271</sup> Guerra, “Aztec Medicine,” 320.; Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 131.

<sup>272</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 131.

<sup>273</sup> *Ibid.*

<sup>274</sup> Guerra, “Aztec Medicine,” 320.

<sup>275</sup> *Ibid.*; Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 131-132.

<sup>276</sup> Guerra, “Aztec Medicine,” 320.

<sup>277</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 144.

the body in the case of excessive heat.<sup>278</sup> Purgatives are common among the *Florentine Codex*'s singular fever medicines as well. The remedy *tlanoquiloni* causes one to purge "sickness."<sup>279</sup> *Ilacatzihqui* voids the body of fever through the mouth and rectum.<sup>280</sup> *Tlalcacauatl*, recommended for a hot fever, "expels the ailment in the urine."<sup>281</sup> Interestingly, urine is the most common channel of fever elimination. It is not clear if the expelled ailment was visible to the physician, or if the only indication fever left the body was the restoration of a normal body temperature. There is, however, some indication that "whitish" urine may have been a sign of health in a fevered person, or in general, though this sign could be misleading.<sup>282</sup>

In many instances, the purgative and diuretic effects of a fever medicine targeted harmful fluids. These fluids included white, yellow, and green phlegm, along with purulent fluid. For example, with the remedy *haacxoyatic*, "phlegm is quickly expelled from the mouth; with it the heart, the body are soothed," and the fever is cured.<sup>283</sup> The entry for *pipitzauac* reads: "It expels the phlegm, causes vomiting, and purges, thereby reducing the fever within a man's body; it draws out the pus by dissolving it in the urine."<sup>284</sup> Some remedies expelled both the fever and harmful fluids. The remedy *cococxiuitl* expels the fever through excrement, and "settles" phlegm in the throat.<sup>285</sup> *Acaxilotic* causes one to vomit "up the ailment;" and "yellow phlegm and pus come out from [one's]

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<sup>278</sup> Sahagún, *Florentine Codex*, vol. XI, 159.; Cruz., *An Aztec Herbal*, 79.

<sup>279</sup> Sahagún, *Florentine Codex*, vol. XII, 142.

<sup>280</sup> *Ibid.*, 149.

<sup>281</sup> *Ibid.*, 143.

<sup>282</sup> Cruz., *An Aztec Herbal*, 75.

<sup>283</sup> *Ibid.*, 181.

<sup>284</sup> *Ibid.*, 148.

<sup>285</sup> *Ibid.*, 153.

rectum."<sup>286</sup> Phlegms and purulent fluid, in these instances, can be thought of as physical manifestations of divine interference within the body, or an empirically observable representation of an ailment's proximate cause sent by a divine being, the ultimate cause. In either case, the expulsion of these fluids could be induced through medicines and observed by the physician. The focus on the disease's process and the empiricism of its treatment demonstrates a naturalistic medical approach to a categorically supernatural disease.

### **Treatments: "Cold" Fever Busters and "Hot" Hallucinogens**

Most herbs used to treat hot fevers, specifically *tletl*, are cold, and thus regulate the body's internal temperature. The herbs *iztac quauitl*, or *uauauhtzin*, and *tonacaxochitl* are described as "cooling."<sup>287</sup> Similarly, *tlacoxiuitl* works by "cooling the body."<sup>288</sup> Two herbs appear to have temperature regulating properties that cool the body but are not explicitly noted to be cooling. *Ilacatzihqui*, recommended for hot fever, "lowers the temperature" of the body.<sup>289</sup> The remedy *acocoxiuitl*, in addition to alleviating "feverishness," is indicated for use "when he is about to enter the sweat bath, in order that he will no longer feel the [heat of the] sweat bath," or "when he is to come out, he is also to drink a little of it."<sup>290</sup>

Not all fever remedies are cold, or cooling; some medicines are warm or hot to correct bodily disequilibrium caused by fever's with chills and cold aquatic fevers.

*Tlatlanquaie*, discussed earlier in this chapter, is a "warm, tepid" medicine recommended

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<sup>286</sup> *Ibid.*, 159.

<sup>287</sup> Sahagún, *Florentine Codex*, vol. XII, 148, 175.

<sup>288</sup> *Ibid.*, 154-155.

<sup>289</sup> *Ibid.*, 149.

<sup>290</sup> *Ibid.*, 172.



for the treatment of a etymologically hot fever accompanied by chills, as well as nerve and heart pain, among other symptoms.<sup>291</sup> *Tlatlanquaie* is the only medicine in the *Florentine Codex* that is indicated as a hot fever remedy with a warm nature. A likely explanation for this paradox is that the heat of the herb is countering the cold of the chills.

Some of the prescribed treatments in the *Badianus Codex*'s "fevers" entry appear to have worked through replenishing the body's hot *tonalli* and repelling the cold deities *toco-xochitl*, *centzon-xochitl*, *tepe-chian*, *tzom-pachtin*, *iztac-oco-xochitl*, *tonatiuh yxiuh*" be "gathered in the fervent heat of the sun," crushed into bitter water, mixed with willow, laurel, and human bone, and applied on the crown of the head along with a copse's tooth.<sup>292</sup> The highly specific instructions for when the plants were to be collected was not arbitrary, nor was the placement of the potion on the body. *Tonalli* is directly linked to solar heat and the crown of the head. It can, therefore, be inferred that the plants were, by nature, made hot by the sun, and that the potion imbued the body with *tonalli* through the crown when one was afflicted with *atonahuiztli*, the cold aquatic fever. To further combat *tonalli* disequilibrium, Cruz instructed that the patient inhale the scent of a flower, which countered the cold deities who fed on the vital force.<sup>293</sup>

The inherent temperature of medicines used to treat *atonahuiztli* is not stated explicitly in the *Florentine Codex*; however, as entheogens, they are categorized as hot. The Codex's first entry of four total *atonahuiztli* remedies is anomalous. This herb, *xoxouhcapatli*, is imbibed to treat cold fever and applied topically to remedy "festering

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<sup>291</sup> *Ibid.*, 174-175.

<sup>292</sup> Cruz., *An Aztec Herbal*, 75-76.

<sup>293</sup> *Ibid.*, 76.

flesh or scabies.”<sup>294</sup> There is no evidence to indicate that this herb has any hallucinogenic effect, making it an outlier amongst the other *atonahuiztli* medicines. The symptoms accompanying the fever are also unusual in that they are suggestive of contagion, bringing the entirely supernatural etiology of the fever being described into question. The entries for the three other remedies for *atonahuiztli* are distinct from the first in that they appear to have been entered as a group, indicated by their sequencing and that the last entry references one or both of those prior:

29

Nancatl [or] teonanacatl is a fever medicine.

30

Peyote

It is a fever medicine. It is eaten, it is drunk moderately, just a little.

31

Toloa

It is also a fever medicine; it is drunk in a weak infusion. And where there is gout, there it is spread on, there one is anointed. It relieves, drives away, banishes [the pain]. It is not inhaled, neither is it breathed in.<sup>295</sup>

In the entries for *nancatl* and *peyote*, neither symptomology nor mode of action are mentioned. The absence of symptoms is possibly owing to the etymology of the Nahuatl fever term used in the passages, *atonahuiztli*. *Atonahuiztli* has its own implied etiology, a cold aquatic fever initiated by the Tlaloc deity complex. The lack of detail surrounding the properties of the herbs may reflect the efforts made to eradicate idolatrous information from the Codex in order to halt its spread. Alternatively, the lack of detail may also speak to the accepted supernatural power of the herbs and possibly to a shared knowledge, at least among physicians, of how the remedies worked. The ailments *toloa*

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<sup>294</sup> *Ibid.*, 146.; *Xoxouhcapatli* is entry 22.

<sup>295</sup> *Ibid.*, 147.

treats, cold aquatic fever and gout, are both attributed to the Tlaloc deity complex. Montellano highlights the connection between the usage of remedies *nanacatl*, *peyotl* (peyote), *toloa*, and *ololiuhqui*, in instances of *atonahuitzli* and gout. He notes that these hallucinogens were "hot," countering the "coldness" of the illnesses, and that, when imbibed, their emetic effects eliminated phlegm, a proximate cause of illness.<sup>296</sup>

The active properties of entheogenic remedies extended beyond their inherent heat. For example, peyote has a stimulant effect.<sup>297</sup> The energizing effect peyote had on the body may have countered fevers related to the loss of *tonalli* through exertion. Specifically, fatigue brought on by excessive physical labor or walking was believed to exhaust the animistic force *tonalli*, resulting in the body overheating.<sup>298</sup> Montellano argues that hallucinogenic herbs also acted as "a pathway to the gods," thus addressing an illnesses' ultimate cause.<sup>299</sup> Furthermore, the very nature of these sacred herbs, like the fever remedy, *ololiuhqui*, was divine.

Insight into incantations that invoked supernatural force within *ololiuhqui* to heal fevers can be found in Hernando Ruiz de Alarcón's sixth treatise (1629). Alarcón, a zealous parish priest, compiled the pre-Hispanic incantations, spells, and rituals that continued to be used in New Spain for the purpose of identifying and stopping idolatry. Addressing magical practices for a variety of bodily disorders, the sixth treatise is arranged in a head-to-toe fashion, similar to the chapter on ailments in Book Ten of the *Florentine Codex* and the thirteen chapters of the *Badianus Codex*. The incantation

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<sup>296</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 158.

<sup>297</sup> Furst, *Flesh of the Gods*, 112.

<sup>298</sup> Fields, *Pestilence and Headcolds*, 102.

<sup>299</sup> Ortiz de Montellano, *Aztec Medicine, Health and Nutrition*, 158.

Alarcón recorded invokes the deity residing within *ololiuhqui*, hallucinogenic morning glory seeds, who could manifest within the person whom drank the seeds in an infusion to aid in divining and curing:

“Come hither, cold spirit, for you must remove this heat (fever), and you must console your servant, who will serve you perhaps one, perhaps two days, and who will sweep clean the place where you are worshiped.” This conjuration in its entirety is so accepted by the Indians that almost all of them hold that the *ololiuhqui* is a divine thing, in consequence of which... this conjuration accounts for the custom of veneration of it by the Indians, which is to have it on their altars and in the best containers or baskets that they have, and there to offer it incense and bouquets of flowers, to sweep and water the house very carefully, and for this reason the conjuration says: “... who will sweep (for) you or serve you one or two days more.” And with the same veneration they drink the said seed, shutting themselves in those places like one who was in the santasanctórium, with many other superstitions. And the veneration with which these barbarous people revere the seed is so excessive that part of their devotions include washing and sweeping (even) those places where the bushes are found which produces them, which are some heavy vines, even though they are in the wildernesses and thickets.<sup>300</sup>

Alarcón’s account also reveals the reverence shown to *ololiuhqui* through worship and veneration, tending to its place of residence — altars, fine receptacles or baskets, or the wild, — and the presentation of offerings of incense and flowers. Certainly, *ololiuhqui*’s healing powers stemmed from its divinity; yet, it is also worth considering that the divine spirit of the seed is noted to be cold, which may indicate another mode of efficacy against fever.

### **Conclusion**

Treatments for fevers and other health conditions were intended to restore the body’s equilibrium. Disequilibrium was brought about by internal actions, such as lack of

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<sup>300</sup> Alarcón Hernando Ruiz de, *Tratado De Las Supersticiones y Costumbres Gentilicas Que Oy Viuen Entre Los Indios Naturales Desta Nueva España*, ed. Francisco del Paso y Troncoso (México: Anales del Museo Nacional de México, 1629).; I used Peter Furst’s translation of this passage found in Furst, *Flesh of the Gods*, 67-68.

moderation, transgressions — specifically those of a sexual nature which disrupted the animistic forces *ihiyotl* and *tonalli* — and spiritual offences. External forces, like deities, accidents, and contagions were similarly able to disturb a person's physical equilibrium. Disequilibrium was also expressed through the disruption of the body's hot/cold balance, expressed in the form of hot or cold fevers. Fever treatments reflected the Aztec's complicated understanding of disease etiology — ailments were either predominantly natural or supernatural, yet the divine was generally considered the ultimate and/or proximate cause. This complex etiological system demanded the expertise of specialized healers who could make diagnoses and prognoses, knew the properties of remedies, and recognized disease processes. When deities were believed to have a more personal involvement with the illness, the Aztecs relied upon practitioners who communed with the supernatural realm and were able to uncover a disease's cause, often a sorcerer or a deity that had been offended, as well as the actions necessary to remedy the ailment. Finally, fever remedies worked through purgative and diuretic properties that expelled harmful fluids from the body, through their ability to restore the body's hot/cold equilibrium, and in the case of sacred herbs, through their divine nature.

## Conclusion

Of the numerous symptoms and illnesses recorded in the 16<sup>th</sup>-century Aztec medical literature, fevers are significant for their ubiquity, their many manifestations, and their distinctly Aztec conceptualization. In the *Badianus Codex*, fever is given two separate entries amongst the different ailments addressed. In Book Eleven of the *Florentine Codex*, over one-third of the remedy entries mention fever as a symptom treated. This ubiquity can be attributed to the endemic and epidemic diseases common before and during the time of the Codices' creation. A comparison of the symptomology presented in the *Florentine Codex* to epidemiologic data on the illnesses common to the era, such as smallpox, measles, and typhus, reaffirms the impact of epidemics on the historical record. This comparison also illustrates Aztec physicians' knowledge of symptomology, central to establishing whether a fever was natural or supernatural.

As this work has demonstrated, Aztec physicians recognized multiple forms of fevers. *Totonqui* and *motlehuia* were hot fevers located in the head, usually in the eyes, face, or mouth, accompanied by stomach swelling, eye inflammation, and suppuration of the skin. The term *tontonqui* was a combination of the word *tona*, the prefix of *tonalli*, and the word *motlehuia*. The hot fever *tletl* has not been recognized as a distinct form of fever by historians of Aztec medicine; however, the fever appears to have some unique attributes. *Tletl* is a synonym for *tonalli*, and these fevers were almost exclusively treated with cooling herbs, suggesting that *tletl* is distinct, and especially hot or high fever. *Iztac totonqui*, or "white fever," is a high, hot fever accompanied by swelling and suppuration of the flesh. Another form of hot fever, *matlaltotonqui*, or "green fever," presented with dark bruising surfacing on the skin. Aztec medicine also recognized a form of cold fever,

*atonahuiztli*. This fever, also known as aquatic fever, had a supernatural etiology as it came from the Tlaloc deity complex, associated with rain and fertility. *Atonahuiztli* was characterized as a fever with chills. Two other fevers, *tlallatonahuiztli*, “aquatic fever of the earth,” and *yoallatonahuiztli*, “aquatic fever of the night,” also shared a supernatural etiology; however, little is known about these fevers as they were censored out of the final version of the *Florentine Codex*. Based on the aquatic nature of these supernatural fevers, it can be inferred that they, like *atonahuiztli*, were cold.

The connection between the body and the cosmos, crucial to understanding fevers, occurred through multiple channels. Horizontal and vertical divisions forming quadrants that met at a spiritually significant point were replicated in the universe, the city of Tenochtitlan, and neighborhoods. Correspondingly, the body was divided horizontally and vertically, intersecting the navel, which was believed to be a conduit to the divine. The body was also connected to the divine through blood. The life-giving sun, first animated by the sacrifice of a god, required human blood to continue its trajectory across the sky. Similarly, the Aztec’s myth about the creation of humankind echoes the connection between human life, sacred blood, and the importance of sanguinary offerings to maintain order in the cosmos and repay a divine debt. Finally, humans were connected to the divine through the animistic entities, *tonalli*, *teyolia*, and *ihiyotl*, that inhabited the head, heart, and liver, respectively. These entities also imbued individuals with vitality, unique characteristics, and justified their rank within the social strata. An individual's health, or equilibrium, was also determined by the animistic entities. It is, therefore, not surprising that fevers were tied to imbalances in these entities.

The universe, and therefore, the body was subject to the influence of cosmic dualities. States of health and ill-health fell were understood through the cosmic duality of equilibrium and disequilibrium. Thus, treating fevers was a matter of restoring the body's equilibrium. Disequilibrium could result from transgressive behaviors, such as immoderation, sexual immorality, and spiritual offenses. Disequilibrium could also be brought on through external causes, like deities, accidents, and contagions. The duality of hot and cold was also particularly significant to the body and fevers. Heat correlated with the highest-most levels of the universe and celestial deities. In the body, heat was associated with the entity *tonalli* and its animistic center, the head. Cold, in contrast, was linked to the lower levels of the universe, as well as terrestrial and aquatic deities. Cold was linked to the animistic entity *ihiyotl*, which resided in the liver.

This work has demonstrated that fevers were linked to *tonalli* not only etymologically but through their etiology. The connection between *tonalli* and heat is reflected in the etymology of the common Nahuatl term for fever, *totonqui*. The word “*totonqui*” is a combination of “*tona*” and “*motlehuia*.” *Tona* translates as “to be warm; for the sun to shine” and *motlehuia*. “*Tona*” is a part of all fever(s)’s names except for *motlehuia* and *tletl*. However, *motlehuia* means “to have fire within,” associating the fever with *tonalli* through heat and fire, and the word *tletl*, meaning “fire,” is a synonym for *tonalli*. The etiological connection between *tonalli* is first made evident in hot fevers like *totonqui*, which are located in the head, the locus of the body's highest concentration of *tonalli*. Furthermore, *tonalli* served a protective function in the body, creating a fever to repel supernatural invaders, such as the cold aquatic deities associated with Tlaloc that desired *tonalli*'s warmth. An individual's *tonalli* could suffer damage or depletion as a



result of transgressive behavior or the harmful acts of a sorcerer. It is unknown whether or not all cases of interference with tonalli resulted in a fever; however, tonalli in a sub-optimal state was likely part of the etiology of all fevers.

The Aztec's classified ailments, including fevers, as primarily natural or supernatural, while at the same time recognizing the divine as the ultimate cause. The divine could also serve as a proximate cause of disease. Given the complexities of this etiological system, the Aztecs relied upon highly-skilled, specialized healers. These physicians made diagnoses, prognosticated the course of the illness, and prescribed medicines and therapies. In instances where a disease was suspected of having a supernatural etiology, the Aztecs turned to spiritual intermediaries to intercede. These practitioners communed with the spiritual realm to determine the ailment's cause, usually a sorcerer or deity, and the necessary course of action, such as an act of propitiation. Once the cause and variety of fever had been determined, Aztec physicians turned to their vast pharmacopeia for remedies. An analysis of the fever remedies in the 16<sup>th</sup>-century medical literature reveals that these medicines generally worked through three means—through purgative and diuretic properties that forced the body to expel white, yellow, and green phlegm, as well as purulent fluids; through restoring the hot/cold equilibrium by either heating or cooling the body; and through entheogenic herbs that housed a divine healing force.

It is important to keep in mind that the historical record presents challenges to investigating the Aztec's conceptualization of fever. The *Florentine* and *Badianus* Codices contain traces of Spanish influences, such as humorism and Galenic theory. Supernatural elements were sometimes censored out of or not included in the 16<sup>th</sup>-century

sources as well, exemplified by the censorship of certain supernatural fevers. The *Florentine Codex's* single entry for fever in Book Ten also represents Spanish influence. Specifically, the entry reflects the Spaniard's belief in a singular fever, *fiebre*, and does not list any defining characteristics other than the use of the term *motlevia* (*motlehuia*). Fortunately, in Book Eleven of the *Florentine Codex's* chapter on medicinal remedies, multiple forms of fever are represented, as are their symptomologies. However, the entries for these medicinal remedies also present inconsistencies. A careful comparison of each fever's symptom profile uncovers entries where the fever term used does not match the fever profile presented, suggesting that the Aztec physicians that provided the information did not always adhere to a standardized usage of fever terms. It may also mean that they did not share a set view of the various fevers. Duplicated entries for fever remedies present another inconsistency. For example, an herb can be indicated for two different fevers, each with a different set of symptoms, under two separate names. The duplicated entries suggest regional differences, not only in an herb's name but in how the herb is applied. The challenge posed by the *Badianus Codex* stems from it being written in Latin. Without the use of Nahuatl fever terms, the type of fever being discussed is less than clear. Nevertheless, the symptomology in the *Florentine Codex's* fever remedy entries provides a basis from which to understand how the Aztec fevers manifested, and when combined with Aztec understandings of the body and medicine, the etiologies of the fevers in the *Badianus Codex* can be analyzed. The analysis in this work concluded that the Codex contained one entry for a hot fever and one for a cold fever.

Fever, as it appears in the 16<sup>th</sup>-century sources, is an ailment that can only be grasped through a distinctly Aztec framework. Fever was not actually "fever," but

"fevers." Furthermore, the Aztec's conceptualization of fevers does not exist outside of or apart from their cosmology and the divine. The belief that all ailments originated from a divine source cements this position. Yet, contrary to what the religious elements intrinsic to notions of the body and illness might suggest, Aztec physicians' treatment of fevers demonstrates that observation, experience, and extensive botanical knowledge were just as essential to their medical system. When the cause of illness could be identified, such as a wound or symptoms associated with a contagion, it was treated as "natural." Diseases with less than clear etiologies, or those that did not respond to other forms of treatment, were classified as "supernatural," and a practitioner provided spiritual council that undoubtedly offered psychological benefits. Thus, fevers serve as a lens through which to examine the Aztec's cosmology and religion, highlight the prevalence of contagious illnesses in the historical record, and illuminate the supernatural and naturalistic elements of Aztec's medicine.

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