

Longevity and Life Expectancy among Tibetan Lamas from the Twelfth to the Twentieth Century

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Introduction

he venerable Chatral Sangye Dorje Rinpoche passed away in 2015 at the age of 102. Kusho Tashi Dorje (1919–2017), a lama from highland Nepal, died at the age of 98. Are such long lives normal or anomalous among lamas? Despite some remarkable lifespans and the possibility that contemplative practices buffer the effects of aging,¹ no attempts have been made to document the longevity of Tibetan lamas (i.e., Buddhist clerics who lived in a broad Tibetan cultural sphere of influence encompassing the Tibetan Plateau and Himalayan region). This should come as no surprise considering that studies of Tibetan historical demography are few and far between.² Even basic estimates of Tibet's historical population vary widely, are highly speculative, and are often used to advance political narratives more than demographic understandings.

Using a newly available dataset, this study addresses the following questions. How long have Tibetan lamas lived on average? Has the longevity of Tibetan lamas fluctuated over time? If so, what could be potential reasons? Do Tibetan lamas have longer life expectancy than the general population of Tibetans? How do the life spans of Tibetan lamas compare with elite populations elsewhere? Addressing these questions can contribute to broader understandings of historical demography within and beyond the context of Tibetan societies by estimating maximum longevity of an elite group, by identifying the potential timing of societal-wide mortality declines with an understanding that elite groups are often forerunners, by providing data to link long-term longevity trends with historical and epidemiological events, and by shedding light on mortality differences between social classes.³

¹ Bushell and Theise 2009.

² Schuh 1988; Childs 2003, 2008; Spoorenberg 2019; Ryavek and Bowman 2021.

³ On the importance of estimating maximum longevity among elite groups see Andreev et al. 2007. On elite groups as demographic forerunners for societal-wide mortality declines see Stelter et al. 2021. On linkages between historical events and long-term mortality trends see van Poppel et al. 2013; de la Croix and Licandro 2015. On mortality differences between social classes see Clark et al. 2022; Houston 1992, 1995.

The Dataset and Methods

Élie Roux, Chief Technical Officer at the Buddhist Digital Resource Center (BDRC) in Boston, USA, provided the dataset for this study.⁴ Among the 18,700 person records in the BDRC database, Mr. Roux extracted the names and dates of 2,290 individual lamas for whom the birth and death dates are known with certainty. Inclusion in the BDRC database is largely based on textual sources that were mined for personal information on authors, lamas who are mentioned in histories and biographies, and other noteworthy individuals. BDRC's birth and death data is checked for accuracy against other sources. Discrepancies are scrutinized manually and rectified.⁵

Our confidence in the validity of the data is grounded on the Tibetan means for recording birth and death dates. The Tibetan calendar is organized into repeating 60-year cycles into which are nested five (the number of elements) 12-year cycles (the number of animal signs). Finding the equivalent Gregorian calendar year is straightforward with the help of conversion charts albeit the match is not exact because the Tibetan year usually begins in January or February. The fact that the data shows no signs of age heaping (i.e., a disproportionate number of people dying at rounded ages such as 60, 65, and 70) enhances our confidence in its validity.

Most of the 2,290 individuals with known dates lived from the 12th century onward. Many dates before that time are uncertain or unverifiable, so we excluded anyone born prior to 1100. Because men and women generally experience different mortality rates, we also eliminated female religious practitioners. Many lamas have several epithets or alternative spellings for their names, so we double-checked all entries that had the same birth and death dates and deleted duplicate entries. The final birth year considered is 1919, since that is the last year of completed birth cohorts (some lamas born from 1920 may potentially still be alive in 2023, the final year of observation). For the six lamas whose reported longevity was unrealistic, we adjusted their death age down to 104 years. Ages at death for all others were adjusted to account for the fact that a person born in year x who dies in year $x+n$

⁴ BDRC was founded by the visionary scholar Gene Smith (1936-2010). From 1968 to 1985 he was employed at, and for some time directed, the Library of Congress's New Delhi Field Office where he located and reprinted texts possessed by Tibetan exiles and Tibetan-speaking peoples in the trans-Himalayan region (Smith 2001). BDRC is a nonprofit organization dedicated to preserving and disseminating Buddhist literature. Their open access website is a portal to the largest collection of Tibetan texts in the world (<https://www.bdrc.io/>).

⁵ Personal communications with Élie Roux, December 2023.

may be either n or $(n-1)$ years-old (in completed years) at the time of death.

The dataset contains a potential notoriety bias, described as, “People with the potentials to become famous but dying young are excluded and, inversely, only those that are old enough to become famous are included.”⁶ It is likely that our dataset excludes lamas who did not live long enough to leave legacies in the forms of written works or trained disciples, or who had little cultural impact. The bias is partially reduced from the seventeenth century onward with the rise of more incarnation lineages.⁷ More members of reincarnation lineages who died relatively young appear in the historical record because of their importance in the continuity of lineages. For example, the eleventh and twelfth Dalai Lamas, Khedrup Gyatso (1838-1855) and Trinle Gyatso (1856-1875), are both included in our original dataset but died in their late teens. Our suspicion that more early deaths are recorded after the expansion of incarnation lineages is confirmed in the data; 52 of the 54 lamas who died before age 20 passed away after 1600. To avoid allowing the expansion of reincarnation lineages to bias longevity and life expectancy estimates, all lamas in the dataset who died before reaching age 20 are excluded from analysis.

After culling for reasons described above, the final dataset consists of 1,911 male lamas with known birth years and death years, who were born between 1100 and 1919, and who survived to their twentieth birthday.

In this study we use two measures that typically yield similar results but differ in method of calculation. Longevity refers to “the average lifespan of individuals of a given cohort.”⁸ We measure longevity by calculating the average age at death for cohorts of lamas based on their years of birth. The other measure, life expectancy, is the average number of additional years a person can expect to live based on age-specific death rates. Life expectancy is calculated using life tables, an important actuarial tool.

How long have Tibetan lamas lived on average?

The average longevity (average age at death) for all lamas in the dataset was 62.4 years. To provide a more nuanced perspective we constructed a life table based on single-year-of-age mortality rates from age 20 years for all 1,911 lamas. This was collapsed to an abridged life table, shown in Table 1, wherein x represents exact age (for example,

⁶ de la Croix and Licandro 2015, 265.

⁷ Tuttle 2016, 2017.

⁸ de la Croix and Licandro 2015, 264.

age 20, 25, 30 years, etc.); ${}_5q_x$ represents the probability that a lama who survives to exact age x will die during the ensuing 5-year age interval (e.g., during ages 20-24 years, 25-29 years, etc.); l_x is the number of persons alive at exact age x , starting with a theoretical cohort of 100,000 lamas aged 20; ${}_5L_x$ is the number of person-years lived during each 5-year age interval; T_x is the number of person-years lived after exact age x and is used to calculate e_x , life expectancy, or the average number of years of life remaining after exact age x .

Table 1. Life Table for All Lamas in the Dataset Born Between 1100 and 1919

Age (x)	population	${}_5q_x$	l_x	${}_5L_x$	T_x	e_x
20	1,911	0.013	100,000	497,114	4,234,736	42.3
25	1,887	0.019	98,718	488,911	3,737,622	37.9
30	1,851	0.028	96,834	477,085	3,248,711	33.5
35	1,800	0.041	94,165	461,151	2,771,626	29.4
40	1,727	0.049	90,345	441,436	2,310,476	25.6
45	1,642	0.076	85,924	415,219	1,869,040	21.8
50	1,518	0.105	79,409	377,947	1,453,821	18.3
55	1,359	0.156	71,088	331,191	1,075,874	15.1
60	1,147	0.222	59,995	266,002	744,683	12.4
65	892	0.275	46,677	200,054	478,681	10.3
70	647	0.392	33,857	136,147	278,627	8.2
75	394	0.484	20,591	77,460	142,479	6.9
80	203	0.571	10,623	36,107	65,019	6.1
85	87	0.540	4,553	15,463	28,912	6.4
90	40	0.488	2,093	7,653	13,449	6.4
95	21	0.488	1,073	3,846	5,795	5.4
100	11	1.000	549	1,949	1,949	3.5

Table 1 shows that the lamas who reached age 20 had a life expectancy of 42.3 more years [e_{20}], or an expected age at death of 62.3 years [$20 + 42.3$]. Those who lived to age 60 [e_{60}] had a life expectancy of another

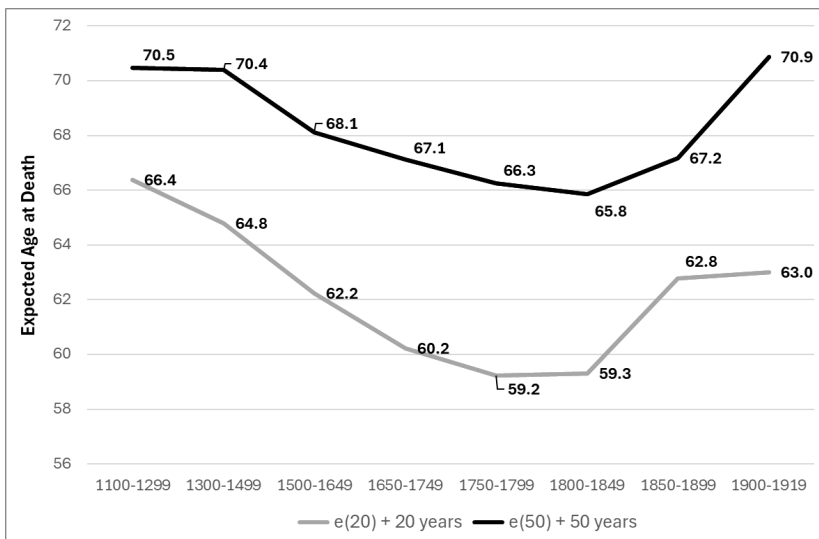
12.4 years and thus would die on average at age 72.4. The l_x column shows the number of lamas from the theoretical starting cohort of 100,000 who would still be alive at the beginning of each age interval. This can easily be converted to a percentage. For example, 60.0% would be expected to survive to age 60 ($l_{60} = 59,995$ out of the original 100,000), less than 50% to age 65 ($l_{65} = 46,677$ out of the original 100,000), and 10.6% to age 80 [$l_{80} = 10,623$ out of the original 100,000].

Bear in mind, this life table aggregates the life spans of all lamas over many centuries and therefore should not be interpreted as an indicator of lama life expectancy today, or at any specific time in history. A more fine-grained analysis below demonstrates that lama life expectancy fluctuated over time. Table 1 is intended to be a crude but useful starting point.

Has the life span of Tibetan lamas fluctuated over time?

To begin addressing this question, we calculated single-year-of-life tables for specific cohorts, with a terminal age of 104 years. Remaining life expectancies at ages 20 and 50 (e_{20} and e_{50}) were converted to expected ages at death (e.g., $e_{20} + 20$) in Figure 1. The population was grouped into birth cohorts of varying lengths so that each cohort contained 200 to 300 lamas. In Figure 1, we start the mortality clock at age 20 because, as discussed above, (potential) lamas who died at young ages may not have been formally recognized as such so our dataset only contains those who survived to age 20.

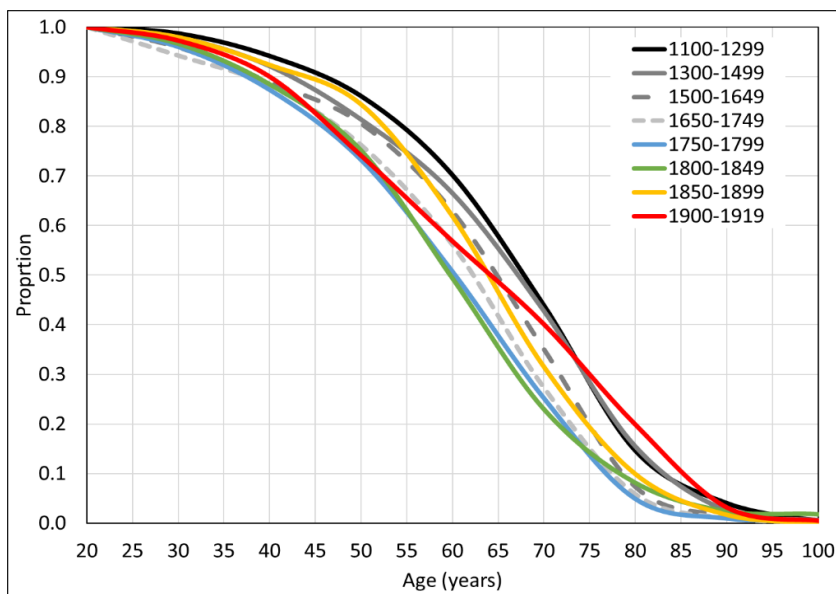
Figure 1. Expected Ages at Death at Ages 20 and 50 by Birth Cohort



Over the course of 800 years, future life expectancy at age 20 declined gradually from an average death age of 66.4 years for lamas born in 1100–1299 ($e_{20} = 46$), to a nadir of 59.2 years for lamas born in 1750–1799 and 1800–1849. Life expectancy then increased to 63.0 years for lamas born in 1900–1919. A similar trend is observed for average life expectancy for those who reached age 50 years, with a long-term decline of the average age of death from 70.5 years for lamas born in 1100–1299 to 65.8 years for lamas born 1800–1849, and an increase thereafter to 70.9 years for lamas born 1900–1919.

Reflecting the life expectancy trends of Figure 1, the survival curves for birth cohorts born 1100–1299 to 1800–1849 (Figure 2) show a gradually shift to the left, indicating lower proportions surviving by age over time. For example, 86% of lamas born 1100–1299 who reached age 20 survived to age 50 years. This declined to 81% for lamas born 1500–1649, and to 75% for lamas born 1800–1849. Cohorts born 1850–1899 experienced a striking increase in survival at younger ages (under 50 years), while those born 1900–1919 had much lower mortality at older ages (50 years and over).

Figure 2: Survival curves of Tibetan lamas from age 20 years by birth cohort

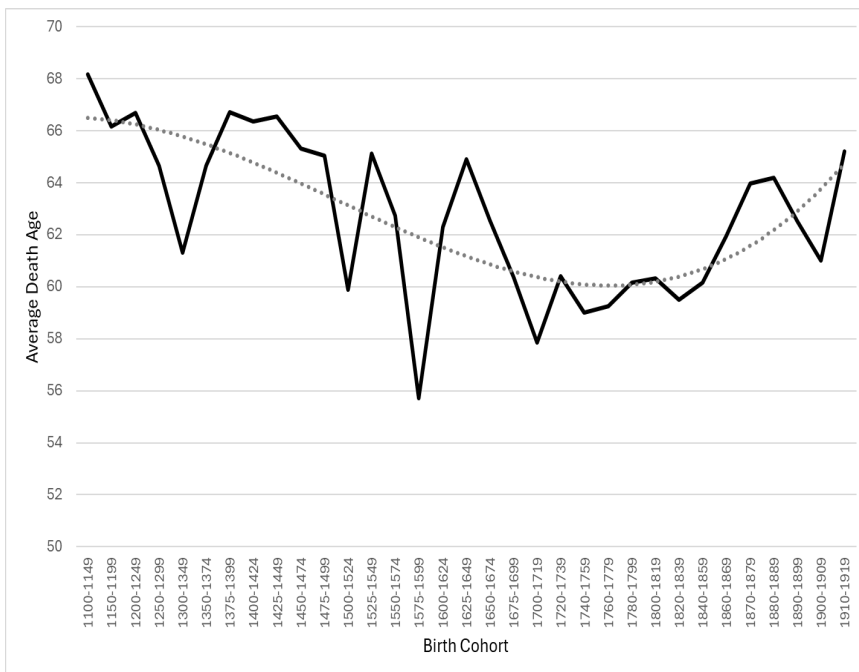


While speculative, the trends in Figure 2 might suggest that exposure to diseases common among larger population centers, specifically China after about 1280 when Tibet and China were equally part of the Yuan Empire and continuing through the Ming and Qing dynasties,

may have been responsible for this decrease in lifespan over time, until finally—with greatly increased exposure after the transfer and residency of Mongol, Manchu, and Chinese troops in Tibet in the 18th century—Tibetans started to build up some immunity to diseases like smallpox in the latter half of the 19th century.

For a slightly different perspective, we compared the longevity of lamas born during specific time periods constructed so that each interval would include an average of 60 lamas. Interval lengths in Figure 3 are 50 years for those born between 1100 and 1349, 25 years for those born between 1350 and 1699, 20 years for those born between 1700 and 1859, and 10 years for those born between 1860 and 1919.

Figure 3. Longevity by Birth Cohort



Those who lived longest and shortest were born in 1100-1149 (68.2 years) and 1575-1599 (55.7 years), a difference of 12.5 years. The figures fluctuate considerably from interval to interval, in part because of the relatively small numbers of individuals per time period. To compensate, we applied a three-order polynomial trendline to the data, which is useful when data fluctuates. The trendline confirms the long-term pattern displayed in Figure 1 whereby the average lifespan declined from the mid-1200s, reached a low point during the 1700s, and began a steady ascent in the early 1800s. The average longevity for lamas

born in the 1700s was 59.4 years, or 3.0 years lower than the average of 62.4 years for the entire sample.

To test if it is possible to link mortality variations with known events, we chose to focus on the time interval from 1600 to 1919 which coincides with the low point and then gradual rise in longevity and life expectancy. The span begins prior to the rise of the Dalai Lamas with the aid of their Mongol allies and runs through the frequent warfare that characterized the eighteenth and nineteenth centuries. Through historical records we know that wars were frequent on the Tibetan plateau with thirty between 1621 and 1951.⁹ There were also devastating earthquakes, disasters caused by heavy snowfall, and famine caused by drought and poor administration.¹⁰ Disease was a serious issue as well. Bubonic plague was prevalent on the Tibetan Plateau long before it struck Europe, smallpox was widespread and well documented during the eighteenth century, and epidemics struck repeatedly including in places frequented by Tibetan lamas and pilgrims such as the Kathmandu Valley.¹¹

A decade-by-decade look at the time interval can help explain the long-term trend seen in Figures 1-3. In Table 2, we calculated Crude Death Rates (CDR) for the lama population. Typically, CDRs are calculated for a single year; the numerator is the number of deaths in a year, the denominator the population at mid-year. In this case, rates were calculated as the annual average number of deaths of lamas aged 20+ years, divided by the average population of lamas over the specified period. As a point of reference, the average CDR per decade was 22.9 deaths/1,000 lamas.

Table 2. Crude Death Rate by Decade, 1600-1919

17 th Century		18 th Century		19 th Century		20 th Century	
Decade	CDR	Decade	CDR	Decade	CDR	Decade	CDR
1600-1609	17.5	1700-1709	16.1	1800-1809	18.5	1900-1909	20.0
1610-1619	19.9	1710-1719	29.6	1810-1819	28.1	1910-1919	15.4
1620-1629	25.9	1720-1729	18.6	1820-1829	15.7		

⁹ Qian 2024. The forthcoming volume edited by Kobayashi and Travers (2025) will no doubt prove useful for shedding further light on the association between political events and demographic trends during these centuries.

¹⁰ On earthquakes see Jackson 2002; Ambraseys and Jackson 2003; Ramble and Drandul 2019. On heavy snowfall see Gyal 2024, and on famine caused by drought and poor administration see Gamble et al. 2022.

¹¹ On epidemics see Lewis and Jampal 1988; McGrath 2021; Yongden 2021.

1630-1639	25.4	1730-1739	34.3	1830-1839	22.2
1640-1649	20.6	1740-1749	26.1	1840-1849	32.6
1650-1659	28.2	1750-1759	23.0	1850-1859	32.5
1660-1669	15.3	1760-1769	19.6	1860-1869	30.5
1670-1679	18.2	1770-1779	15.9	1870-1879	23.7
1680-1689	23.9	1780-1789	27.1	1880-1889	18.8
1690-1699	17.5	1790-1799	34.3	1890-1899	19.5

Decades with high mortality, which we define as 20% above the mean or roughly 28 deaths per 1,000 population, are shaded in Table 2. These are 1650-1659, 1710-1719, 1730-1739, 1790-1799, 1810-1819, and the thirty years spanning 1840-1869. The earliest of these periods were closely associated with internal civil wars, or their aftermath, abetted by Mongols who took the side of one of the warring parties in Tibet, while others periods of increased death rate coincided with wars with external enemies or their aftermath, such as the Gurkha wars lasting from 1788-1792 and the mid-19th century wars to the east, west, and south of Central Tibet.

While we know that wars raged across the Tibetan plateau through the late 1630s to 1642, with Gushri Khan's Mongol army sweeping into Amdo in 1638 and then Kham, and finally defeating the Tsangpa ruler's forces in Central Tibet in 1642, it was not until a decade later that we really see a spike in lama deaths (1650-1659). It may be that the new Ganden Podrang regime under the Dalai Lama had to continue to fight local rebellions, such as the 1659 Shigatse rebellion, as described in 1660, when the Dalai Lama wrote about the brutality with which he hoped Tibetan protector deities would deal with the rebels to finally end their rebellion (Sperling 2001). Earlier efforts at suppression had not succeeded, but they could have contributed to the death count. There was also a three-pronged attack on Bhutan by the Ganden Podrang forces in 1656–1657 that may have killed Bhutanese lamas.¹² Possibly a movement of disease followed these military advances and the settling of Mongols from Dzungaria (on the north edge of the Silk Road) among the Tibetan communities in Amdo, Kham and Central Tibet, bringing a higher death toll than the war had done. Further research is needed to confirm or reject these hypotheses.

The spike in the CDR from 1710-1719 is the easiest to explain, as it coincides with the 1717-8 Dzungar Mongol occupation of Lhasa and

¹² Qian 2024.

the deposing of their rival Lhazang Khan. The Dzungars were specifically invited by Gelukpa monks to help curtail the mixing of these two religious traditions, as had happened since the founding of the Ganden Podrang government under the 5th Dalai Lama. Many lamas of the rival Nyingmapa sect were killed at this time.¹³ For example, in 1717 the Dzungars killed the Fourth Dorje Drak Rigdzin, Pema Trinle and razed his monastery to the ground.¹⁴ In the same year they also killed Lochen Dharmashri Ngawang Chöpel Gyatso (1654-1717) of Mindroling and destroyed his monastery.¹⁵ The descriptions of the Jesuit Ippolito Desideri paints a gruesome picture of the way Nyingma lamas were treated by the Dzungars and their Gelukpa allies in Lhasa and its surroundings at the end of 1717, but continuing for at least three years as he, along with surviving Nyingma lamas, fled east before the destruction.¹⁶

We have no clear explanation for the elevated CDR from 1730-1739. There was a civil war in Central Tibet in 1727 and 1728, which may have impacted mortality into the next decade, although the reign of King Polhané (1728-1747) is generally remembered as prosperous. Central Tibetan forces also waged a war from 1729-1733 on Bhutan, culminating in Bhutan becoming a tributary state to the Ganden Podrang, so it is possible Bhutanese lamas were badly impacted by this invasion. In the absence of other obvious causes (wars, famine, etc.), climatic factors which are rarely studied in relation to Tibetan history deserve consideration as a possible explanation for why 1730-1739 was one of the worst decades for lama mortality. Palden Gyal's work on climate change in Tibet describes the three cold episodes during the Little Ice Age, lasting about fifty years each, which occurred in AD 1500, 1700, and 1800.¹⁷ It is possible that the cold episode starting in the early eighteenth century contributed to higher mortality during 1730-1739. A close examination of biographies and government records might shed light on this.

The period from 1790-1799 was marked by the Gurkha Wars in which Nepalese forces twice invaded Central Tibet, especially targeting Tashilhunpo Monastery in the Tsang region. The first war lasted from 1789 to 1790 and the second from 1791-1792. Whether the rise in the CDR could be wholly explained by these wars is unclear. It is also possible that the massive influx of Qing troops that came to defeat the

¹³ Thokmay 2024.

¹⁴ Samten Chhosphe, "The Fourth Dorje Drak Rigdzin, Pema Trinle," *Treasury of Lives*, accessed June 28, 2024, <http://treasuryoflives.org/biographies/view/Pema-Trinle/9169>.

¹⁵ Townsend 2021.

¹⁶ Pomplun 2010.

¹⁷ Gyal 2024.

Gurkha invaders brought diseases from elsewhere in the empire, as the troops came from all over: more than 1,000 Suolun (present day ethnonym: Ewenki) soldiers from Manchuria, some 5,000 Tibetan soldiers from Kham, 3,000 ethnically Chinese Green Bannermen from Sichuan and another 2,000 from Yunnan. With thousands of soldiers coming from all over the empire and passing through large urban areas on their way to Tibet, it is highly likely that diseases such as smallpox came with them, though again, only further research into records from around this time might show whether this was a lingering impact of such large shifts in military populations.

There were four decades in the 19th century with elevated CDR starting with 1810-1819, so again it is possible that the fifty-year cold episodes starting in the early nineteenth century played a role. Although the snow disaster of 1828 was the most prominent and presumably the most catastrophic one, as demonstrated by the fourteen reports concerning the single event, there were snow disasters of varying magnitudes in western and central Tibet in the years 1824, 1827, 1830, 1848, and a few undated reports of similar cases in the second half of the nineteenth century.¹⁸ Although these postdate the elevated mortality rates among lamas from 1810-1819, the possible link to cold episodes should be examined more closely as a possible trigger.

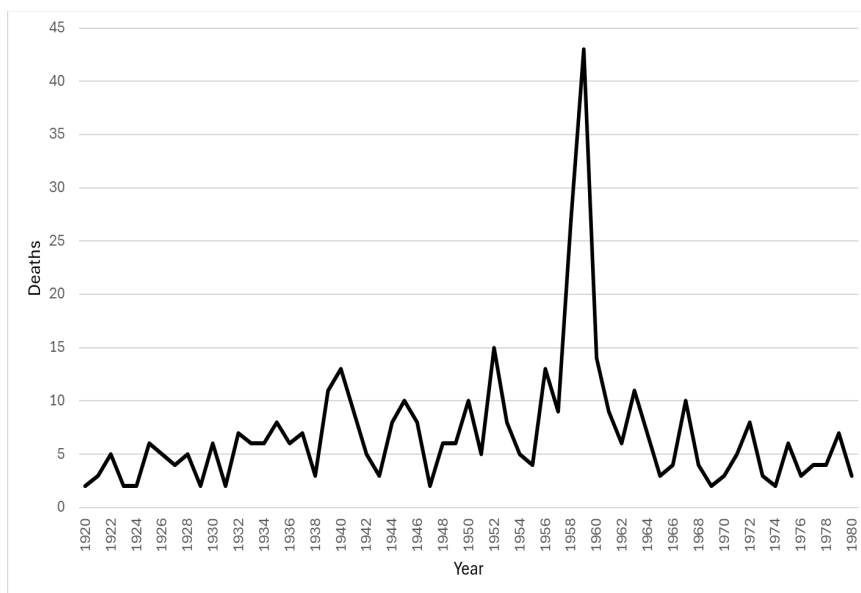
The worst continuous period marked by elevated CDR was the three decades from 1840-1869. Aside from the snow disaster of 1848, these decades were marked by border wars: the 1841-2 Dogra War in the west, culminating in a Tibetan invasion of Ladakh; the 1855-6 Third Gurkha War in the south, which the Tibetans had to fight without the aid of Qing troops (due to the Taiping Rebellion); and the 1865 Nyarong War in the eastern part of Kham. The local warlord from Nyarong had specifically targeted lamas in his campaign, and Central Tibetan troops again had to fight without the aid of Qing troops.¹⁹ Whether the weather or these wars can be blamed for this sustained rise in the CDR is, as yet, unclear.

It is not possible to calculate death rates from 1920 onward because there are lamas born after that year who were still alive in 2023 (the last year of observation) and are therefore not in the dataset. Therefore, Figure 4 shows the annual number of deaths of lamas aged 20+ years from 1920 to 1980 rather than the CDR to highlight the catastrophic late 1950s.

¹⁸ Gyal 2024.

¹⁹ Tsomu 2015; Qian 2024.

Figure 4. Lama Deaths by Year, 1920-1980



In 1951 China asserted control over Tibet through military intervention but allowed the Dalai Lama and his administration in Central Tibet to remain in place for the time being. In 1956 an armed rebellion broke out in Kham and Amdo when China instituted socialist reforms. Monks and some monasteries that participated in the revolt suffered military consequences such as the siege and bombardment of Litang Monastery,²⁰ events that probably contributed to elevating lama mortality in 1956. For the memories of one survivor who witnessed firsthand the destruction of a monastery and most of its population, which could only be published as fiction in the People's Republic of China, see the account by Naktsang Nulo, *My Tibetan Childhood: When Ice Shattered Stone*. The rebellion intensified across Tibet in 1958, as represented in Tsering Dondrub's *The Red Howling Wind*, based on oral interviews of Tibetans who lived through the time.²¹ In March of 1959, rebellion spread to Lhasa, when the Dalai Lama fled for exile in India. Afterwards, China unleashed widespread violence against Tibetans, especially religious institutions and the nobility.

To understand just how high mortality was for lamas in the late 1950s, 27 lamas died in 1958 and 43 in 1959 compared to an average of

²⁰ Goldstein 2014.

²¹ Tshe ring don grub's 2019 *Tempête Rouge* is an unpublished manuscript described and partially translated by Françoise Robin (2020). An English translation of this work is forthcoming (Döndrub 2025).

seven deaths annually from 1920 to 1980 (six when excluding 1958 and 1959). For example, Jikdrel Jangchub Dorje (1935-1959) suffered a fatal wound during a rebellion against his monastery's occupiers,²² and Pema Tsewang Gyatso (1902-1959) died in jail shortly after being arrested by Chinese authorities.²³ The average longevity of lamas who passed away in those years was 55.0 and 53.4 years respectively, well below the mean longevity for all previous time periods. To exacerbate matters Mao implemented the Great Leap Forward in 1958-1961. The deleterious policies led to starvation and a doubling of mortality in provinces like Sichuan and Qinghai where large segments of the Tibetan population lived.²⁴ Maps of famine severity indicate that some Tibetan areas were harshly impacted,²⁵ which may also have contributed to the exceptionally high number of deaths among lamas from 1958 to 1960. Fictional accounts based on memories of these times of famine are the only way that Tibetans in Tibet can report about the brutality that they lived through.²⁶ A few Tibetans who escaped these brutal years were also interviewed by the International Commission of Jurists providing direct testimony of these turbulent times.²⁷

In summary, with the exception of the earliest centuries considered in Figures 1-3, Tibetan lamas had a life expectancy at age 20 of between 39 to 42 years, meaning that they could expect to live on average to roughly 59 to 62 years of age. We were able to correlate some, but not all, of the fluctuations with known events that plausibly increased mortality. Notably, the end of the 1950s was an especially bad time for Tibetan lamas.

How does the life expectancy of Tibetan lamas compare with their laymen counterparts?

To address this question, we focus on the time period 1900-1919 because it is close in time to known mortality parameters among the general Tibetan population. The first half of the twentieth century preceded the onset of demographic transitions in Tibetan societies which did not begin until the 1980s.²⁸ Prior to this time, public health innovations were localized and sporadic.

²² Norbu 1986.

²³ Samten Chhoshphel, "Pema Tsewang Gyatso," *Treasury of Lives*, accessed June 28, 2024, <http://treasuryoflives.org/biographies/view/Pema-Tsewang-Gyatso/5099>.

²⁴ Peng 1987.

²⁵ Garnault 2014, 324, 334.

²⁶ Nulo 2014; Robin 2020.

²⁷ International Commission of Jurists 1960.

²⁸ Childs et al. 2005.

Two studies reached similar conclusions about mortality in Tibetan societies during the mid-1900s. One was based on a 1958 district-level enumeration of government subjects, the other on reverse projections using data from China's 1982 census.²⁹ Tibetan societies in the mid-twentieth century had infant mortality rates ranging from 180-220 deaths per 1,000 live births, and a correspondingly low life expectancy at birth of between 30 and 35 years. These parameters were used to establish that the Tibetan mortality pattern best fit Coale and Demeny's South Level 6 model life table giving a life expectancy at birth for males of 32.5 years.³⁰ Table 3 compares lamas and laymen with respect to future life expectancy at ages 20, 35, and 50.

Table 3. Comparison of future life expectancy and expected age at death at ages 20, 35, and 50 years for Tibetan lamas born 1900–1919 and the male Tibetan population in the mid-twentieth century

	Lamas born 1900-1919		Male Tibetans in mid-twentieth century		
Age (x)	Future life expectancy	Expected age at death	Future life expectancy	Expected age at death	Difference
20	43.0	63.0	37.3	57.3	5.7 years
35	30.4	65.4	27.7	62.7	2.7 years
50	20.9	70.9	17.7	67.7	3.2 years

The comparison in Table 3 reveals that lamas lived longer than laymen which should come as no surprise; they did not participate in arduous agricultural labor and hazardous activities like herding large bovines, they often had wealth connected to their status and institutions, and many lived somewhat separated from the broader population which could buffer them from infectious diseases. Medical training in Tibet was largely family-based until the 17th century, when the Gelukpa tradition started establishing monastic medical colleges. By the 18th century, there were over thirty such colleges, which continued to multiply (adding another 140 or so by the 20th century), especially in Mongol areas. The monks at the monastic colleges would train in memorizing the Four Tantras medical text and learn to collect medical substances. Therefore, it is likely that those resident at or affiliated with monasteries that hosted medical colleges benefited from such knowledge, as well as meditative and yogic practices that were part of the shared

²⁹ Childs 2003, 2008; Spoorenberg 2019.

³⁰ Childs 2003.

training of all monasteries.³¹ On the other hand, many lamas travelled extensively and continually exposed themselves to crowds by giving public teachings and blessings which could increase their risk of contracting infectious diseases. Overall, the data in Table 3 suggests that, with respect to longevity, the benefits of being a lama outweighed the risks.

How does the life expectancy and longevity of Tibetan lamas compare with elite populations elsewhere?

Mortality patterns of certain populations in historical Chinese societies are well understood thanks to some innovative scholarship.³² For example, Lee and Campbell used household registers of a banner in Liaoning to reconstruct mortality among a population of elite peasants. To facilitate the comparison with Lee and Campbell's findings, Table 4 shows the average life expectancy at age 20 (e_{20}) among Tibetan lamas based on life tables calculated for roughly equivalent time periods.

Table 4. Life Expectancy at Age 20:
Tibetan Lamas Compared to Liaoning Elite Peasants

Tibetan Lamas		Liaoning Peasants		
Birth Cohort	e_{20}	Birth Cohort	e_{20}	Difference
1650-1749	40.2	1644-1739	29.9	10.3 years
1750-1849	39.2	1740-1839	29.5	9.7 years
1850-1899	39.3	1840-1899	32.2	7.1 years

The comparison in Table 4 reveals that life expectancy at age 20 for Tibetan lamas was roughly 10 years longer than for Liaoning's elite peasants from 1650-1749, and 7 years longer during the late nineteenth century.

Other scholars used genealogical records to study Chinese historical demography. For example, Zhao calculated life expectancy at age 30 for two lineages of males belonging to the upper or upper middle classes.³³ To facilitate the comparison with Zhao's findings, Table 5

³¹ Stacey Van Vleet, personal communication, July 26, 2024.

³² For example, Lee et al. 1993; Lee and Campbell 1997; Zhao 1997; Campbell and Lee 2020.

³³ Zhao 1997.

shows the average life expectancy at age 30 ($[e_{(30)}]$) among Tibetan lamas based on life tables calculated for roughly equivalent time periods.

Table 5: Life Expectancy at Age 30:
Tibetan Lamas Compared to Chinese Lineage Members

Birth Cohort	Tibetan Lamas	Wang's Lineage	49 Lineages	Difference
1550-1599	33.8	31.5	29.6	2.3 and 4.2 years
1600-1649		32.8	29.4	1.0 and 4.4 years
1650-1699	32.3	31.2	29.5	1.1 and 2.8 years
1700-1749		29.8	28.8	2.5 and 3.5 years

The evidence in Table 5 supports the conclusion that Tibetan lamas experienced slightly longer lives than upper-class lineage members of Chinese populations from the mid-1500s through the mid-1700s.

Turning to Europe, historians have reconstructed mortality among various sub-populations including monks, scholars, advocates, Popes, members of the nobility, famous people, and artists.³⁴ Table 6 compares life expectancy at age 20 between Tibetan lamas and various elite groups in Europe.³⁵ In this and all subsequent tables each shaded cell indicates a time when Tibetan lamas had longer life expectancies than their counterparts. Unshaded cells represent times when life expectancy was roughly equal or favor the European groups.

The comparison reveals that, prior to the 1800s, Tibetan lamas tended to live longer than British dukes, families of British peers, French dukes and peers, and European rulers. From the 1800s onwards, however, all these elite groups lived roughly as long or longer than Tibetan lamas. The finding may reflect the earlier onset in Europe of medical and public sanitation improvements that had a significant impact in reducing mortality from communicable diseases, especially in cities.³⁶

³⁴ On monks see La Bras and Dinét 1980; Hatcher 1986; Luy 2003; Hatcher et al. 2006; on scholars see Andreev et al. 2007; Stelter et al. 2021; on advocates see Houston 1992, 1995; on Popes see Carrieri and Serraino 2005; on European nobility see Cummins 2017; on famous people see de la Croix and Licandro 2015; on artists see Carrieri and Serraino 2005; van Poppel et al. 2013.

³⁵ The data in Table 6 is drawn from Woods and Williams 1995 and van Poppel et al. 2013.

³⁶ Dyson 2011.

Table 6. Comparison of future expectation of life at age 20 years (e_{20}), Tibetan lamas and selected elite European populations, birth cohorts 1100–1299 to 1900–1919

Birth cohort	Tibetan lamas	English gentry	Milanese patricians	Genevan bourgeoisie	British dukes	Scottish advocates	Families of British peers	French dukes and peers	European rulers
1100-1299	46.4								
1300-49	44.8								
1350-99					31.5				
1400-49					31.0				
1450-99									
1500-49	42.2	43.0		35.8	30.5	31.7	31.1	27.7	
1550-99	40.2	44.0	37.0	36.0		33.0	29.3	34.5	27.1
1650-99		36.0	43.5	40.3	32.8	38.1	30.0		
1700-49	42.0	37.1			41.8	35.5			
1750-99	39.2	49.0	40.0	40.8	42.7	41.9	39.2		35.8
1800-49	39.3	46.0	39.0	41.3	43.0		41.2		39.3
1850-99	42.8		44.5	45.0	45.7		43.4		
1900-19	43.0								

More relevant comparisons can be drawn between Tibetan lamas and populations of European scholars and monks who lived somewhat parallel lives because they were highly vested in learning (monks and scholars) or pursued religious vocations (monks). Table 7 compares life expectancy at age 50 between Tibetan lamas and members of the British Royal Society of scholars.³⁷ British scholars fared considerably better. They lived five to six years longer in the late 1600s and 1700s. The difference increased to nearly 10 years by the early twentieth century.

Table 7. Comparison of future expectation of life at age 50 years (e_{50}), Tibetan lamas and members of the British Royal Society, birth cohorts 1650–1699 to 1900–1919

Birth cohort	Tibetan lamas	British Royal Society members	Difference
1650-99	17.1	22.3	-5.2
1700-49		22.7	-5.6
1750-99	16.3	22.6	-6.3
1800-49	15.8	23.3	-7.5

³⁷ Andreev et al. 2007.

1850-99	17.2	25.6	-8.4
1900-19	20.9	30.4	-9.5

Several studies examined mortality in monastic orders in Canterbury, Durham, Westminster, and Christ Church, England and St-Maur in France.³⁸ Compared to commoners monks were well fed and had access to relatively good medical care, factors that could help increase their lifespans. But they also interacted intensively with the public, which could have increased their exposure to epidemic diseases. Table 8 compares future life expectancy at age 25 by birth cohort.

Table 8. Comparison of future expectation of life at age 25 years (e_{25}), Tibetan lamas and selected orders of monks, birth cohorts 1300–1349 to 1700–1749

Birth cohort	Tibetan lamas	Canterbury monks	Durham monks	Westminster monks	Christ Church monks	St-Maur monks
1300-49	40.1					
1350-99		30.3	32.6	26.1	27.6	
1400-49		26.3	27.6	22.0	24.4	
1450-99				22.5	23.7	
1500-49						
1550-99						35.1
1600-49						35.8
1650-99						36.4
1700-49		36.0				

The comparison reveals that, through the 1300s and 1400s, life expectancy was substantially longer – as much as 18 years – for Tibetan lamas than for English monks. In contrast, life expectancy of Tibetan lamas and France's St-Maur monks were more similar during the late 1500s and 1600s. However, a potential bias is that the European databases included all monks within their respective institutions, whereas the Tibetan database is comprised of lamas who typically had a higher standard of living than rank and file monks. A comparison with other elite clerics is therefore more appropriate. Longevity from age 25 onward among Cardinals of the Catholic Church 1650-1849 was between

³⁸ Hatcher 1986; Hatcher et al. 2006; La Bras and Dinét 1980.

70 and 75, much higher than Tibetan lamas experienced during the same time period.³⁹

Conclusions

The objective of this contribution was to answer several questions concerning the life spans of Tibetan lamas over time and compared to other populations. To summarize the findings, (1) all lamas in the dataset who had already survived to age 20 had an average longevity of 62.4 years and life expectancy of 62.3 years. (2) Longevity and life expectancy fluctuated over time with the low point being in the 1700s. (3) Some time periods witnessed elevated levels of mortality that could plausibly be linked to wars and natural disasters, the most extreme being the late 1950s. (4) Lamas had a life expectancy at age 20 that was close to six years longer than their laymen counterparts, indicating that they were somewhat insulated from the rigors of life in a high-altitude environment. (5) Tibetan lamas lived longer than some subpopulations in Chinese and European societies but shorter than others.

Any first attempt to document mortality patterns in a society that lacks detailed records will have limitations. Notoriety bias may have skewed the sample of lamas towards individuals who lived longer and thereby had a greater chance of making it into the dataset based on literary accomplishments or other marks they left on society. If this is the case, then the longevity and life expectancy estimates would err on the high side. Given such uncertainty, we present the above findings as tentative and in need of verification. Consider them to be benchmarks, provisional assessments in search of further refinement. Although we expect that higher precision can be obtained with larger and more robust datasets, we are confident that the broad trends sketched above, if not the exact details, will pass the test of time.

This study contributes to Inner Asian history and Tibetan history by documenting fluctuating mortality patterns among lamas in association with known historical events. At this point, much is known about the entanglement of Tibetan politics and religion that generated both alliances and contentious relations across the Tibetan Plateau and with neighboring polities. Scholars have documented periodic episodes of open warfare and, to a lesser extent, natural disasters including climatic events. However, to our knowledge, this is the first attempt to link disruptive events with demographic trends. Although this study centers on lamas, scholars working elsewhere have recognized that elite populations are often demographic harbingers for

³⁹ de la Croix and Licandro 2015, 274.

what transpires at a broader societal level.⁴⁰ Prior to 1959 lamas occupied the apex of a political-religious system that supported 'mass monasticism' whereby a high percentage of the population, roughly 12 percent during the eighteenth and nineteenth centuries, lived as celibate monks and nuns.⁴¹ At the very least, the above analysis may reflect long-term mortality patterns within Tibetan monastic populations—a substantial subset of the entire population. Broadening the scope, if lama longevity is a reliable barometer for demographic trends among the general populace, then the above estimates are a good starting point for understanding how political events, epidemics, and natural disasters impacted short and long-term mortality patterns across the Tibetan Plateau. Clearly, additional research is required to gain a more reliable and comprehensive picture of demographic trends throughout Tibetan history. Consider this a starting point.

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References

- Ambraseys, N. and Jackson, D. 2003. "A Note on Early Earthquakes in Northern India and Southern Tibet." *Current Science* 84(4): 570–582.
- Andreev, E.M., Jdanov, D., Shkolnikov, V.M., and Leon, D.A. 2011. "Long-term Trends in the Longevity of Scientific Elites: Evidence from the British and the Russian Academies of Science." *Population Studies* 65(3): 319–334.
- Barnett, R., Weiner, b., and Robin, F. eds. 2020. *Conflicting Memories: Tibetan History under Mao Retold*. Leiden: Brill.
- Bushell, W.C., and Theise, N.D. 2009. "Toward a Unified Field of Study: Longevity, Regeneration, and Protection of Health through Meditation and Related Practices." *Annals of the New York Academy of Science* 1172: 5–19.
- Campbell. C.D., and Lee, J.Z. 2020. "Historical Chinese Microdata: 40

⁴⁰ Houston 1995; Andreev et al. 2007; de la Croix and Licandro 2015; Stelter et al. 2021.

⁴¹ Goldstein 1998; Ryavek and Bowman 2021.

- Years of Dataset Construction by the Lee-Campbell Research Group." *Historical Life Course Studies* 9: 130–157.
- Carrieri, M.P., and Serraino, D. 2005. "Longevity of Popes and Artists between the 13th and the 19th Century." *International Journal of Epidemiology* 2005(34): 1435–1444.
- Childs, G. 2003. "Polyandry and Population Growth in a Historical Tibetan Society." *The History of the Family* 8(3): 423–444.
- Childs, G. 2008. *Tibetan Transitions: Historical and Contemporary Perspectives on Fertility, Family Planning, and Demographic Change*. Leiden: Brill.
- Childs, G., Goldstein, M.C., Jiao, B., and Beall, C.M. 2005. "Tibetan Fertility Transitions in China and South Asia." *Population and Development Review* 31(2): 337–349.
- Clark, P. M., Tran-Duy, A., Roope, L., Stiles, J. and Barnett, A. 2022. "The Comparative Mortality of an Elite Group in the Long Run of History: an Observational Analysis of Politicians from 11 Countries." *European Journal of Epidemiology* 37:891–899.
- Cummins, N. 2017. "Lifespans of the European Elite, 800–1800." *Journal of Economic History* 77: 406–439.
- de la Croix, D., and Licandro, O. 2015. "The Longevity of Famous People from Hammurabi to Einstein." *Journal of Economic Growth* 20: 263–303.
- Döndrup, T. 2025 (forthcoming). *The Red Wind Howls: A Novel*, translated by Christopher Peacock. New York: Columbia University.
- Dyson, T. 2011. "The Role of the Demographic Transition in the Process of Urbanization." *Population and Development Review* 37:34–54.
- Flinn, M. W. 1974. "The Stabilisation of Mortality in Pre-industrial Western Europe." *Journal of European Economic History* 3(2): 285–318.
- Gamble, R. Powers, J. and Hackett, P. 2022. "Central Tibetan Famines 1280–1400: When Premodern Climate Change and Bad Governance Starved Tibet." *Bulletin of SOAS* 85(2):215–233.
- Garnaut, A. 2014. "The Geography of the Great Leap Famine." *Modern China* 40(3) :315–348.
- Goldstein, M.C. 1998. "The Revival of Monastic Life in Drepung Monastery." In *Buddhism in Contemporary Tibet: Religious Revival & Cultural Identity*, edited by M. Goldstein and M. Kapstein, 15–52. Berkeley, U. of California Press.
- Goldstein, M.C. 2014. *A History of Modern Tibet, Volume Three, 1955–1957: The Storm Clouds Descend*. University of California Press.
- Gyal, P. 2024. "The Sociopolitical Impact of a Natural Disaster: The Snow Disaster of the Earth-Rat Year (1828) in Northwestern Tibet." *Climates and Cultures in History* 1(1).

- <https://doi.org/10.3197/whpcch.63842135436333>
- Hatcher, J. 1986. "Mortality in the Fifteenth Century: Some New Evidence." *Economic History Review* 39(1): 19-38.
- Hatcher, J., Piper, A.J., and Stone, D. 2006. Monastic mortality: Durham Priory, 1395-1529." *Economic History Review* 59: 667-687.
- Houston, R. A. 1992. "Mortality in Early Modern Scotland: The Life Expectancy of Advocates." *Continuity and Change* 7(1): 47-69.
- Houston, R. A. 1995. "Writers to the Signet: Estimates of Adult Mortality in Scotland from the Sixteenth to the Nineteenth Century." *Social History of Medicine* 8(1): 37-53.
- International Commission of Jurists. 1960. *Tibet and the Chinese People's Republic: A Report to the International Commission of Jurists*. Geneva: International Commission of Jurists.
- Jackson, D. 2002. "The Great Western Himalayan Earthquake of 1505: A Rupture in the Central Himalayan gap?" In *Tibet, Past and Present*, edited by H. Blezer, 147-160. Leiden: Brill.
- Kobayashi, R., and Travers, A. 2025 (forthcoming). *The Many Wars of the Ganden Phodrang (1642-1959)*. Lexington Press.
- Le Bras, H., and Dinot, D. 1980. "Mortalité des laïcs et mortalité des religieux: les Bénédictins de St-Maur aux XVIIe et XVIIIe siècles." *Population* 35(2): 347-384.
- Lee, J.Z., and Campbell, C.D. 1997. *Fate and Fortune in Rural China: Social Organization and Population Behaviour in Rural Liaoning, 1774-1873*. Cambridge: Cambridge University Press.
- Lee, J. Z., Campbell, C.D., and Wang, F. 1993. "An Introduction to the Demography of the Qing Imperial Lineage, 1644-1911." In *Old and New Methods in Historical Demography*, edited by R. Schofield and D. Reher, 361-382. Oxford: Oxford University Press.
- Lewis, T.T., and Jamspal, L. 1988). "Newars and Tibetans in the Kathmandu Valley: Three New Translations from Tibetan Sources." *Journal of Asian and African Studies* 36:187-211.
- Luy, M. 2003. "Causes of Male Excess Mortality: Insights from Cloistered Populations." *Population and Development Review* 29(4): 647-676.
- McGrath, W.A. 2021. "The Princess and the Plague: Explaining Epidemics in Imperial Tibet, Khotan, and Central Asia." *Journal of the American Oriental Society* 141(3): 637-660.
- Norbu, J. (1986 [1979]). *Warriors of Tibet: The Story of Aten and the Kham-pas Fight for the Freedom of Their Country*. London: Wisdom Publications.
- Nulo, N. 2014. *My Tibetan Childhood: When Ice Shattered Stone*. Translated by Cargill, A., and Lhamo, S. Durham: Duke University Press.

- Peng, X. 1997. "Demographic Consequences of the Great Leap Forward in China's Provinces." *Population and Development Review* 13(4): 639-670.
- Pomplun, T. 2010. *Jesuit on the Roof of the World: Ippolito Desideri's Mission to Eighteenth-Century Tibet*. New York: Oxford University Press.
- Qian, Q. 2024. "Benign" Bellicosity: Tibetan Military History and the Making of Ganden Podrang (1642–1793). Doctoral Dissertation. Columbia University.
- Ramble, C., and Drandul, N. 2019. *Tibetan Sources for a Social History of Mustang, Nepal. Vol. 3: The Archives of Kun bzang chos gling Convent*. Andiast: International Institute for Tibetan and Buddhist Studies.
- Robin, F. 2020. "The Events of Amdo '58 and the Emergence of Literary Postmemory among Tibetans." In *Conflicting Memories: Tibetan History under Mao Retold*, edited by R. Barnett, B. Weiner, and F. Robin, 399-440. Leiden: Brill.
- Ryavec, K.E. and Bowman, R.N. 2021. "Comparing Historical Tibetan Population Estimates with the Monks and Nuns: What was the Clerical Proportion?" *Revue d'Etudes Tibétaines* 61: 209-231.
- Schuh, D. 1988. *Das Archiv des Klosters bKra-shis-bsam-gtan-gling von sKyid-grong*. Bonn: VGH Wissenschaftsverlag.
- Smith, E.G. 2001. *Among Tibetan Texts: History and Literature of the Himalayan Plateau*. Somerville: Wisdom Publications.
- Sperling, E. 2001' "'Orientalism' and Aspects of Violence in the Tibetan Tradition." In *Imagining Tibet: Perceptions, Projections, and Fantasies*, edited by T. Dodin and H. Rather, 317-329. Boston: Wisdom Publications.
- Spoorenberg, T. 2019. "Mortality, Fertility, and Population Growth in Historical Tibet." *Population* 74(4): 541–552.
- Stelter, R., de la Croix, D., and Myrskylä, M. 2021. "Leaders and Laggards in Life Expectancy among Europeans: Scholars from the Sixteenth to the Early Twentieth Century." *Demography* 58(1): 111–135.
- Thokmay, Darig 2024. Tibetans, Mongols, and Manchus: Factionalism and Shifting Power: Dynamics in Early Eighteenth-Century Tibet (1697–1705). Doctoral Dissertation, Oxford University.
- Tuttle, G. 2016. "The Role of Mongol Elite and Educational Degrees in the Advent of Reincarnation Lineages in 17th Century Amdo." In *The Tenth Karmapa & Tibet's Turbulent Seventeenth Century*, edited by K. Debreczeny, and G. Tuttle, 235-262. Chicago: Serindia Publications.
- Tuttle, G. 2017. "Pattern Recognition: Tracking the Spread of the Incarnation Institution through Time and across Tibetan Territory.

- "*Revue d'Etudes Tibétaines* 38: 29-64. https://himalaya.socanth.cam.ac.uk/collections/journals/ret/pdf/ret_38_03.pdf;
- van Poppel, F., van de Kaa, D.J., and Bijwaard, G.E. 2013. "Life Expectancy of Artists in the Low Countries from the Fifteenth to the Twentieth Century." *Population Studies* 67(3): 275-292.
- Woods, R., and Williams, N. 1995. "Must the Gap Widen Before It Can Be Narrowed? Long-term Trends in Social Class Mortality Differentials." *Continuity and Change* 10(1): 105-137.
- Yongdan, L. 2021. "Misdiagnosis or Political Assassination? Re-examining the Death of Panchen Lama Lobsang Palden Yeshe from Smallpox in 1780." *Revue d'Etudes Tibétaines* (58): 60-80.
- Tsomu, Y. 2015. *The Rise of Gönpö Namgyel in Kham: The Blind Warrior of Nyarong*. Lanham, MD: Lexington Books.
- Zhao, Z. 1997. "Long-term Mortality Patterns in Chinese History: Evidence from a Recorded Clan Population." *Population Studies* 51: 117-127.

