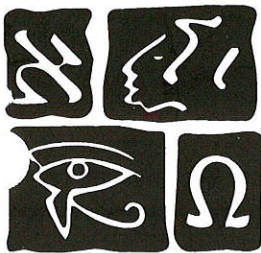




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Transcript

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James E. Smith

A Study of Population Size in the Book of Mormon

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Summary:

James Smith lists the population numbers given in the text of the Book of Mormon, and discusses what the possible population growth might have been. Comments in the Book of Mormon about multiplying exceedingly and filling the land are indicative that Nephite fertility was indeed high. He discusses the possibility that other peoples were assimilated into the Nephite and Lamanite groups.

Transcript
Book of Mormon, Society

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Transcript of a lecture given at the FARMS Book of Mormon Lecture Series.

A Study of Population Size in the Book of Mormon

James E. Smith¹

On its title page, The Book of Mormon presents itself to us as “an abridgment of the record of the people of Nephi and also of the Lamanites” (Title Page). Engraved on metal plates by Mormon in the late fourth century, Mormon’s son Moroni added an abridged “record of the people of Jared” (Title Page) and other writings. Then Moroni buried the plates in about A.D. 420.

Some fourteen centuries later the resurrected Moroni directed Joseph Smith to the plates which he found in a hill in upstate New York. Joseph translated a portion of the record, returned the plates to Moroni, and in 1830 published his translation as The Book of Mormon.²

Latter-day Saints believe the Book of Mormon contains a record of some important events which took place somewhere in the ancient Americas.³ One of Mormon’s key purposes was to show God’s action in history, or in his own words, “to show unto the remnant of the House of Israel what great things the Lord hath done for their fathers” (Title Page). These “great things the Lord hath done” are recounted in numerous historical narratives, such as those describing Lehi’s exodus from the Old World, the Liahona compass miraculously guiding Lehi’s ship (1 Nephi 18:12-22), Alma’s conversion from among the wicked priests and his founding of the Church (Mosiah 18:1-18), the conversion and liberation of Limhi’s people (Mosiah 22:9-13), the ministry of the resurrected Jesus in Zarahemla (3 Nephi 11-26), and the preservation of the sacred records for future generations (Words of Mormon 1:1-11; Mormon 1:1-4; 8:1-6).

These and many other historical narratives in the Book of Mormon

¹The author thanks Kathy Robison, Lee Robison, and Margaret Smith for comments that improved the ideas and text of this paper. Angus Crane greatly facilitated this research. P. Smith digested an early version. Responsibility for any facts or views expressed herein rests solely with the author.

²For the history of the coming forth of the Book of Mormon see R. L. Bushman, *Joseph Smith and the Beginnings of Mormonism* (Urbana: University of Illinois Press, 1984).

³See the modern introduction to the 1981 official LDS edition which affirms the book is “a record of God’s dealings with the ancient inhabitants of the Americas.” The Reorganized Church of Jesus Christ of Latter Day Saints also accepts the Book of Mormon as scripture and history. For example, an RLDS edition opens its “Invitation to Read the Book of Mormon” with the question, “Have you ever wondered about the source of the prehistoric ruins now being discovered on the American continents?” The Book of Mormon, with foreword by Marcus Bach (New York: Jove Publications, 1973), xi.

include numerous historical details such as proper names of people and places, carefully dated events, recitals of speeches and letters, explicit descriptions of warfare and political intrigue, and details of personal religious experiences.

Latter-day Saints base their belief in the Book of Mormon on a personal spiritual witness received as described by Moroni (Moroni 10:4-5). In witnessing to the truth of the Book of Mormon, believers typically affirm the book's religious teachings and its historical factuality—its “historicity”—as a record of real people and actual events in the ancient Americas.

In order to further understand the historical dimensions of the book, Latter-day Saint scholars have examined it from the perspectives of linguistics, geography, archaeology, history, and other branches of scholarship.

Today we'll discuss the Book of Mormon from the perspective of the scholarly discipline known as “historical demography.” Demography is the study of the size of human populations, their growth or decline in numbers, and the characteristics of these human populations. Since the Book of Mormon tells about certain groups of ancient people and how they fared over time, perhaps we can use some ideas and methods from historical demography to expand our understanding of what the size of these populations might have been.

In today's discussion we'll principally deal with the group known as the Nephites, starting with the first person called Nephi, who was Lehi's son, and who lived in the sixth century B.C. We will note a few points about the possible population history of those who called themselves Nephites beginning at that early time and then down to the time of Mormon. Mormon himself was a literal descendent of the first Nephi who lived a thousand years after the first Nephi had come to the New World.

In our discussion we will want to rely upon good information from the field of historical demography, and we will want to read the text of the Book of Mormon carefully. Most of all, we will want to recognize that good study and good scholarship always recognizes its own limits. We will not have all the answers all of the time. We need to remember that the Book of Mormon was not intended to be a modern scientific history, and it certainly was not written in order to inform us about population sizes and such things. Instead, like the Biblical record, the Book of Mormon is intended to convey a religious message of profound importance. So, if we choose to examine the Book from other perspectives, such as historical demography, we will often be dealing with limited historical information, and we will be trying to make reasonable educated guesses about a number of things that the authors did not tell us directly. As an ancient historian who has studied the population

of ancient Rome puts it, we will need to rely upon whatever bits of information are provided in the text along with “a certain degree of demographic sense, to decide what is probable or improbable.”

We should not expect quick and easy answers in the study of any ancient document. Let’s begin with the work!

Nephites, Lamanites, and Others: Traditional and Modern Views

The first rule of any demographic study is to define the population being studied. Nothing but confusion results from discussing populations unless we have some reasonably clear definition of what the population is. Modern demographers use geographic boundaries, citizenship, residence, ethnicity, gender, age, and other characteristics to define populations. But for populations in the past, particularly the distant past, there is no such statistical rigor. We are usually left to guess about precisely what an ancient author meant when referring to some population.

Let us go back more than a century to the earliest days of Book of Mormon study in Joseph Smith’s time to visit some ideas, and some changing ideas, about Book of Mormon populations held by Latter-day Saint students of the Book of Mormon.

During the nineteenth century the most influential view of Book of Mormon history was expressed by Orson Pratt. In an 1840 British missionary tract he wrote very matter-of-factly that Lehi crossed the “Pacific Ocean and landed on the western coast of South America.”⁴ The Nephites colonized the “northern parts of South America” and expanded into North America as well, while the Lamanites possessed the “middle and southern parts” of South America. After Jesus visited the Nephites, “the Nephites and Lamanites were all converted unto the Lord, both in South and North America.” By the fourth century, the Nephites were in North America and the Lamanites in South America, with wars between them at the Isthmus of Darien. These wars pushed the Nephites northward until they were finally exterminated at a great battle in what is now New York State. Some thirty years after he first published them, Pratt was still preaching these views in the Salt Lake Tabernacle, and they seem to have been pretty widely accepted. In general, these ideas make up what is called the “hemispheric view” of Book of Mormon history, since this view suggests that the events reported in the Book of Mormon involve some places in South America, some in Central America, and some in North America—the whole Western hemisphere.

⁴Orson Pratt, *Interesting Account of Several Remarkable Visions and of the Late Discovery of Ancient American Records* (Edinburgh: Ballantyne and Hughes, 1840), 16–21.

Orson Pratt's views also were incorporated into his footnotes for the 1879 LDS edition of the Book of Mormon. Although these footnotes were not an official Church interpretation of the book, they represented and reinforced what had become the prevalent hemispheric view of Book of Mormon history.

In the decade after the 1879 edition of the Book of Mormon was published, there were lively discussions about Book of Mormon geography, but the Church did not offer any official interpretation on these matters. In 1890 George Q. Cannon, then a counselor in the First Presidency, wrote in a Church periodical that the First Presidency would not issue an official statement on Book of Mormon geography since "the word of the Lord or the translation of other ancient records is required to clear up many points now so obscure."⁵

In preparing for the next edition of the Book of Mormon, a church committee heard different views on Book of Mormon geography but apparently did not find any theories about such things convincing enough to include in the footnotes to the new edition. So, when the new edition of the Book of Mormon was published in 1920, it omitted historical and geographical footnotes—a practice that has continued since.

As the twentieth century progressed, it became apparent that among students of the Book of Mormon the hemispheric view was being called into question, and revised a great deal. John Sorenson, an anthropologist at Brigham Young University who has studied the Book of Mormon extensively, has analyzed more than fifty published statements on Book of Mormon geography from the 1830s to the present. His analysis shows that before the early twentieth century the hemispheric view of Book of Mormon history was common. However, by the mid-twentieth century most students of the Book of Mormon believed its history took place almost entirely within the area we now call Central America, or Mesoamerica. Today almost all writers on Book of Mormon geography agree that Lehi's landing place, the narrow neck of land, the lands northward and southward, and Mormon's Hill Cumorah were situated somewhere in Central America. Recently, John Sorenson has himself suggested a specific Mesoamerican setting for the Book of Mormon involving roughly a few hundred square miles.

Now let's consider what some of these views of Book of Mormon history have to do with populations in the Book of Mormon. According to the hemispheric view, the American continents were empty of people when Jared's party arrived. When the Jaredites self-destructed, Lehi's and Mulek's recent immigrant groups were left to repopulate the land. This would imply that all pre-Columbian inhabitants of the Americas, including all of the

⁵Ibid, 17.

populations of the Olmec, Maya, Inca, Aztec, and other North and South American native populations, and their descendants down to modern times, grew from the three Book of Mormon migrations.

Perhaps this is possible, but it does not seem likely from the archaeological and other scientific evidence, thus the shift toward the view that perhaps the stage of action for the Book of Mormon was on a more limited scale. In 1927 Janne Sjodahl wrote that "students should be cautioned against the error of supposing that all the American Indians are the descendants of Lehi, Mulek, and their companions."⁶ Sjodahl believed that the Jaredite population may not have been completely wiped out, and also that it was "not improbable that America has received other immigrants from Asia and other parts of the globe."⁷ In 1938 a Church Department of Education study guide for the Book of Mormon told students that "the Book of Mormon deals only with the history and expansion of three small colonies which came to America and it does not deny or disprove the possibility of other immigrations, which probably would be unknown to its writers."⁸ The study guide further noted that "all the Book of Mormon text requires" is "Hebrew origin for at least a part of [Native American] ancestry."⁹

At mid-century Hugh Nibley was saying that other populations unknown to Book of Mormon peoples could have lived in the Americas. Thus, "once we have admitted that all pre-Columbian remains do not have to belong to Book of Mormon people . . . the problem of the Book of Mormon archaeologist, when such appears, will be to find in America things that might have some bearing on the Book of Mormon, NOT to prove that anything and everything that turns up is certain evidence for that book."¹⁰ In 1967 Nibley again argued that "the Book of Mormon offers no objections . . . to the arrival of whatever other bands may have occupied the hemisphere without its knowledge."¹¹ In 1980, Nibley was still teaching that it is a "simplistic reading of the book . . . [to] assume that the only people in the hemisphere before Columbus were either descendants of Lehi or of Jared

⁶J. M. Sjodahl, *An Introduction to the Study of the Book of Mormon* (Salt Lake City: Deseret News Press, 1927), 435.

⁷*Ibid*, 436.

⁸W. E. Berrett, M. R. Hunter, et al., *A Guide to the Study of the Book of Mormon* (Salt Lake City: Department of Education of the Church of Jesus Christ of Latter-day Saints, 1938), 48.

⁹*Ibid*, 53.

¹⁰ H. Nibley, *Lehi in the Desert and the World of the Jaredites* (Salt Lake City: Bookcraft, 1952), 253, emphasis in the original. Nibley notes that this view was also published earlier in the *Church Era* magazine April, 1947.

¹¹Hugh W. Nibley, *Since Cumorah*, (Salt Lake City: Deseret Book, 1967), 249; reprinted in *Since Cumorah*, 2d ed., vol. 7 in *The Collected Works of Hugh Nibley* (Salt Lake City: Deseret Book and F.A.R.M.S., 1988), 214.

and his brother."¹²

While Nibley allowed for other populations in the ancient Americas that were not known to the Book of Mormon, John Sorenson has opened the vistas even wider. Sorenson has asked, "When Lehi's party arrived in the land, did they find others there?" He answers yes, arguing it is "inescapable that there were substantial [non-Book of Mormon] populations in the 'promised land' throughout the period of the Nephite record, and probably in the Jaredite era also."¹³

Furthermore, Sorenson finds nothing in the Book of Mormon precluding Nephites and Lamanites from interacting with and assimilating other populations, perhaps from among surviving Jaredites or perhaps from indigenous people. He suggests that the term "Nephite" was a socio-political one not restricted to literal descendants of Lehi, that there could have been "lingering" Jaredite populations after the great Jaredite destruction, and that "the early Lamanites had to have included, or to have dominated, other people."¹⁴

Sorenson's work gets directly to the topic of population definitions in the Book of Mormon. The proper pursuit of this subject requires a comprehensive textual analysis of all of the references to various peoples made in the text of the Book of Mormon along with their possible meanings.¹⁵ No such analysis is at hand, although John Sorenson's article on Book of Mormon peoples in the *Encyclopedia of Mormonism* is a good starting point.

Although we do not have a comprehensive analysis on this subject, we can note that the terms *Lamanite* and *Nephite* are used several hundreds of times throughout the text of the Book of Mormon. Spanning a thousand years of history of the uses made of the term *Nephite* suggests a number of variant meanings, such as Jacob's use of *Nephite* to mean all "who are friendly to Nephi [the King of the Nephites]" (Jacob 1:13-14). Later the term describes a religious community including certain converted Lamanites (3 Nephi 2:14). Still later *Nephites* means a smaller population emerging from

¹²H. Nibley, "The Book of Mormon and the Ruins: The Main Issues" (Provo: F.A.R.M.S., 1980). It is worth noting the introduction to the current 1981 edition of the Book of Mormon which says the ancient Lamanites were "the principal ancestors of the American Indians," thus hinting at the presence of non-Book of Mormon peoples in the ancient Americas.

¹³J. L. Sorenson, "When Lehi's Party Arrived, Did They Find Others in the Land?" in *Journal of Book of Mormon Studies* 1 (Fall 1992), 1-34.

¹⁴*Ibid.*, 11, 19ff, 27.

¹⁵A useful summary of Book of Mormon peoples is in John Sorenson, "Book of Mormon Peoples," in *Encyclopedia of Mormonism*, edited by Daniel H. Ludlow (New York: Macmillan, 1992), 1:191-95.

a larger population in which all former “-ites” had apparently mixed together (4 Nephi 1:17,36). Such variant uses of the term *Nephite* do not seem to fit into a single definition of *Nephite* taken to mean only a literal descent group.¹⁶ To understand when the term *Nephite* refers to genealogical descent (e.g. descendants of Nephi, descendants of the Lehi-Mulek parties, etc.), and when it refers to some socio-political, religious, or other type of population requires textual analysis and interpretation. All of our readings of the text of the Book of Mormon, and especially readings that search for historical and demographic meanings, must be conditioned by this fact: the names given to populations in the Book of Mormon do not appear to have a single meaning at all times, and in all places.

Now let us turn to some ideas from historical demography that may help us to understand Book of Mormon populations. Historical demography tells us some very general things and some very specific things about populations in the past. Perhaps the most general thing we know is that populations in the past experienced high mortality, meaning that people died at relatively younger ages than we are used to in the modern world. Demographers summarize the average length of life with the so-called “expectation of life at birth” or “life expectancy” which is simply the number of years which a newborn child will live, on average, in a population. Before the 18th century, life expectancy was generally well below 40 years in most populations, and was sometimes as low as 25 or 30 years. By way of contrast, life expectancies today generally range from the high 60s into the 70s.

Although the chances of death were overall higher for everyone in the past, the main reason life expectancy was so much lower than today was severe infant mortality. In many historical populations between a fourth and a third of newborn infants died in their first year of life (compared with one to three percent today.)¹⁷

¹⁶See John C. Kunich, “Multiply Exceedingly: Book of Mormon Population Sizes,” *Sunstone* 14 (June 1990): 43. Kunich’s own use of the terms *Nephite* and *Lamanite* also lapses from a strictly genealogical use of the terms since he refers to the joint “Lehi-Mulek” groups as ancestors of the Lamanites and Nephites under the traditional interpretation. Since the Mulekites first encountered and merged with the Nephites some four centuries after both groups arrived in the New World, the original Mulek group hardly qualifies as ancestors of the first fifteen or twenty generations of Nephites even under the traditional interpretation. Nor is it clear how the traditional interpretation implies that Mulekites could have been ancestors of any Lamanites until well after the relatively late, and partial, conversion and assimilation of certain Lamanite peoples by the Nephites. This illustrates how difficult it is to attribute a strictly genealogical view to these terms.

¹⁷For examples of mortality patterns in the past see F. Hassan, *Demographic Archaeology* (New York: Academic Press, 1981), 116-23; M. L. Powell, *Status and Health in Prehistory: A Case Study of the Moundville Chiefdom* (Washington: Smithsonian Institution Press, 1988), 89-103; R. Storey, *Life and Death in the Ancient City of Teotihuacan* (Tuscaloosa: University of Alabama), 238-66; M. Flinn, *The European Demographic System* (Brighton: Harvester Press,

Now, because of high overall mortality and high infant mortality, these populations had to have high birth rates to keep their total numbers from dwindling. For example, in a population where female life expectancy was about 25 years, women surviving to age 50 need to have had about 5.1 live births on average in order to keep the population at level numbers.¹⁸ But as high as this number of births seems by modern standards, it is still well below the level of fertility which human populations have achieved in the past.¹⁹ In our example, if the women reaching age 50 had on average 5.8 instead of 5.1 births, the population would increase at the high growth rate of .5 percent per year, causing the population to double in size every 140 years. And a higher level of fertility, say 6.8 births, would result in a very high population growth rate of 1 percent per year for a doubling time of about 70 years. Thus it is possible, and it has sometimes happened, that populations in the past, even under severe mortality conditions, could grow, and sometimes grow rapidly.

We should note here that basic textbook diagrams of world population size often show a long flat line representing world population size for thousands of years followed by a rapidly increasing exponential curve for the last three centuries represented by the dotted line on this figure (see Figure 1). But we should not let this highly schematic view of population history lead us to the erroneous view that population growth in the past was really this flat for populations in the past. Historical demography reveals that patterns of population change in the past were complex, sometimes involving rapid growth and sometimes precipitous decline, with the general rule being change and fluctuation, shown by the gold line on the graph (see Figure 2), rather than only smooth, sluggish growth.

Looking at population trends at the regional level reveals uneven patterns of population growth and decline, as shown in Figure 2.²⁰ The European region shows an especially dramatic roller-coaster pattern of population growth and decline throughout its history. As historical demographer Massimo Livi-Bacci explains: "the tripling of population between the birth of Christ and the eighteenth century did not occur

1981).

¹⁸A. Coale and P. Demeny, *Regional Model Life Tables and Stable Populations* (New York: Academic Press, 1983), 57.

¹⁹H. Leridon, *Human Fertility: The Basic Components* (Chicago: University of Chicago Press), 106-10; M. N. Cohen, *Health and the Rise of Civilization* (New Haven: Yale University Press, 1989), 87-104; J. E. Knodel, *Demographic Behavior in the Past* (Cambridge: Cambridge University Press, 1988), 35-69.

²⁰J. N. Biraben "Essai sur revolution du nombre des hommes," *Population* 34 (1979), 16. See also M. Livi-Bacci, *A Concise History of World Population* (Oxford: Blackwell Publishers, 1992), 31.

Figure 1. World Population
BC 400 to 1600 AD

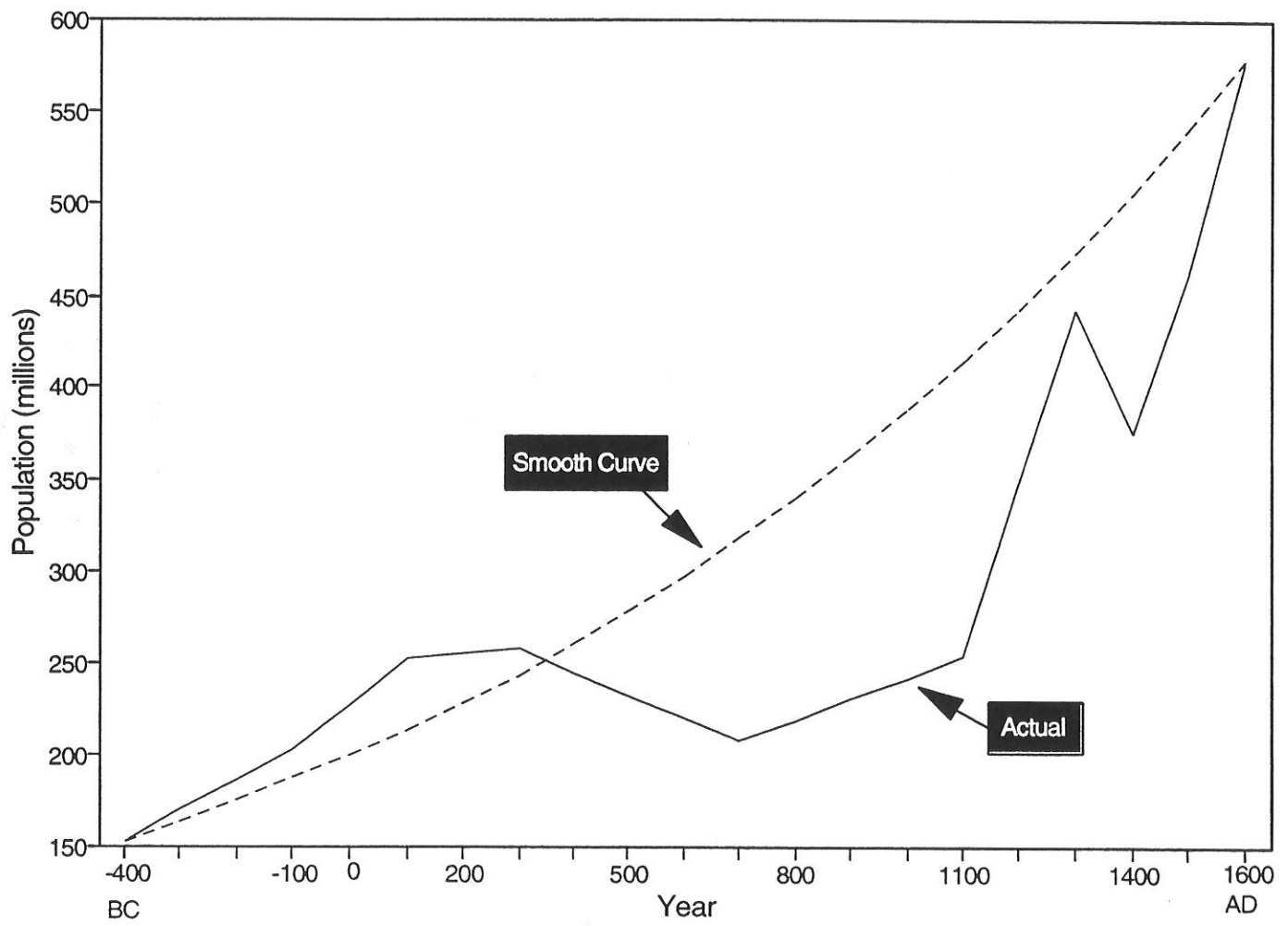
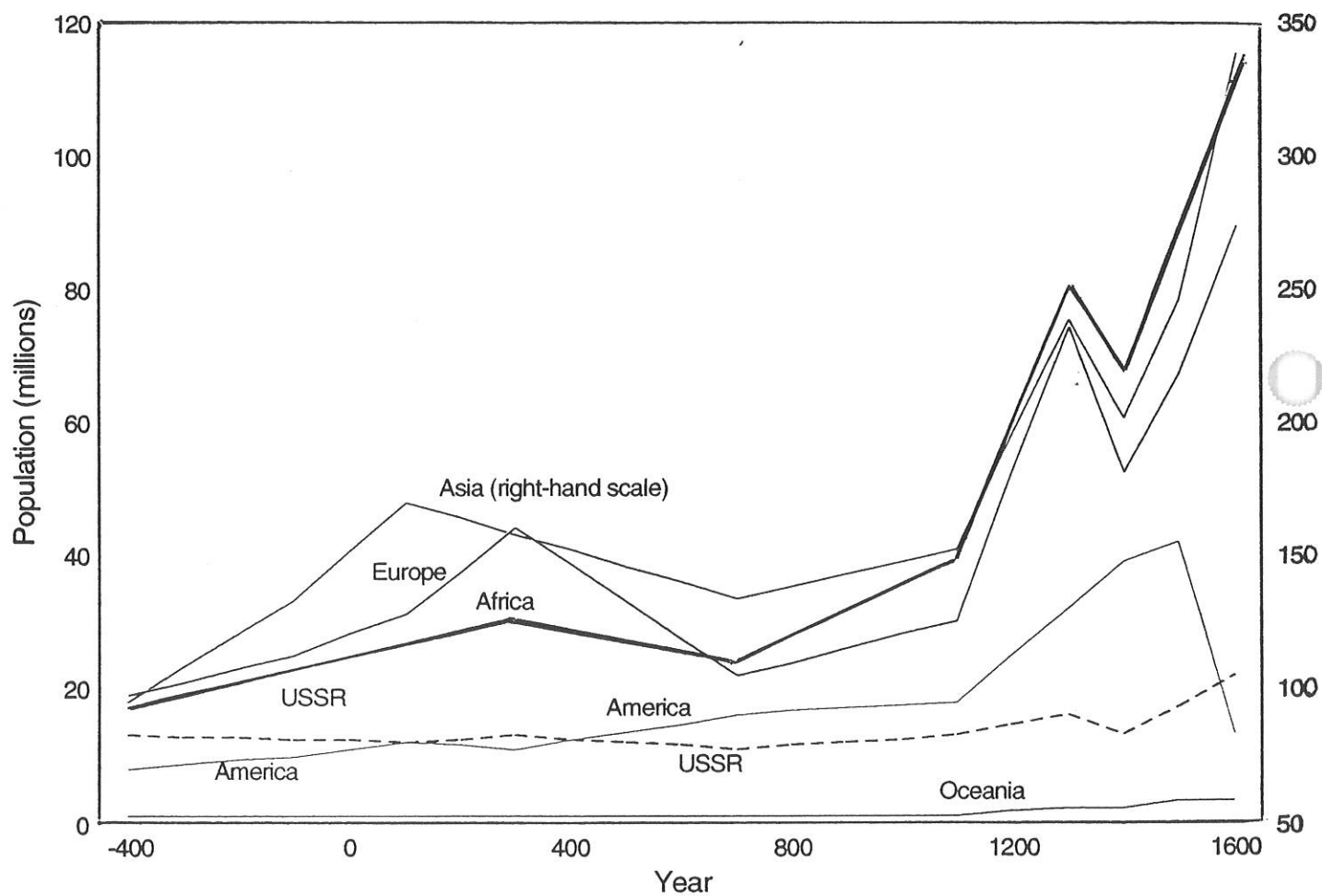


Figure 2. World Regional Populations
BC 400 to 1600 AD



gradually, but was the result of successive waves of expansion and crisis: crisis during the late Roman Empire and the Justinian era as a result of barbarian invasions and disease; expansion in the twelfth and thirteenth centuries; crisis again as a result of recurring and devastating bouts of the plague beginning in the mid-fifteenth to the end of the sixteenth century; and crisis or stagnation until the beginning of the eighteenth century."²¹

More localized regions also manifest jagged patterns of population growth, leveling, and decline. For example, the population size pattern for ancient Egypt shows a somewhat oscillating pattern of growth and decline. In Mesoamerica, there is also the sawtooth pattern of population growth and decline in the Valley of Oaxaca along with a similar but moderated pattern for the Basin of Mexico²² (see Figure 3). Moving down to smaller and more localized areas or villages, populations in the past also experienced ups and downs, sometimes growing rapidly and sometimes declining precipitously. In these smaller and more localized populations migration (in or out) as well as mortality and fertility played a major part in determining population change.

It might be thought that in a society experiencing heavy warfare, like the Book of Mormon peoples surely did at various points in their history, there would be no chance for population growth. However, the ancient Greeks were no strangers to protracted warfare, and they were well aware of their population's tendency to grow. For example, we are told that in seventh century B.C. "in Argos and especially in Athens there appears to have been a population explosion."²³ In Corinth, it was necessary to limit population growth between wars when it increased rapidly and "the Cretans considered it a necessity to hold population in check by law."²⁴ In ancient Athens during peacetime "population naturally increased rapidly [and] when population increased too rapidly the ordinary recourse was to colonization."²⁵ Sometimes the Athenian population grew even despite efforts to siphon off people to colonies: "We are reasonably sure of a considerable increase in the citizen-population between 480 and 430 [B.C.], in spite of much emigration, and of some increase in the fourth century till 320."²⁶ And what explains this ability of the population to grow? Quoting from a scholar of ancient Athenian

²¹Ibid, 34.

²²R. Santley, "Demographic Archaeology in the Maya Lowlands," in *Precolonian Population*, 325-44.

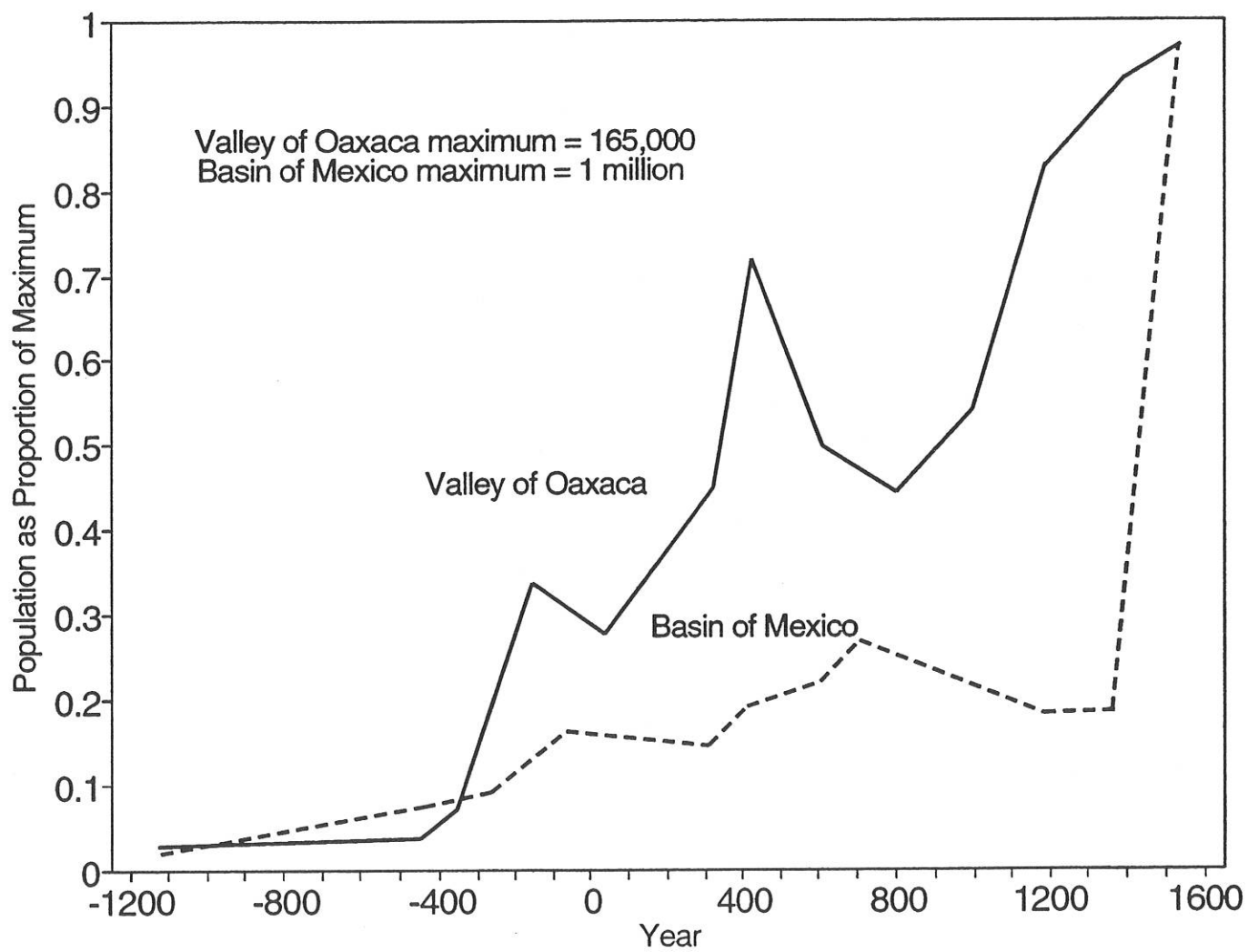
²³M. I. Finley, *Early Greece: The Bronze and Archaic Ages* (New York: W.W. Norton, 1981), 96.

²⁴C. Stangeland, *Pre-Malthusian Doctrines of Population: A Study in the History of Economic Theory* (New York: Columbia University Press, 1904), 20.

²⁵Ibid, 21.

²⁶A. W. Gomme, *The Population of Athens in the Fifth and Fourth Centuries B.C.* (Oxford: Basic Blackwell, 1933), 78.

Figure 3



population, "the Greeks were perfectly familiar with the idea of growth of population" yet "nothing that we know . . . would suggest that the death-rate would be low by modern standards," thus leaving only "a comparatively high birth rate" to explain the population increase.²⁷

Thus the actual course of population history involves complex patterns of growth and decline, always occurring against a background of mortality that is high by modern standards, but often with birth rates high enough to sustain the populations and sometimes to cause the populations to grow, and sometimes grow rapidly, despite high mortality. Unless we imagine that Book of Mormon populations were exceptional, they too probably experienced boom and bust cycles of population change, and they too had the capacity for growth. While ongoing wars may have contributed to their periods of slow growth, or even periods of population decline, the successful continuation and expansion of these populations reported in the Book of Mormon suggests periods of population growth that at least compensated for losses due to wars. Historical demography clearly shows that human populations in the past had the potential for significant growth, and sometimes they realized this potential.

Thus, research in historical demography amply demonstrates that simple ideas of limited growth rates in populations of the past do not adequately explain historical population dynamics, and we certainly should not view the past as a Hobbesian world of "nasty, brutish, and short" lives where the mortality levels completely kept populations in check. As the demographer Kingsley Davis puts it, the "tendency to view mortality as the chief mechanism by which human numbers are adjusted to resources" is one of those "unwarranted and largely unconscious assumptions concerning the nature of demographic change."²⁸ Of course, this is not to say that populations in the past did not have resource limits, which they did or that they did not experience periodic severe mortality due to famine, war, or disease, which they sometimes did. But what we have learned is that even in the face of these factors, human populations in the past, even those we sometimes call "primitive," had the capacity for growth, even though in many cases they did not exercise this growth potential.

The most comprehensive attempt to date to reconstruct the history of a pre-industrial population and understand its regulating processes in social context is found in Wrigley and Schofield's *Population History of England*.²⁹

²⁷Ibid, 79.

²⁸K. Davis, "Population and Resources: Fact and Interpretation," in *Resources, Environment, and Population: Present Knowledge, Future Options*, ed. K. Davis and M. Bernstam (New York and Oxford: The Population Council and Oxford University Press, 1991), 7.

²⁹E. A. Wrigley and R. S. Schofield, *The Population History of England 1541-1871: A Reconstruction* (Cambridge: Cambridge University Press, 1981, 1989).

Their research has shown that the interrelations between population and economics in a pre-industrial social system involved significant levels of fertility regulation, and temporal changes in this fertility regulation, as part of a complex socio-demographic process of population change.

Thus, you cannot apply overly simplistic approaches to understanding populations in the past, and we need always to keep in mind various historical variations and historic realities.

With these perspectives from historical demography in mind, let us turn to the text of the Book of Mormon. First, let us summarize the overall historical structure of the text of the Book of Mormon.

The Book of Mormon reports three migrations from the Old World to the New. The first was led by Jared and his brother at the time of the dispersion from Babel. Many centuries later, in about 600 B.C., Lehi's party left Jerusalem. A few years later, Mulek, whom the Book of Mormon identifies as a son of King Zedekiah, and who apparently did not know about Lehi, led his small group toward the New World. While none of these three small migrating groups knew of each other in the Old World, their histories eventually connected in the New World. The Book of Mormon begins with an unabridged record taken from the "small plates" made by Lehi's son Nephi, followed by his brother Jacob, with brief additions by others. Covering the years from 600 B.C. to 130 B.C., these small plates were added by Mormon without abridgment to his own plates, resulting in the first 144 pages of Joseph Smith's translation. Written primarily as a religious rather than a historical record, these pages emphasize the first half-century of history from Lehi to the death of Nephi's younger brother Jacob. Only the last nine pages deal with the three centuries from Jacob's death down to 130 B.C.

At this point Mormon's abridgment of the historical record on the large plates of Nephi picks up and continues to Mormon's own time in the early fourth century. Occupying about 320 pages in today's text, Mormon's abridgment is not a simple chronicle giving equal attention to each year. More than three-fourths of its text focuses on the period from 130 B.C. to the birth of Christ, and half of the remaining text deals with the brief ministry of Christ in about A.D. 34. Then, in a mere four pages, Mormon presents a sweeping summary of the next three centuries of history down to his own time. Finishing off the book are a few pages (about 12) of Mormon's original writings describing his own day. These are continued by Moroni, who also added the brief, abridged Jaredite record and some short doctrinal writings.

From this summary it is apparent that the Book of Mormon concentrates on certain specific and relatively brief historical "epochs": the first from 600 B.C. to 550 B.C. involving Lehi and his two sons, Nephi and Jacob; the second from 130 B.C. to A.D. 34 reporting Nephite history from the

days of King Benjamin through the ministry of Christ; and the third covering the destruction of Nephite civilization in the fourth century A.D. Altogether, the text devoted to these three brief historical epochs makes up ninety percent of Mormon's work, covering a total of only three hundred years, or thirty percent of the full thousand-year span of Mormon's record.³⁰ (Remember, we are not dealing in this discussion with the Jaredite record that was inserted by Moroni.)

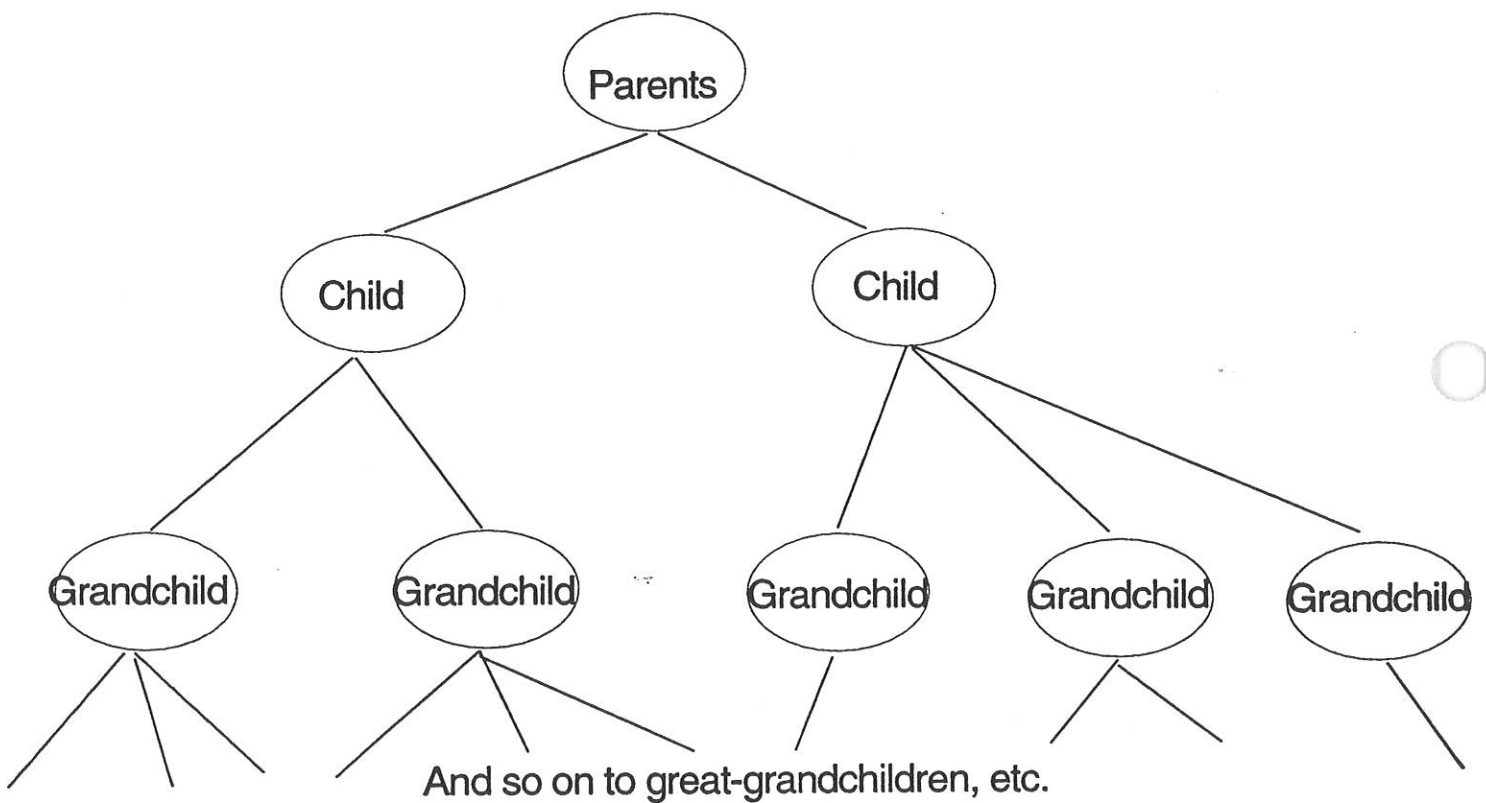
Given this historical structure of the Book of Mormon text, we should fully expect some big gaps in the information it presents between the historical epochs on which it focuses. It would be naive to think we could correctly assume or guess at the missing information to fill in these gaps. As an analogy, consider a modern book containing a hundred-page chapter about some events in the tenth century, and a chapter of three hundred pages on the history of certain peoples in the sixteenth and early seventeenth centuries, and finally a few pages about the twentieth century since World War I. If we had such a book we surely would be cautious about trying to infer too much about the historical periods between these widely disparate historical eras. Our discussion of populations in the Book of Mormon will attempt to recognize the historical structure of the book by focusing some brief interpretive comments about its populations on each of the book's three epochs, giving due recognition to the sparse text linking these epochs.

First Epoch. Three families were represented in Lehi's group as it fled Jerusalem. Lehi and Ishmael took their immediate families, and Zoram went as a servant who later married a daughter of Ishmael. Sometime between 588 and 570 B.C. Lehi died (2 Nephi 4:12) and his son Nephi fled with himself and four other named individuals and their families (Zoram, Sam, Jacob, Joseph), his sisters, "and all those who would go with me" into the wilderness (5:5-6). According to the Book of Mormon, "all those who would go with me" consisted of religious believers who accepted the word of God through Nephi (v.6). Calling their new homeland "Nephi" and calling themselves "the people of Nephi" (v. 8-9), Nephi's followers began to prosper materially, "to multiply in the land" (v. 13), and to prepare to defend themselves against "the people who were now called Lamanites" (v. 14). One reading of the latter phrase is that "Lamanites" is a new name for the family and followers Laman, Nephi's brother-enemy from whom Nephi fled. Another possible reading is that some people not previously called Lamanites were now so called, presumably because of Laman's affiliation with them.

³⁰ See Kunich, "Multiply Exceedingly." It is also noteworthy that Kunich's list of 54 possible population size references has 43 in what I have called the second epoch, with a few references in first and last epochs. Even controlling for the variable lengths of the texts covering the epochs, this represents a disproportionate number of references in the second epoch, and is consistent with the Book of Mormon's claim that the Large Plates were concerned with historical reporting whereas the Small Plates (first epoch) emphasized religious teachings.

Figure 4

How Many Descendants ?



Although it is unclear exactly when Nephi departed for the wilderness with his followers, it was sometime before 569 B.C. (2 Nephi 5:28-32). When creating his record on the small plates in this year, Nephi emphasizes that "we had already had wars and contentions with our brethren" (v.34), presumably meaning the Lamanites. For another fifteen years Nephi ruled his people, finally anointing a king to succeed him. After Nephi's death the term "Nephite" appears for the first time in the historical record.³¹ Whatever previous meanings the term had, Jacob decides to define it this way: "now the people which were not Lamanites were Nephites." (Jacob 1:13). He remarks somewhat ambiguously that "they" (Lamanites and Nephites?) "were called Nephites, Jacobites, Josephites, Zoramites, Lamanites, Lemuelites, and Ishmaelites" (v. 13), but Jacob's intent is to refer to these various peoples (tribes?) according to a simple we/them, friend/enemy scheme. He will "call them Lamanites who seek to destroy the people of Nephi" and "those who are friendly to [king?] Nephi I shall call Nephites, or the people of Nephi, according to the reigns of the kings" (1:14). Jacob's mention of various "-ites" and his mention of a Nephite king, a temple, significant wealth, and the Nephite penchant for polygyny (v. 9-18), may suggest to the casual reader a fairly large population living in a fairly complex society. But there is a hint that this may not be the case when Jacob reports that the Nephites have only two "priests and teachers" (v. 18). Some demographic considerations also raise questions about how large the Nephite population in Jacob's day could have been.

Since the founding families of Nephites who followed Nephi into the wilderness are at least partially enumerated in the text, we can roughly estimate how many descendants this founding group might have produced over time. For this purpose we use the Camsim Demographic Simulation Model³² to estimate of the number of living descendants a group of five founding families might produce at 60 years from the births of the founders. The simulation assumes a nearly zero overall population growth rate of .01 percent and allows for realistic levels of chance variation (stochasticity) in

³¹The term "Nephite" appears earlier in the Book of Mormon but only in Nephi's prophetic writings, 2 Nephi 29:12-13.

³²Camsim is a computer simulation model for deriving kin numbers from demographic rates developed by the author in his research affiliation with the Cambridge Group for the History of Population and Social Structure at Cambridge University. The Camsim model and its results have been applied by the author and other demographers and historians to problems in demographic history concerning populations in Italy, China, England, and ancient Rome. The principle descriptions of the model are in James E. Smith, "The Computer Simulation of Kin Sets and Kin Counts," in *Family Demography: Methods and Their Applications*, ed. J. Bongaarts et al. (Oxford: Oxford University Press, 1987), 249-66; and J. Smith, "Estimating Numbers of Kin in Historical England Using Demographic Microsimulation," in *Old and New Methods in Historical Demography*, ed. D. Reher and R. Schofield (Oxford: Oxford University Press, 1993).

fertility and mortality among individuals and families. We choose 60 years from the births of the founders as the target date for measuring the size of the population because Nephi probably was born sometime a decade or so before 600 B.C., making it 60 years from his birth to the time he hands over the plates to Jacob around 550 B.C.³³ Other founders were probably born later and earlier than Nephi, so we are supposing that on average they were about the same age as Nephi when the founding group was formed. This figure (see Figure 4) presents the results of the demographic simulation. It is evident that there is a range of possible population sizes just as one would expect in a small population subject to random fluctuations in their growth. As the figure shows, the greatest chances are that there were between 25 and 35 descendants of the founding group alive near the time of Nephi's death. But we also note that there is a reasonably high probability (about a five percent probability) that the number of descendants could have been greater, say between 50 and 65 people. To give perspective on this probability, a five percent probability is about the same chance that a family of four children today will have all four children of the same sex—not an entirely commonplace event, but one that is not terribly surprising or improbable either.

With these demographic results we see that the Nephite population at the time of Nephi's death and during Jacob's ministry would have been small. The key demographic assumptions in this exercise are that the Nephites lived under conditions of generally zero population growth, that the founders were born pretty much around 610 B.C., and that there were about five founding families. Since these are conservative assumptions, they can be questioned and modified to yield larger numbers of Nephites in the simulation. However, it would take very large and probably unrealistic changes in these assumptions to make much difference in the order of magnitude of the resulting population sizes. For, even if the simulations were low by a factor of five, we would only end up computing a few hundred Nephites rather than a few dozen in about 550 B.C.. I see nothing implausible about the text of the Book of Mormon as an ancient historical record against these numbers. Our demographic exercise strongly suggests that the various "-ites" enumerated by Jacob were small familial and tribal groups rather than full-scale populations and societies. Perhaps Jacob saw it as splitting hairs to continually refer to such small groups, individually, and perhaps that is one reason he wanted to talk of his people as one—the people of Nephi, or simply "Nephites."

By about 400 B.C. or two hundred years after Lehi left Jerusalem, the

³³For a more detailed analysis of Lehi's family and the possible demographic composition of his group see J. Sorenson, "The Composition of Lehi's Family," in *By Study and Also By Faith*, (Salt Lake City: Deseret Book and Foundation for Ancient Research and Mormon Studies, 1990), 2:174.

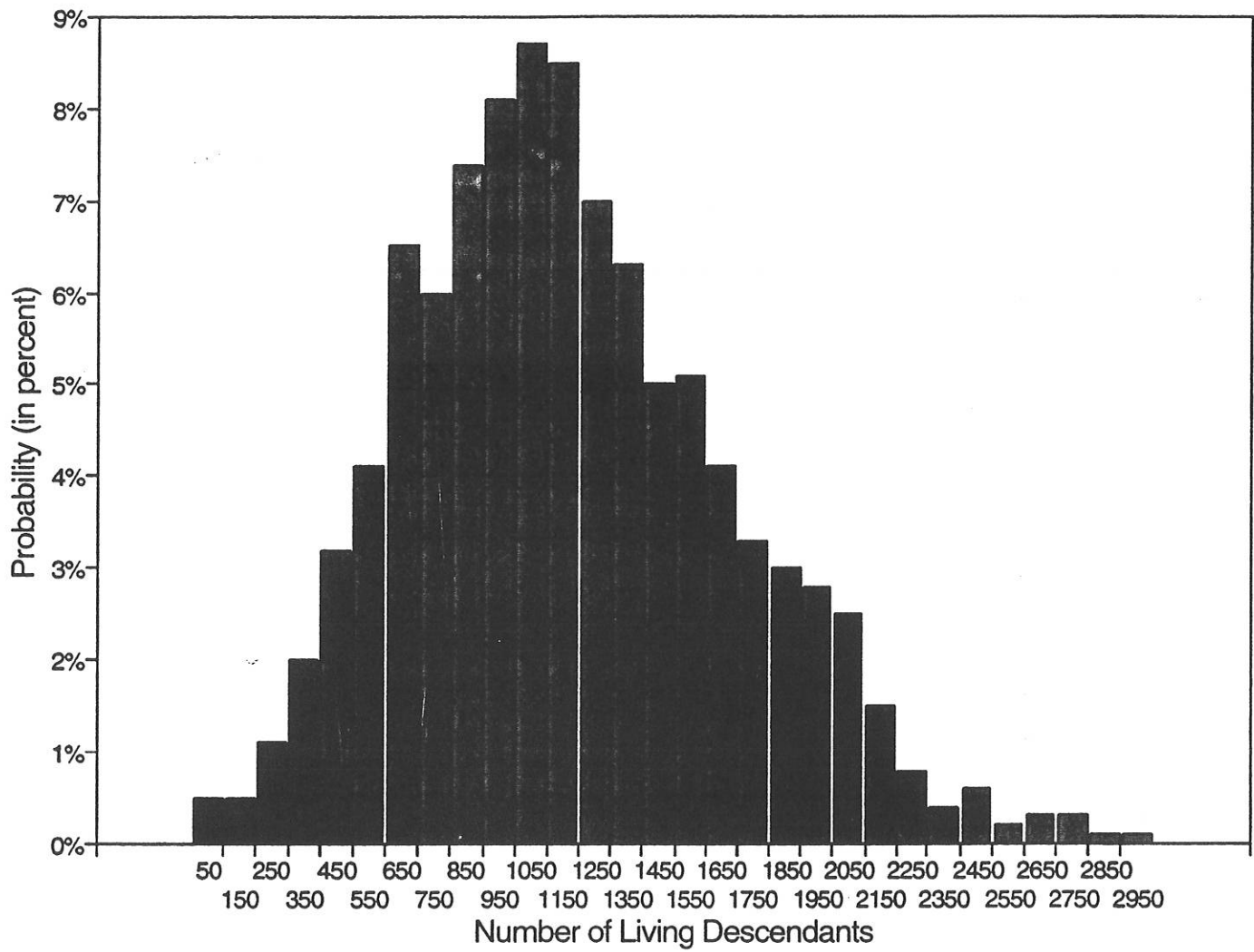
recorder Jarom writes that the People of Nephi had “multiplied exceedingly, and spread upon the face of the land” (Jarom 1:5, 8). Along with Nephites, the Lamanites also were “scattered upon much of the face of the land” but they were “exceedingly more numerous” than the Nephites (v. 6). How many descendants might our founding group have had at this two hundred year mark? Numerical estimates are presented in this figure (see Figure 5) showing the greatest chances were in the one thousand (or a little more) range. However, there are substantial chances that the population could be smaller or larger than this, with about a ten percent chance that there were more than 2,000 Nephite descendants at this point. Whether this constitutes “multiplying exceedingly,” or whether it is enough people to “scatter upon much of the face of the land” is a matter of interpretation that might be illuminated by textual-historical analysis beyond what we can do here.

The population numbers we have put forward—perhaps dozens of Nephites in about 550 B.C., and perhaps hundreds or a couple of thousand at 400 B.C.—are plausible estimates based on a demographic model under various assumptions. Assumptions could be changed to assume that the Nephites intentionally experienced higher fertility rates, and our earlier review of historical demography allows that this could happen in historical populations. Or, there might well have been more founding families than the five we conservatively assume for Nephi’s group. But even changing these or other assumptions, we can anticipate that the order-of-magnitude size of early Nephite populations in the first epoch of Book of Mormon history was unlikely to have exceeded a few thousand people who descended from Nephi’s original founding group.

Second Epoch. The second historical epoch in the Book of Mormon begins in about 130 B.C. By this time there had been a major change in the situation of the Nephites. Sometime in the third or second century B.C. a Nephite named Mosiah fled from his people with “as many as would hearken unto the voice of the Lord” (Omni 1:12). His party discovered the land of Zarahemla ruled by King Zarahemla who was a descendant of the same Mulek who left Jerusalem after Lehi (Mosiah 25:2). The people of Zarahemla were “exceedingly numerous” (Omni 1:17) and they apparently willingly accepted Mosiah the Nephite as their next king. The Book of Mormon reports many fewer Nephites than people of Zarahemla, and many fewer of Nephites and People of Zarahemla combined than there were Lamanites (Mosiah 25:3-6). With their new Nephite king, the people of Zarahemla became known as Nephites, and the kingship passed down Mosiah’s lineage to his son Benjamin, and then to his grandson Mosiah.

It was upon the death of the latter Mosiah that a new form of government called Judges came into existence, and soon thereafter the Amlicite insurrection yields precise numerical data concerning battle

Figure 5



casualties.³⁴ During a civil war battle in about 87 B.C. between the Amlicite and the loyalist armies, 12,572 Amlicites and 6,562 loyalists were killed. We can start to estimate population numbers from these counts using a Stable Population Model. The Stable Population Model allows features of a population's age structure to be calculated given an assumed mortality level and population growth rate. The calculations are complex, but results of them are presented in published reference tables.³⁵ Using these tables we find that a population having high mortality and a zero population growth rate would have about 25 percent of its numbers in the ages between 15 and 30. Thus, if we know the number of 15 to 30 year-olds in such a population, we can multiply by four to estimate the total population size.

One conjecture would be that the battle casualties during the Amlicite insurrection were heavy, perhaps accounting for 50 percent of the fighting men. A lower casualty rate, say ten percent, could be taken as the other conjectured extreme. Under the heavy casualty assumption, the 19,000 combined Amlicite-Nephite casualties would imply an army size of 38,000. If all 15 to 30 year old males were enlisted in the army, the male population size would be 38,000 times 4, or about 152,000. This implies a total male and female population of about 300,000 Nephites. Under the assumption of a ten percent battle casualty rate, this method of calculation estimates a total population of about 1.5 million Nephites. Since fighting continued after this particular battle, it is unlikely that the decimation of either army was near complete. However, the decimation of the Amlicites may have been greater than that of the Nephite loyalists. If we assume that half the Amlicite army and only ten percent of the Nephite army were killed the estimated total Nephite army were killed, the estimated total Nephite (including Amlicite) population is about 720,000. So we end up with three speculative and divergent estimates for the total Nephite population in 87 B.C. The three estimates are: 300,000; 720,000; and 1.5 million. Such a wide-range of estimates is to be expected from such limited textual data which only counts battle casualties. With further textual analysis, additional historical interpretation, or refined demographic methodology, the estimates might be narrowed, but this is beyond our current purpose.

With Nephite population totals in 400 B.C. in the range of several hundred to about 2,000 people, and with population totals in 87 B.C. between 300,000 and 1.5 million people, what are we to make of Nephite population history between these two years? First, we must remember that the definitions of "Nephite" in 400 B.C. and that in 87 B.C. were different. At the earlier time "Nephites" may have been only descendants of the founding

³⁴These are the first such precise data occurring in the text. Later in the text (Mosiah 9:18-19), but referring to an earlier chronological date (about B.C. 187), there is a report of battle casualties in Zeniff's encounter with the Lamanites.

³⁵Coale and Demeny, *Life Tables and Stable Populations*, op. cit.

group, whereas in the later time "Nephites" were those who went with Mosiah combined with the people of Zarahemla whom they joined, and who were at least double in number. An appropriate way to compute population growth among the original Nephites is to compare the 2,000 estimated Nephites for B.C. 400 with the 100,000 Nephites in Zarahemla in about 87 B.C.

For the Nephite population to have grown from 2,000 to 100,000 people between 400 B.C. and 87 B.C. would imply an average annual growth rate of about 1.25 percent. With an expectation of life of 25 years this rate of growth would require Nephite fertility to be at the level of 7.2 live births on average for women completing their fertility. This is an improbably high, but not impossible, fertility level, being higher than most observed natural fertility levels. However, a reasonable but higher life expectancy of 30 years combined with a fertility level of about 6.0 births would achieve a 1.25 percent growth rate. Thus a possible scenario for Nephite population change between B.C. 400 and 87 B.C. would be that the population of 2,000 Nephites had high fertility generating population growth at the level of 1.25 percent per year, thus producing 100,000 Nephites in Zarahemla who were descendants of Nephi's founding group.

Let's pause here to note that extreme caution is needed before positing this or any other scenario as a final statement of historical reality. We should note, it may be that comments in the Book of Mormon about multiplying exceedingly and filling the land are indicative that Nephite fertility was indeed high, at levels perhaps similar to that of other pre-industrial high fertility group like the historical French Canadian population, the Hutterites, the Amish, or the Mormons. Again, we need not take our interpretations and conjectures as complete or final until more consideration can be given them. There remains the possibility that they will prove wrong, but also the possibility that in refining them they will prove plausible. The information in the Book of Mormon is sparse; our interpretations of the text are tentative; and the assumptions underlying the demographic calculations are subject to further examination. In light of this, the term "plausible estimate" best describes our results when we and other historical demographers of the ancient world produce such estimates to set a demographic context for the historical record. It also should be emphasized that our estimates require the Nephite population to maintain high fertility for three centuries. Among the unanswered issues that will eventually need consideration are the questions of the origin and numbers of the People of Zarahemla (does our assumption of 200,000 "Mulekites" make sense?), and the question of who the Lamanites really were, and why they are identified by Book of Mormon writers as racially different from the Nephites.

These topics in Book of Mormon population studies await our serious attention. The critical study of ancient scripture promises no quick and easy answers.

Third Epoch. Mormon himself recounts the brief and tragic history of the Nephites in the fourth century. As a military leader who fights and strategizes to keep his people alive, Mormon not surprisingly records several details about the size of Nephite armies. But who were these Nephites whose armies Mormon led? Mormon makes the point that he is a literal descendant of Nephi and that he has been given the ancient Nephite records, indicating his strong sense of continuity with the original founding group of Nephites and with Nephi, son of Lehi, himself. But it would be far too simplistic, and not supported by the text of the Book of Mormon, to assume that this implies all those called Nephites in Mormon's day were literal descendants of the ancient Nephi or his founding group. Ultimately, in the first and second centuries A.D. there was a mixing of peoples in which "-ites" were not distinguished, and it was from this consolidated body that Nephites, Lamanites and other "-ites" emerged again in the early third century (4 Nephi 1:17, 20, 25, 35-36). This complex social, political, economic, and perhaps demographic mixing of populations is only mentioned briefly but tantalizingly in Mormon's four page summary of the three centuries of history from Christ to his own day.

From a demographic perspective it is not hard to imagine a significant population of Nephites in Mormon's day even under the narrow assumptions that all of Mormon's Nephites were literal descendants of the population of Zarahemla. With a moderately positive population growth rate of .1 percent per year, a population of 300,000 in Zarahemla in 87 B.C. would produce 450,000 in Mormon's day. This is a highly schematic estimate. But proceeding forward with this line of reasoning, the stable population model reveals that about 28 percent of this population would be 15 to 30 years old. This, in turn, implies about 63,000 males of these ages ($450,000 \times .28 \times .5$ to get males only), presumably being the male population from which the armies were drawn. Mormon reports armies of 40,000 (Moroni 2:9) and 30,000 (v. 25) troops in the years A.D. 331 and A.D. 346, numbers easily attainable according to our demographic speculations.

It may be, as Hugh Nibley has suggested, that Mormon's armies represented only a part of the Nephite population for which Mormon was the military commander.³⁶ This may account for the fact that a much larger army of 230,000 is reported at the final battle of Cumorah in the later fourth century. If this large army included all of the 15 to 30 year old males in the Nephite population, the total population size would have been about 1.6 trillion people. Since we have favored the 300,000 number for Zarahemla in 87 B.C., and these 300,000 could not realistically have grown to 1.6 million by

³⁶H. Nibley, *An Approach to the Book of Mormon*, Third Edition (Salt Lake City: Deseret Book and F.A.R.M.S., 1988), 427.

Mormon's day,³⁷ where could all the additional people have come from? Again, there is a lot of Nephite history involving changing population definitions and possible population assimilation and mixture during the three centuries before Mormon. One view would be that these processes resulted in large numbers of people besides literal descendants of the Zarahemla population being incorporated under the political, social, or geographical rubric *Nephite*.

It is also interesting to consider an alternative to this interpretation. A half century prior to Cumorah, Mormon attempted to gather the Nephite people together "in one body" for self preservation (Moroni 2:7, 20-21), leading to an eventual treaty with the Lamanites that removed the Nephites from their southern lands (2:28-29) and gathered them toward the north. Thus, fifty years later when Mormon promised the Lamanite king he would "gather together our people unto the land of Cumorah, by a hill which was called Cumorah" (6:2) he was only continuing a strategy that had been exercised before. Mormon notes that the gathering to Cumorah included "all the remainder of our people" and that it "gathered in all our people in one" (v. 5-6) into a land of many waters, rivers, and fountains around the hill Cumorah (v. 4). As the Lamanite armies advanced on these gathered Nephites, the wives and children were filled with "awful fear" and as the battle began every Nephite soul was "filled with terror" (v. 7-8). As the slaughter progressed, Mormon notes that his men, meaning presumably his cohort of ten thousand soldiers, were slain (v.10). Later he elaborates that some people (soldiers?) escaped southward, and a few deserted to the Lamanites, and he recounts that except for these "all my people, save it were those twenty and four who were with me" were killed (v.15).

The account of the gathering of all the Nephite people in the lands around Cumorah, and the way Mormon refers somewhat interchangeably to his women and children, men, and people, introduces some ambiguity into his account. Could it have been that in their last-ditch effort at survival, preparing as they were for a pre-arranged great battle, Mormon and the 22 other leaders divided the whole Nephite people, rather than just the armies, into contingents of ten thousand each? If so, the victims of the slaughter at Cumorah were 230,000 men, women, and children, all of the Nephites who had gathered around Cumorah. If 230,000 was the size of the total Nephite population at this time, what would have been the army size at the battle of Cumorah? Our stable population model, which places 28 percent of the population in the ages 15 to 30, shows 32,200 men in these age groups from a total population of 230,000 (i.e. 230,000 X .5 to get males, X .28 to get 15-30 year-olds, resulting in 32,200.) This is strikingly similar to the number of Nephite troops Mormon reported leading a half century earlier. Perhaps, then, a total

³⁷To do so would require a long-term average growth rate of .4 percent which is improbably high, but not totally impossible.

Nephite population of 230,000 with an available army of 32,000, is a consistent estimate of the Nephite demographic situation at the last great battle, with perhaps higher numbers in the decades of wars preceding Cumorah during which the Nephites may have begun slipping into demographic decline. This interpretation does not sit entirely well with the report of warfare at Cumorah: cohorts of ten thousand certainly sound like army cohorts. But a total Nephite population of about a quarter million people, with armies in the tens of thousands, also sounds reasonable in light of our growing realization that demographic analysis applied to the Book of Mormon seems often to suggest that the Nephites defined as literal descendants of Nephi's founding group may have been a relatively small population in a sea of other peoples.

Whatever the ultimate outcome of our explorations in Book of Mormon demography, so far it appears that we can work within the bounds of demographic science to explore the text of the Book of Mormon as an ancient historical record. Over time, serious study of the Book of Mormon from interdisciplinary and critical perspectives may begin to replace artifactual and "proof" arguments for the book. If so, perhaps further attention to historical demography will help to illuminate the historical dimensions of the book.

The Book of Mormon with its various literary, linguistic, and historical dimensions deserves serious study and it is the hope of scholarship that such serious study of the scriptural record ultimately will help to illuminate its religious and historical truths. Meanwhile, if modern scholarship has taught us anything, it is that our conclusions about what we think we know ought to be tempered by a sincere recognition that we do not know it all.

Of course, serious scholars in all disciplines know that they don't know it all, so we should be wary of those who would make final pronouncements on the Book of Mormon from a position of excessive confidence in intellectual pursuits.

From my own standpoint, I find that the kinds of explorations we have engaged in here offer enlightenment and support for the Book of Mormon as an authentic ancient record. Remembering as I said at the outset, that our fruitful witness of the Book of Mormon relies upon a testimony borne of the spirit, I add my own spiritual witness of this ancient record.