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The Demographics of Ancient Israel

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It is the purpose of this paper to examine the archaeological data that contribute to the understanding of population demographics for ancient Israel from the earliest periods until the first century A.D. It will be demonstrated herein that, given the data that we now possess, at no time in the ancient history of the land of Palestine would there have been more than 1,000,000 inhabitants. One may compare this figure with the extrapolations offered for the size of Israel based on the census totals of military strength at the Exodus (603,550 in Numbers 1, 2), at the Conquest (601,730 in Numbers 26), or during the Monarchy (1.3 million in 2 Samuel 24; 1.57 million in 1 Chronicles 21). The totals offered there extrapolate to a populace of 2.5-3 million at the Exodus and the Conquest, and about 5,000,000 during the reign of David.¹ The census totals therefore may have to be understood as something different from an accounting which reflects actual totals. If the numbers of the censuses are not meant to be seen as reflecting actual totals, but rather have some other literary significance, it may be that other similarly large numbers of the Old Testament likewise have literary significance apart from reflecting actual totals.²

Demographic studies based on archaeological discoveries in ancient Israel have been conducted primarily over the past three decades.³ While the results of such pursuits are certainly open to debate, inasmuch as the data may be interpreted variously (and the authors of the studies are quick to point this out), those results may not be far from the actual circumstances that existed in ancient Israel. The present writer is quick to mention that not all the archaeological data are in (most of the studies to date have been limited either chronologically and/or geographically), and that subsequent discoveries may produce conclusions that differ from the results of this paper. However, two factors mitigate this position. First, one doubts that the demographers involved hold a hidden agenda against biblical teaching on the subject, though that might be at least possible. Second, the physical artifactual evidence which does remain is overwhelmingly supportive of a population considerably smaller than that suggested by taking

¹ With regards to the first census, Unger saw “at least two million” (M. F. Unger, *Unger’s Commentary of the Old Testament*, Moody, 1981, I:187). Merrill said “With women and children the total must have reached several million...” (E. H. Merrill, “Numbers,” in the *Bible Knowledge Commentary*, I:237); Wenham reminds us that the census totals as given would yield “two million” (G. J. Wenham, *Numbers*, TOTC, ed. by D.J. Wiseman, Inter-Varsity Press, 1981, 61). Allen, before opting for numerical hyperbole, states: “This large army of men conscripted for the army suggests a population for the entire community in excess (perhaps considerably in excess) of 2 million people” (R. B. Allen, “Numbers,” in the *Expositor’s Bible Commentary*, ed. by F. E. Gaebelin, Zondervan, 1990, 2:710 cf. 2:686).

² I presented the idea of numerical hyperbole for this “other literary significance” at the 1991 national ETS meetings in Kansas City and again in 1995 in Philadelphia, the latter of which effort was published in D. M. Fouts, “A Defense of the Hyperbolic Interpretation of Large Numbers in the Old Testament,” *JETS* 40(1997) 377-387. The discussion of demographic issues was somewhat truncated in that work. Hopefully, this paper will make up for that shortcoming.

³ For information concerning earlier population analyses conducted prior to the last 3 decades, see I. Finkelstein, “A Few Notes of Demographic Data from Recent Generations and Ethnoarchaeology,” *Palestine Exploration Quarterly* 122 (1990) 47-52.

the biblical census numbers at face value. This paper will review the methods and the results of these demographic studies in order to postulate a maximum number of population which the land of Palestine could support at a given time during the biblical period.

DEMOGRAPHIC METHODOLOGY

Numerous methods to estimate the populations of ancient cities and nations have been proposed by scholars involved in archaeological and demographic research in the ancient Near East. The methods discussed below differ and any given proponent at times finds fault with differing methods. However, it is noteworthy that the totals of all modern demographic studies are consistently lower for all periods of Israel's history than that which is suggested by taking the census figures of the Old Testament at face value. The primary methods are discussed below.

Available Water Supplies

The premier study in English which concentrates on measuring the population of ancient Jerusalem alone on the basis of available water supplies is that of Wilkinson.⁴ One must agree that available water supply does indeed play an important part in sustaining a certain population over lengthy periods of time. By a thorough study of the archaeological data concerning various spring fed pools and aqueducts, he concludes that the population of ancient Jerusalem ranged from 2,500 in David's time to a high of 76,130 in the time of Herod Agrippa.⁵ Wilkinson derives his population figures on an average consumption of 20 liters per person per day, a figure which is based on the amount of water from the systems he studied.⁶ He qualifies this by suggesting that cisterns could have stored up to perhaps 50% of the rain-water, providing a more reasonable daily consumption.⁷ One may assume for the sake of argument that his estimate is wrong and that total consumption was less than his suggested 20 liters per person per day, say only 10 liters. This would allow for a doubling of his figures from a low of about 5,000 in David's time to a high of about 152,000 in Agrippa's.⁸ On the other hand, raising the estimated daily consumption would reduce the feasible population figures proportionately. Estimating population size by this method has been questioned by Broshi for these same reasons:

Le principal inconvénient de cette méthode est qu'elle ne peut que donner approximativement le nombre maximum d'habitants et cela à la condition qu'on connaisse la consommation moyenne d'eau par jour et la quantité totale d'eau disponible. Il va sans dire que ces deux conditions sont très difficiles à réaliser. La première donnée est même presque impossible à obtenir, car on n'a aucun moyen d'arriver à connaître la consommation journalière d'eau, même approximativement, l'écart étant trop grand, de 3 litres par personne dans certaines localités du Liban, à 363 aux États-Unis.⁹

⁴ J. Wilkinson, "Ancient Jerusalem: Its Water Supply and Population," *PEQ* 106 (1974) 33-51. A similar but shorter study has been conducted by N. Rosenan for the city of Arad (N. Rosenan, "A Note on the Water Storage and Size of Population," in *Early Arad*, edited by R. Amiran {Jerusalem: The Israel Exploration Society, 1978}, 14).

⁵ Wilkinson, "Ancient Jerusalem," 50.

⁶ *Ibid.* 47.

⁷ *Ibid.*, 48-49.

⁸ These figures are still too small to support the large numbers of population suggested by the census of David.

⁹ M. Broshi, "La Population de l'ancienne Jerusalem," *RB* 82 (1975) 7.

It is because of these problems that Broshi offers a differing method to determine population figures. This method is discussed below.

Urban Areas and Population Densities

Broshi offers what he considers to be the most viable method of estimating past populations of Jerusalem by calculating a *density coefficient* which is to be multiplied by the surface area of the city at a given time in its history.¹⁰ Density factors include the size of dwellings, the average size of families, the number of slaves, and urban area devoted to public usages. This coefficient Broshi sees as 40 persons per dunam.¹¹ Though he is skeptical of the methodology of Wilkinson (see above), his results are surprisingly similar to Wilkinson's at several points.¹² This fact may actually serve to validate each of the two methods above as adequate estimators of early populations.

The method of Broshi has proven to be one of the most widely used methods, and was selected by Shiloh for his study of Iron Age Palestine.¹³ Making the assumption that there were 60 Iron Age settlements with an average area of 50 dunams each, Shiloh suggests that the urban population of the era was 150,000, with the rural population somewhat larger.¹⁴ The total would have been less than 1,000,000.¹⁵ If this figure is correct, or even close to correct, then the numbers recorded in the census of King David (2 Samuel 24/1 Chronicles 21) may have a significance other than an actual accounting of the mustered army.

Other Methods

Other methods to estimate the populations of ancient cities and nations include the use of tax lists,¹⁶ refugee lists,¹⁷ available roof space,¹⁸ analogy with present population,¹⁹ and the maximum agricultural production of a given region,²⁰ among others. These methods all have their proponents and opponents, and all may be less reliable than the area/density coefficient method

¹⁰ Broshi, 6.

¹¹ Ibid. One dunam 1,000 m² = 1/10 hectare.

¹² For instance, he estimates the population of Jerusalem under David to be 2,000 and under Herod Agrippa to be 82,500 (page 13).

¹³ Y. Shiloh, "The Population of Iron Age Palestine in the Light of a Sample Analysis of Urban Plans, Areas, and Population Density," *BASOR* 239 (1980) 25-35. Shiloh adopts this method despite the pitfalls he mentions on page 26.

¹⁴ Shiloh, 32.

¹⁵ Ibid.

¹⁶ J. E. Packer, "Housing and Population in Imperial Ostia and Rome," *Journal of Roman Studies* 57(1967) 80-89.

¹⁷ Cf. J. T. Milik, *La topographie de Jerusalem vers la fin de l'époque byzantine*, *Mélanges de l'Université St Joseph* 37, (Beyrouth: Imprimerie Catholique, 1961), 133.

¹⁸ R. Naroll, "Floor Area and Settlement Population," *American Antiquity* 27 (1962) 587-89. This method is confirmed as viable by I. Finkelstein, "A Few Notes on Demographic Data from Recent Generations and Ethnoarchaeology," *PEQ* 122 (1990) 47-52.

¹⁹ A. Lucas, "The Number of Israelites at the Exodus," *PEQ* 76 (1944) 164-68. For this method in other lands, see W. M. Sumner, "Estimating Population by Analogy: An Example," in *Ethnoarchaeology: Implications of Ethnography for Archaeology*, edited by C. Kramer (New York: Columbia University Press, 1979) 164-74.

²⁰ M. Broshi, "The Population of Western Palestine in the Roman-Byzantine Period," *BASOR* 236 (1979) 6-7.

described above.²¹

DIACHRONIC, SYNCHRONIC DIACHRONIC, AND SYNCHRONIC ANALYSES

The Chalcolithic Period (ca. 4000-3100 B.C.)²²

Two published studies which pertain to the population of the Chalcolithic Period are covered here.²³ The study of Gophna and Portugali, which they claim is the first to be done for the coastal plain in this time period, is therefore geographically limited.²⁴ This is described in the article:

The study area (figs. 1-8) includes the regions of the Carmel coast, the Sharon plain, and Philistia. It stretches from the northern edge of the Mt. Carmel ridge (Haifa) to Nahal Besor in the south, northwest of Beer-sheva, and from the coastline in the west to the Samaritan and Judean foothills in the east. It covers about 25 percent of western Palestine/Israel, excluding the Negev. The northern part of the area has a humid, Mediterranean climate; in the south it gradually changes to semiarid, Irano-Turanian.²⁵

The authors studied each of the known settlements of the era (apart from those which are now submerged) and calculated the population on the basis of three density coefficients,²⁶ each inversely proportional to settlement size. They "estimate a population of 8576 for the Chalcolithic period."²⁷

Assuming for the sake of argument that this figure 8576 represents 25% of the total population of the time,²⁸ the total for the entire western Palestine/Israel of the Chalcolithic age would approximate 34,300. This figure may be lessened somewhat if the authors are correct in their assessment that "during the Chalcolithic period, the southern coastal plain was probably the more densely populated region in Palestine."²⁹

²¹ Shiloh, "The Population of Iron Age Palestine," 26-27, discusses reasons for not accepting these other methods.

²² For the most part, dates are taken from the demographic studies themselves, with supplemental data provided by W. W. Hallo and W. K. Simpson, *The Ancient Near East: A History* (New York: Harcourt, Brace, Jovanovich, 1971).

²³ R. Gophna and J. Portugali, "Settlement and Demographic Processes in Israel's Coastal Plain from the Chalcolithic to the Middle Bronze Age," *BASOR* 269 (1988)11-28; I. Finkelstein and R. Gophna, "Settlement, Demographic, and Economic Patterns in the Highlands of Palestine in the Chalcolithic and Early Bronze Periods and the Beginnings of Urbanism," *BASOR* 289 (1993) 1-22.

²⁴ Gophna and Portugali, 12.

²⁵ *Ibid.*

²⁶ For a good discussion of differing density coefficients suggested by various scholars, see Broshi, *La population de l'ancienne Jerusalem*, 6-7; or M. Broshi and R. Gophna, "The Settlements and Population of Palestine during the Early Bronze Age II-III," *BASOR* 253 (1984)41-42. For the most part, the density coefficient in ancient cities was 40-50 persons per dunam. Unwalled cities of the Chalcolithic era may vary considerably from this figure.

²⁷ Gophna and Portugali, "Settlement and Demographic Processes," 13.

²⁸ This model of 25% is based on the relative size of the described coastal area proportionate to the land as a whole. It is intended to be a model only for the purpose of argument.

²⁹ Gophna and Portugali, "Settlement and Demographic Processes" 21.

The more recent study by Finkelstein and Gophna encompasses the central hill country of Samaria and the Judean hills, including Jerusalem.³⁰ No totals are offered however, other than the comment that in the coastal plains the density of occupation was four times that of the highlands in the Chalcolithic period.³¹

For the sake of argument, let us assume for a moment that in the initial study Gophna and Portugali are incorrect in their analysis, either by incorrect density coefficients, or by an inaccurate total of settlements, or simply by inept research (the last of which I do not consider to be the case!). Let us assume that they have miscalculated the figure by 90%, and that their figure should be 85,760 for the coastal plains and our suggested total for all the land should be 343,000. One notes immediately that this figure is still far smaller than many of the largest numbers of the Old Testament, and while the present writer quickly admits that the Old Testament does not deal *per se* with this time period of Palestine, the argument in this paper is that *it is unlikely at any time* of Palestine's ancient history that the population attained to that suggested by taking the census figures at face value. This is all the more true for this time period if Gophna and Portugali are correct (or statistically correct within reasonable confidence intervals) in their analysis.

Early Bronze IA and IB (ca. 3100-2900 BC).

Continuing their study of the same coastal plain region into the Early Bronze Age (EB), Gophna and Portugali note the population shifts to the north in EB IA and to the central portions in EB IB.³² Due to increasing urbanization late in EB IB with resulting changes in density coefficients, the population figures they suggest may be regarded as somewhat tenuous.³³ They suggest 2,475 for EB IA³⁴ and from 7,705 to 12,925 for EB IB.³⁵ Assuming our earlier model that their figures represent 25% of the entire land, the entire population of western Palestine at these two times would be 9,900 for EB IA and from 30,820 to 51,700 for EB IB respectively. Again, for the sake of the present argument, if their analysis is wrong by 90% for any reason, the highest totals still do not amount to the large population figures suggested by the censuses of the Old Testament. Again, however, it is thought by the present writer that their analysis has adequate sampling to be statistically significant within reasonable confidence intervals.

Early Bronze II-III (ca, 2900-2300 B.C.)

To the study of Gophna and Portugali concerning the coastal plain of Palestine during Early Bronze II and III may be added the study of Broshi and Gophna of a larger area:

³⁰ Finkelstein and Gophna, "Settlement, Demographic, and Economic Patterns" 2.

³¹ Ibid. 10.

³² Gophna and Portugali, "Settlement and Demographic Processes" 14.

³³ Gophna and Portugali, "Settlement and Demographic Processes" 15, write: "The variable density coefficient is based on the following assumptions: that urban settlements are usually more densely populated than non-urban, but that the highest density is in medium-sized towns, and that density diminishes in larger towns or cities as a result of a higher proportion of public space (e.g., city walls, temples, palaces)."

³⁴ Ibid. 13.

³⁵ Ibid. 15.

The area encompassed in our discussion is western Palestine of the British Mandate (Israel and the occupied territories), excluding the Negev south of Beersheba and the Arad plains. For this area (14,000 of the 26,000 km² of the land area of Mandatory Palestine), reliable archaeological data are available; the area also represents a definite geopolitical unit concerning which data from various periods can be compared.³⁶

For the coastal plain, Gophna and Portugali suggest an EB II population of 17,000,³⁷ which based on our proposed model would yield a total population in Palestine of 68,000. As urbanization increased from this period into the beginning of EB III, "the settled population at that time in Palestine reached [a maximum of] 150,000."³⁸

It is interesting to note that Broshi and Gophna acknowledge that not all of the archaeological data are in, inasmuch as there are still settlements to be uncovered.³⁹ Most of these though are probably small and probably would have no significant impact on their results.⁴⁰

Intermediate Bronze (ca. 2300-2200 B.C.)

During the period between the Early Bronze and Middle Bronze, there appears to have been a sharp decrease in the population in the coastal plain.⁴¹ Gophna and Portugali suggest that the coastal population fell to only about 1,800 in this period, but this figure may be low since it was a time of temporary abandonment of urban areas.⁴² According to our suggested model, the total population of Palestine as a whole based on their figures for the coastal plain would have been 7,200.

³⁶ Broshi and Gophna, "The Settlements and Population of Palestine," 41.

³⁷ Gophna and Portugali, "Settlement and Demographic Processes," 15.

³⁸ Broshi and Gophna, "The Settlements and Population of Palestine," 45. The figure seems to conflict somewhat with the results of Gophna and Portugali, "Settlement and Demographic Processes," 16, that the coastal regions decreased in population in EB III, but this may be mitigated by the fact that the hill country regions were gaining significant numbers (cf. Broshi and Gophna, "The Settlements and Population of Palestine," 49). Finkelstein and Gophna, "Settlement, Demographic, and Economic Patterns," 9, argue that there was actually a decrease in the highlands during EB III.

³⁹ Cf. Broshi and Gophna, "The Settlements and Population of Palestine," 49.

⁴⁰ Ibid. 50, n. 2.

⁴¹ Gophna and Portugali, "Settlement and Demographic Processes," 16.

⁴² Gophna and Portugali, "Settlement and Demographic Processes," 16.

Middle Bronze I-II (ca. 2200-1550 B.C.)

Because Middle Bronze (MB) I (ca. 2200-2000) was primarily a phase of urban development in Palestine, the population increased in the coastal plain to "over 28,000."⁴³ This growth in turn led to further growth and urbanization in MB II (ca. 2000-1550 B.C.), reflected in the coastal population of 37,000.⁴⁴ Based on our suggested model, these figures would yield totals of 112,000 and 148,000 respectively for the land as a whole. The latter total comports well with the earlier study of the MB IIA and MB IIB period accomplished by Broshi and Gophna, who suggest a rounded off total of 140,000 for all of Palestine.⁴⁵ This information seems to validate our suggested model of using the figures from the coastal plain as 25% of the total for the entire country from the Chalcolithic to the MB II period.

Late Bronze Age (ca. 1550-1200 B.C.)

The published data from the Late Bronze Age (which period covers both the early and late dates for the Exodus) is lacking at this point (the study of Gophna and Portugali ends with MB II).⁴⁶ Nelson Glueck has conducted surface explorations in the Trans-Jordan region and concluded that that region was essentially unpopulated during the early part of the Late Bronze Age. Apparently, his conclusions have only recently been called into question.⁴⁷ At any rate, if one accepts the biblical testimony that there were seven nations already in the land more numerous than Israel (Deut. 7:1) immediately prior to the Conquest, taking the census numbers of Numbers 1 and 2 at face value mandates that the population of Palestine grew from the 140,000 at the end of MB II to between 15,000,000 and 21,000,000 by the time of the LB era Conquest!⁴⁸ What is obvious is that the artifactual remains of such a populace do not exist. Too, one would be hard pressed to explain how the population not only grew to this size, but also diminished to the size reflected in the Iron Age (less than 1,000,000), all within a 350 year period. To answer here that such a diminishing was due to the Conquest of the land by Israel wars against the scriptural testimony that Israel was not able to completely rid the land of Canaanites.⁴⁹

Iron Age (ca. 1200-586 B.C.)

This also may be referred to as the era extending from the middle of the period of the Judges to the Exile. It therefore includes the period of biblical literature from the book of Judges through 2 Kings and is therefore useful in comparing the large numbers of that body of literature with the data from demographic surveys.

⁴³ Ibid. 17.

⁴⁴ Ibid.

⁴⁵ M. Broshi and R. Gophna, "Middle Bronze Age II Palestine: Its Settlements and Population," *BASOR* 261 (1986) 87.

⁴⁶ W. F. Albright, "The Administrative Divisions of Israel and Judah," *JPOS* 5 (1925) 25, n. 15, does note that "the total population of Western Palestine in the Amarna Age was not far from half a million..."

⁴⁷ G. L. Mattingly, "The Exodus-Conquest and the Archaeology of Trans-Jordan: New Light on an Old Problem," *Grace Theological Journal (GTJ)* 4 (1983) 245-62. Cf. H. J. Franken and W. J. A. Power, "Glueck's *Explorations in Eastern Palestine* in the Light of Recent Evidence," *VT* 21 (1971) 119-23; and Broshi and Gophna, "Middle Bronze Age II," 88, n. 7.

⁴⁸ For those who accept the early date of the Exodus (ca. 1446 B.C.), the Conquest would have begun ca 1406 B.C. This enormous growth would have had to have taken place in less than 150 years! Even if one accepts a late date for the Exodus of ca. 1260 B.C. and Conquest of ca. 1220 B.C., the growth would have had only 330 years to take place.

⁴⁹ Judges 1:19-36.

Though Yigal Shiloh discusses the issue at length in his 1980 article dealing with Iron Age Palestine, he does not clearly state his opinion for the population as a whole. He instead estimates the urban population at 150,000, with the rural population being somewhat higher.⁵⁰ He then compares it to Palestine of the Roman era, wherein the population did not exceed 1,000,000, and states that Iron Age Palestine held fewer inhabitants.⁵¹ Indeed, this is supported by Broshi and Finkelstein who state a total populace in the middle of the 8th century BC to be 400,000 for Western Palestine.⁵² This figure may be contrasted with a total population of 5,000,000 demanded by accepting the earlier census totals of David at face value. Shiloh writes: "The historical reliability of these figures is open to doubt, both on historiographical grounds and in the light of the statistical-demographical analysis outlined above."⁵³ The present writer takes issue with Shiloh at this point. If the numbers have some meaning other than an accounting of actual value, historical reliability is not the issue with regard to those numbers.

In a diachronic demographic analysis for Jerusalem alone, Broshi suggests that the population of that city in the time of David was 2,000; in the time of Solomon, it was 5,200; in the time of Josiah, it was 20,000.⁵⁴ This may be contrasted to Nineveh, which became a much larger city of from 206,000 to 256,000,⁵⁵ figures which are somewhat in line with Jonah 4:11. The Lord God himself testifies in that verse to the presence in Nineveh of more than 120,000⁵⁶ who did not know their right from their left hand.⁵⁷ According to Broshi, much of the growth in Jerusalem between the time of Solomon and that of Josiah was attributable in part to the influx of refugees following the destruction of Samaria and those who soon after were abandoning various Philistine areas.

L'agrandissement de Jérusalem à pres de trois fois ses anciennes dimensions et le doublement du nombre des installations en Juda doit s'expliquer, croyons-nous, par l'arrivée de nombreux réfugiés israélites qui s'établirent en Juda après la chute de Samarie (721 av. J.-C.), et la migration vers l'Est de la population judéenne abandonnant les provinces de l'Ouest cédées par Sennachérib aux villes des Philistins (701 av. J.-C.).⁵⁸

⁵⁰ Shiloh, "The Population of Iron Age Palestine" 32.

⁵¹ Ibid. 33; cf. Broshi, "The Population of Western Palestine" 7.

⁵² M. Broshi and I. Finkelstein, "The Population of Palestine in the Iron Age II, *BASOR* 287 (1992) 47-60.

⁵³ Shiloh, "The Population of Iron Age Palestine" 32.

⁵⁴ Broshi, "La population de l'ancienne Jerusalem" 13.

⁵⁵ Shiloh, "The Population of Iron Age Palestine" 32. S. Parpola estimates the population of Nineveh in the 620 B.C. era to exceed 300,000 including suburbs (quoted in J. M. Sasson, *Jonah*, The Anchor Bible 24B {New York: Doubleday, 1990}, 312).

⁵⁶ "More than twelve ten-thousands of persons." It is interesting to note that this phrase does not include the term '*elep*', but rather '*ribbo*'. One also notes the unusual use of the term '*adam*' here instead of the usual and expected '*iš*'. Too, in this case, the number is not seen in a military context nor in a royal inscriptional genre.

⁵⁷ For a discussion of whether or not these were children, see Hans Walter Wolff, *Obadiah and Jonah: A Commentary*, trans. by M. Kohl (Minneapolis: Augsburg Publishing House, 1986) 175.

⁵⁸ Broshi, "La population de l'ancienne Jerusalem," 9. Broshi had developed this premise earlier in "The Expansion of Jerusalem in the Reigns of Hezekiah and Manasseh," *IEJ* 24 (1974) 21-26, and reconfirmed it (as co-author with Israel Finkelstein) in the more recent "The Population of Palestine in Iron Age II, *BASOR* 287 (1992) 47.

Post-Exilic and Intertestamental Eras (inc. LH-ER) (ca. 536 B.C.-A.D. 1)

There have been no significant demographic studies of Palestine as a whole conducted for this era, to the best of the knowledge of the present writer. It is doubtful that the population was at its greatest during this difficult period following the exile. The diachronic demographic analysis for Jerusalem alone by Broshi does include this period, however. During the Persian period, the city had an area of about 120 dunams and a population of about 4,800.⁵⁹ The city grew until in the second century B.C. it boasted a population of about 32,000, which under Herod the Great increased to about 38,500.⁶⁰

Roman-Byzantine Era (ca. 60 B.C.-A.D. 600)

In sharp contrast to the Post-Exilic era in Palestine, there have been numerous attempts to estimate the population of the era of Roman occupation, especially of the first century A.D. One of the earliest attempts was that of Josephus. An extrapolation of his figures for various towns and cities yields a populace numbered at 2,265,000.⁶¹ Byatt lists nearly 20 scholars who have estimated the total first century A.D. population of Palestine, with estimates ranging from under one million to 6,000,000.⁶² The demographic study conducted by Broshi in 1979 is based on extrapolating a total figure from an analysis of the population estimates for the Negev: "We have chosen the Negev for discussion because it is the only region in Western Palestine in the Roman-Byzantine period where the population can be estimated with a reasonable degree of accuracy."⁶³ Using accepted methods of demographic estimates, Broshi concludes: "If our supposition that the urban population represented but a third of the total, then the overall population of Palestine in its

Byzantine heyday reached the million mark, at most."⁶⁴ His earlier study on Jerusalem seems to bear this out. The city continued to show growth after Herod the Great to a population of 82,500 until shortly before the destruction of the Second Temple -- it took until the time of Justinian (ca. A.D. 565) to recoup to just 53,250.⁶⁵ Even the highest of these figures is insufficient to postulate (by extrapolation) a population for the entire region much in excess of 1,000,000.

⁵⁹ Broshi, "La population" 13.

⁶⁰ Ibid.

⁶¹ A. Byatt, "Josephus and Population Numbers in First Century Palestine," *PEQ* 105 (1973) 60. Broshi extrapolates the figure at 2,500,000. Cf. Broshi, "The Population of Western Palestine," 6. Broshi thinks the population figures offered by Josephus are exaggerated; M. Broshi, "The Credibility of Josephus," *JJS* 33 (1982) 379-384.

⁶² Byatt, "Josephus and Population" 52. For an earlier review of the various estimates of the first century population of Palestine, see C. C. McCown, "The Density of Population in Ancient Palestine," *JBL* 47 (1966) 425-27.

⁶³ Broshi, "The Population of Western Palestine" 1.

⁶⁴ Ibid. 5.

⁶⁵ Broshi, "La population de l'ancienne Jerusalem" 13.

SUMMARY

If one lends any credence to the work of these scholars whose demographic analyses are presented above, one is forced to make a decision concerning the census figures given in Scripture (Numbers 1,2, 26; 2 Samuel 24 with 1 Chronicles 21). Either they are in error, or they have some other significance than an accounting of actual value. If one opts for the latter, it very well may be that other similarly large numbers in Scripture also have some other significance than recording actual value.