

The Role of the Temple in the Herodian Economy

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Anyone who considers the gigantic building operations, both public and private, of Herod the Great, cannot help but be struck by the enormous financial resources needed to build and maintain them. Herod's riches were so vast that he could spend an incredible fortune not only on buildings in his own domain, but also on showy projects abroad. In Herodian Palestine we know of at least twenty of his operations, whose size set world records at the time. Among them were the Temple Mount, built on a vast artificial 'esplanade', the largest of its kind in antiquity;¹ the Royal Portico of the Temple, the longest building in existence at the time;² Herodium, the then largest palace in the world (only Nero built a larger one in Rome, some sixty years after Herod's death);³ the harbour of Caesarea, the most technologically advanced harbour in antiquity;⁴ the citadels and the palace in Jerusalem; the citadel and palaces at Masada; the palace complex at Jericho; the cities Samaria, Caesarea, Gabae-Hipeion and Antipatris; and the irrigation systems in the Jordan Valley, etc. Josephus tells us about tens of cities abroad that enjoyed Herod's munificence for luxury buildings and for underwriting contributions for building a fleet: 'for Tripoli, Damascus, and Ptolemais he built gymnasias; in Byblos a city wall; in Berytus, porticoes, temples, market-places ...'.⁵

In this paper we will try to answer the central question of how Herod managed to amass such great wealth from the country's economy to fund such extensive and extravagant building projects—to say nothing of the expense of maintaining an opulent court life and a strong army at home. There is no doubt that he oppressed his subjects and extracted heavy taxes. The direct income tax on agricultural produce reached one third or one quarter from cereals and one half from fruit, and this was only one of the taxes collected. There were also indirect taxes, direct taxes, fixed taxes, and temporary taxes ('gifts').⁶ It is clear that the country experienced

¹ Cf. J. Simons, *Jerusalem in the Old Testament*, Leiden 1952, pp. 346 ff.

² The length of the portico was 270m. Cf. R. Grafman, 'Herod's Foot and Robinson's Arch', *IEJ* 20 (1970), pp. 60–6; B. Mazar, 'The Royal Stoa in the Southern Part of the Temple Mount', in H. Shanks and B. Mazar (eds.), *Recent Archaeology in the Land of Israel*, Washington D.C. and Jerusalem 1985, pp. 141–7.

³ E. Netzer, *Greater Herodium*, Jerusalem 1981 (Qedem, 13), p. 110.

⁴ A. Raban and R. L. Hohlfelder, 'The Ancient Harbors of Caesarea Maritima', *Archaeology* 34, 2 (1981), pp. 56–60.

⁵ On Herod's gifts to cities abroad cf. *War* i, 422–5; *Ant.* xvi, 146–9.

⁶ On taxation under Herod cf. A. Schalit, *König Herodes*, Berlin 1969, pp. 262–98.

unprecedented prosperity under him, and that considerable surpluses were securable. We will enumerate here some of his sources of revenue.

Agriculture

During the Hellenistic and Roman periods, the country witnessed intensive agricultural development: new crops were added, almost all the arable land was cultivated, and almost all available water was used for irrigation. Population density reached a level nearly unsurpassed until the twentieth century, except for the Late Byzantine period. We estimate that in the Byzantine period over 65–70% of the area of the country north of the Negev was under cultivation, and it seems that in the Herodian period the percentage was close to that.⁷ We can better appreciate that figure by noting that, today in Israel, north of the Negev, only 40% of the arable land is tilled.⁸ Terraces were built in the mountainous areas—a huge enterprise that began in the Early Iron Age—so that those areas could be intensively cultivated. In the ‘Jerusalem corridor’, for example, the only area investigated closely, some 56% of the land was terraced and tilled.⁹

As we have already said, in Herod’s time the water available for irrigation was exploited to its maximum. Josephus tells us about Herod’s development projects at the oasis of Jericho and north of it (*Ant.* xvi, 145)—projects that must have begun under the Hasmonean Kings. According to Josephus, the size of the irrigated area at Jericho was 70 × 20 stadia, or 4,800 hectares (*War* iv, 467). Although, in general, the irrigated areas in Palestine were only a very small portion of the overall cultivated land,¹⁰ new areas were added: in the Negev (by the Nabateans) and in the Golan and the Hauran (areas developed and settled by Herod).

Exports

Palestine exported very little in antiquity, only modest quantities of agricultural products—grain and oil. The single significant export item must

⁷ A. Reifenberg, *The Soils of Palestine*, Jerusalem 1938, pp. 131 ff.

⁸ The area cultivated in Israel in 1980 (and it hardly changed in the preceding 20 years) was 4,270 square kilometres. This area constitutes some 40% of the land north of the Negev. Cf. *Statistical Abstracts of Israel* 32 (1981), p. 376.

⁹ Z. Ron, ‘Agricultural Terraces in the Judean Mountains’, *IEJ* 16 (1966), pp. 33–49, 111–22.

¹⁰ In ancient Palestine irrigation played an insignificant role. In the Jerusalem hills only 0.6% of the total area of the agricultural terraces were irrigated in antiquity. In the Hebron mountains today only 0.28% of farmed land is irrigated, and in antiquity the figure must have been similar. Cf. Z. Y. D. Ron, ‘Development and Management of Irrigation Systems in Mountain Regions of the Holy Land’, *Transactions of the Institute of British Geographers*, N.S. 10 (1985), pp. 149–51. In other regions of the country the figures must have been of the same magnitude except for the Jordan Valley, Beth Shean Valley and the oases around the Dead Sea.

have been balsam.¹¹ Palestine was the only place in the Roman Empire in which this tree grew, in the oases of Jericho and En-Gedi, and probably also across the Jordan in the Plain of Moab. The ancient authors elaborate on the Jericho balsam, on its expense and on the demand for it: Pliny (*Hist. Nat.* xii, 112–24) says *inter alia* (*ibid.*, 117) that, in the days of Alexander the Great, the price of balsam was twice the price of silver. The importance of balsam is testified to by the fact that in Vespasian and Titus's victory procession, those rare trees were exhibited with the rest of their booty.

Another export item of economic interest was henna, which grows as a shrub.¹² From this shrub a dye was extracted and used (as in modern times) to paint the fingernails and colour the hair and sometimes to tint or dye textiles.

Transit Trade

Of great importance in this period was the commerce in incense, herbs and spices, with Palestine as the middleman for merchandise from the lands of southern Arabia and the Mediterranean and places as far away as India and Ceylon. Those items were very expensive in relation to their weight. The Roman world consumed vast amounts of them, especially frankincense and myrrh, which were regarded as vital ingredients in cultic practices and were also used in medicines and cosmetics.¹³

Transportation costs were the chief component in estimating the price to the buyer. According to Pliny (*Hist. Nat.* xii, xxxii, 65), the cost of a camel load coming from Arabia to Gaza reached up to 668 denarii. The lion's share of the expenses on that long road, which comprised sixty-five caravan stops according to Pliny (*ibid.*, 63–4), must have been tolls, duties and protection costs. Undoubtedly, Herod's treasury profited from those dues. After Augustus granted Herod the port of Gaza, as well as the Trachonitis, Bathanitis and Hauranitis, Herod's kingdom included the important trade routes: the Negev road to the Mediterranean and the road across Transjordan (the biblical 'King's Highway') to Damascus. The Nabatean caravans to Damascus, Gaza and the Nabatean port of Rhinocorura (modern el-'Arish) must have payed Herod custom duties. This explains why, in the Hasmonean period and later, the struggle over the possession of these routes was the paramount issue in the relationship between Judea and Nabataea.

¹¹ Cf. S. Lieberman, 'A Preliminary Remark to the Inscription of En-Gedi', *Tarbiz* 40 (1971), pp. 24–6; M. Zohary, *Plants of the Bible*, Cambridge 1982, pp. 197–200 and Van Beek (*infra* n. 13).

¹² Zohary, *loc. cit.* p. 190.

¹³ G. W. Van Beek, 'Frankincense and Myrrh', *Biblical Archaeologist* 23 (1960), pp. 69–95 [= *The BA Reader* 2, 1964, pp. 99–126]; J. I. Miller, *The Spice Trade of the Roman Empire, 29 BC–AD 641*, Oxford 1969; M. G. Raschke, 'New Studies in Roman Commerce with the East', in H. Temporini and W. Haase, *Aufstieg und Niedergang der römischen Welt* 9, 2, Berlin and New York 1978, pp. 650–79.

The Temple in the Economy: Pilgrimage and the Half-Shekel Due

Although pilgrimage was a major factor in the economy of Palestine in general, and of Jerusalem in particular, we have no way of estimating the number of pilgrims. The data regarding them provided by Josephus and the Talmud are markedly legendary by nature and are of no particular use, but there is no doubt that they must have amounted to myriads.¹⁴ Many came from Palestine, and many from the Diaspora—from Babylon to Rome and from northern Greece to southern Yemen. These brought with them considerable sums of money to Jerusalem for donations to the Temple, for purchasing animals for sacrifice in the Temple, and for living expenses. Jewish law prohibits charging pilgrims money for lodging, but they could pay with the hides of the sacrificial animals. Undoubtedly, many pilgrims brought not only cash with them to cover expenses, but also merchandise which they could sell or barter. This must have made Jerusalem an important commercial centre.

Many contemporary sources, Jewish and non-Jewish, speak of the donations and sacrifices from the Diaspora to the Temple and above all of the half-shekel due. The origin of this contribution goes back to the time of the building of the tabernacle in the desert (Exod. 30:11–16), and to a similar tax of one third of a shekel that was set in the time of Nehemiah (Neh. 10:33–4).¹⁵ In the Hasmonean period the half-shekel due became institutionalized as an annual tax, unlike the desert tribute which had been one single contribution. At the beginning of the first century B.C.E. the dues were raised regularly in the Diaspora and in Palestine. Josephus tells us of Mithridates, king of Pontus, who invaded the Greek island of Cos and plundered 800 talents of gold collected by Asia Minor Jews and earmarked for Jerusalem (*Ant.* xiv, 111–13). This is the first mention of interference, in 88 B.C.E., with the money destined for Jerusalem. We know of several cases in which rulers made it difficult to transfer such monies or even confiscated them. This was the case with Flaccus, whose attorney was Cicero (*Pro Flacco* xxviii, 66–9). In his defence, Cicero mentions four cases of confiscation: at Apamea, Laodicea, Adramyttium and Pergamum. One of the most important privileges given to Jews under Julius Caesar and Augustus was the right to transfer money to Jerusalem without hindrance. Augustus even classified it as sacred money, so that whoever meddled with it was subject to capital punishment (*Ant.* xiv, 215 and elsewhere; xvi, 163 ff. and elsewhere).¹⁶

¹⁴ S. Safrai, in S. Safrai *et al.* (eds.), *The Jewish People in the First Century* II, Philadelphia 1976, pp. 898 ff. On estimates of the number of pilgrims, *ibid.* pp. 901–2.

¹⁵ J. Liver, 'The Half Shekel Offering in Biblical and Post-Biblical Literature', *HTR* 56 (1983), pp. 173–98.

¹⁶ L. Kadman was of the opinion that a hoard of 4,500 silver coins discovered near 'Usafyah on Mount Carmel, the bulk of which are Tyrian shekels and half shekels, was a consignment of half-shekel dues that for some reason never reached Jerusalem. The fact that most of those coins are of Jerusalem minting (see Meshorer on the Jerusalemite shekels, *infra* n. 18) makes Kadman's interpretation most unlikely.

The half-shekel due was raised from every Jewish male beyond the age of thirteen, and not from the age of twenty as appears in the Pentateuch. The Mishna makes a clear distinction between a minor and one who has to raise the due: 'If the father had begun to pay the Shekel on behalf of [his son that was a minor] he may never again cease to pay it' (Mishna Shekalim 1, 3). According to the Mishna the money was used for Temple expenses and the city's expenses in general. The dues could be spent on 'the [upkeep of the] aqueduct, the city wall and its towers, and all the needs of the city' (ibid. 4, 2). Hence it is apparent that those large sums of money made a great impact on economic life in the development of trade and industry in Jerusalem and on the employment situation there and in neighbouring settlements.

The Value of the Shekel

In this period the shekel was identified with the tetradrachm, a coin of four drachmas, which equals four Roman denarii. Thus the half shekel was two drachmas, or two denarii. The payment—and this in a world replete with monetary standards and exchange rates—had to be made according to the Tyrian standard, the silver Tyrian didrachm,¹⁷ thus necessitating money-changers like those whose tables were overturned in the Temple by Jesus (Mark 11:15–19 and its parallels).

Recently Y. Meshorer has shown that after 19 B.C.E., when Tyre ceased to mint its own coins, all the Tyrian drachmas were produced in Jerusalem, most probably by the Temple authorities and possibly by Herod himself.¹⁸ The minting of the coins in Jerusalem must have accounted for a significant amount of income for the local economy. We cannot safely estimate the number of Diaspora Jews at that time, but according to Barhebreus, a Syrian chronicler of Jewish descent who lived in the twelfth century, the number must have reached about eight million. Barhebreus was relying on a census of the Jewish population of the Roman Empire taken in 48 C.E., under the Emperor Claudius, that reported 6,994,000 Jews.¹⁹ To this figure must be added Jews living outside the empire in Mesopotamia, Iran, southern Arabia, etc., which must have brought the number up to some eight million souls.

There is good reason to suspect that eight million is an exaggerated number. However, even if we estimate the actual number to have been one quarter of this (two million), of which 0.5 million lived in Palestine and 1.5 million in the Diaspora, and we estimate the number of them who paid the half-shekel as one third of Diaspora Jewry, the dues must have brought in

¹⁷ 'Silver mentioned in the Pentateuch is always a Tyrian silver. What is a Tyrian silver? It is Jerusalemite' (*tKetubbot* 13:3).

¹⁸ Y. Meshorer, *Ancient Jewish Coinage* II, Dix Hills, New York 1982, pp. 7–9; *idem*, 'One Hundred Years of Tyrian Shekels', *Studies in Honor of Leo Mildenberg*, Wetteren 1984, pp. 171–9.

¹⁹ Cf. S. Baron, *Encyclopaedia Judaica* 13, p. 871.

some one million drachmas (denarii) annually.²⁰ Even based on this minimalistic computation, the half-shekel due must have accounted for 10–15% of Herod's income.²¹ In addition to the half-shekel dues, the Temple and its functionaries—the priests and Levites—received donations and gifts, some discretionary and some obligatory, which must have amounted to very high sums as well.²²

Thus the Temple, both as a focus of pilgrimage and a recipient of dues and donations, played a most important part in the country's economy, and if we add to its revenues the regular sources of income already enumerated here we can see how Herod was able to finance his grand designs.²³

Excursus—On the Rate of 'Adult' Males in the Jewish Population in Antiquity

If we estimate the life expectancy of the Jewish population in the Roman period to have been 40 years, males above the age of 13 would constitute some one third of the population.²⁴ Many scholars have tried to use the rich epigraphical material in order to compute life expectancy in the Roman period (in the Latin West alone there are 43,000 funerary inscriptions), but unfortunately the highly selective nature of the data does not allow us to reach any valid conclusions.²⁵ Attempts have also been made to use modern

²⁰ See the *excursus* below.

²¹ The Attic talent under the Principate weighed 20-4kg and was divided into 60 *minah* which were respectively divided into 100 drachms. Thus the talent equalled 6,000 drachms, and 1,000,000 drachms were worth some 166 talents. Cf. H. Chantraine, *Kleine Pauly* 5, München 1975, pp. 502–3. Others, like Schalit (*supra* n. 6), n. 408 on p. 263, hold that the talent was equivalent to 10,000 drachms. Thus 1,000,000 drachms will have equalled 1,000 talents.

²² The Temple received also sumptuous donations, the most famous of which was Nicanor's Gate mentioned by Josephus and the Mishnah (cf. U. Rappaport, *Encyclopaedia Judaica* 12, Jerusalem 1971, cols. 1133–5). A recently published inscription records a donation of a pavement somewhere on or near the Temple Mount (B. Isaac, 'A Donation for Herod's Temple in Jerusalem', *IEJ* 33 (1983), pp. 86–92). Nicanor was an Alexandrian; the donor of the pavement, a Rhodian.

²³ I wish to thank Professor S. Safrai with whom I consulted on problems concerning the half-shekel dues. After the completion of this paper I obtained through the courtesy of Professor E. Gabba the manuscript of his article 'The Finances of King Herod'. Unfortunately the conclusions of this erudite and ingenious paper could not be included here. It is to be published in G. Fuks, A. Kasher and U. Rappaport (eds.), *Greece and Rome in Eretz Israel* (forthcoming).

²⁴ Based on the assumption that the life expectancy was equal. However, the evidence at our disposal shows that this was not the case; men lived longer. J. L. Angel has estimated the average life-span of Classical Athenian men and women who reached 15 years as about 45 (men) and 35 (women); Golden proposed (admittedly, quite arbitrarily) that men had a life expectancy at birth five years greater than women. Cf. M. Golden, 'Demography and the Exposure of Girls at Athens', *Phoenix* 35 (1981), p. 327 and n. 38 (references to Angel). In any case, it is quite clear that in Classical society the rate for men was higher than for women.

²⁵ K. Hopkins, 'On the Probable Age Structure of the Roman Population', *Population Studies* 20 (1966), pp. 245–64; P. A. Brunt, *Italian Manpower 225 BC–AD 14*, Oxford 1979, pp. 132–6. See also M. Clauss, 'Probleme der Lebensalterstatistiken aufgrund römischer Grabinschriften', *Chiron* 3 (1973), pp. 395–417.

analogies.²⁶ It seems to me that A. R. Burn was wrong in utilising early twentieth century data from India and Egypt. Both these countries were (and still are) suffering from extremely poor hygienic conditions, high population density and malnutrition. Therefore they cannot serve as fair analogies to the Roman Empire. It would be more appropriate to use for comparison the vital statistics of the Palestinian Arabs early in the British Mandate, before the introduction of modern medicine. In 1926–27, life expectancy among Palestinian Moslems was *ca.* 37 (males 37·9); in the years 1933–35 it rose to 42 (for both males and females).²⁷

However, there is good reason to think that in the Roman period (as well as in other periods) life expectancy among the Jews was higher than that of their neighbours, one of the reasons being that Jews abstained from infanticide, which was so prevalent in the Classical period. The Jewish 'positive' attitude toward child rearing drew the attention, not to say caused the amazement, of some Classical authors. 'They take thought to increase their numbers, for they regard it as a sin to kill any late-born child ... hence comes their passion for begetting children ...' (Tacitus, *Hist.* v, 5, 3). Similarly Hecataeus of Abdera (as quoted in Diodorus Siculus, *Biblio. Hist.* xl, 3, 8): 'He [Moses] required those that dwelt in the land to rear their children, and since offspring could be cared for at little cost, the Jews were from the very start a populous nation.'²⁸ At first glance there may appear to be little relationship between infanticide and life expectancy (intentionally neglected children can be regarded as stillborn) but this is not altogether correct. Much of the child mortality in Greek and Roman societies must have resulted from deliberate lack of care, particularly in the case of girls.²⁹

In short, we propose that if the world Jewish population numbered some 2 millions, 1·5 millions of whom were Diaspora Jews, at least 0·5 million paid the half-shekel due. The dues raised from the Palestinian Jews did not, of course, have any real effect on the country's balance of payments. The figure of 2 millions, it ought to be stressed, is no more than a learned guess, but the estimate of 0·5 million Jews living in Palestine seems to be quite close to the actual number.

²⁶ E.g. A. R. Burn, 'Hic breve vivitur', *Past and Present* (Nov. 1953), pp. 2–31.

²⁷ R. Bachi, *The Population of Israel*, Jerusalem n.d. (*ca.* 1977), table 13.13 (p. 248).

²⁸ For a lengthy discussion of both quotations and ample bibliography see M. Stern, *Greek and Latin Authors on Jews and Judaism* I, Jerusalem 1974, pp. 33–7; II, Jerusalem 1980, p. 41.

²⁹ S. B. Pomeroy, 'Infanticide in Hellenistic Greece', in A. Cameron and A. Kuhrt (eds.), *Images of Women in Antiquity*, London and Canberra 1983, pp. 207–22 and Golden (*supra* n. 24).