

J. JEAN AJDLER

Talmudic Metrology IV Halakhic Currency

In 66 BCE, Palestine came under Roman protection and, from 6 CE on, it would be under Roman administration. This situation persisted until the conquest by the Persians at the beginning of the seventh century. The Jerusalem Talmud was thus completely elaborated under Roman rule. Therefore, like the other units of measure, the halakhic coinage and monetary denominations of the Jerusalem Talmud were completely dependent on Roman coinage of the time and Roman economic history. Indeed, during the first century, Tyrian coinage was similar to the Imperial Roman coinage. Nevertheless, during the third century the debasement of Roman money became significant, and the Rabbis had difficulty finding Roman equivalents for the *shekel*, in which the Torah obligations are expressed, and for the *pruta*, the smallest amount in Jewish law.

In this article we describe the halakhic coinage, originally based on the Tyrian coinage, and examine the history of the *shekel* and the *pruta*.

We then examine the exegesis of different talmudic passages related to monetary problems and to the halakhic coinage, which cannot be correctly understood without referring to Roman economic history and numismatic data that was unknown to the traditional commentators of the Talmud.

Differences between parallel passages of both the Jerusalem and the Babylonian Talmuds can then be explained by referring to the economic situation prevailing in Palestine and Babylonia. For example, the notion of *kesef medina*, worth one-eighth of the silver denomination, is a Babylonian reality that was unknown to Palestinian *tannaim* and *amoraim*. We can then observe that new Babylonian understandings, based on local Babylonian circumstances, appear and assert themselves, and finally enter into Halakhah.

I. WEIGHT STANDARD AND COINAGE

a. Introduction

The great difference between these two different notions, weight and coinage, is that the weight standard is generally stable for long periods. Coinage, on the contrary, is generally unstable because of the phenomenon of debasement. Rulers try to

B.D.D. 22, December 2009

decrease the quantity of fine metal in coins in order to mint more coins with the same quantity of fine metal. The ruler's advantage is generally limited to a short period, because the money changers rapidly become aware of the new characteristics of the mintage. Either through rumors and indiscretions, or direct regular measurements of the density of the coins (by measurement of weight and volume), the money changers become aware of the altered fineness of the coins. They try to hold on to the old coinage, of higher fineness, and to get rid of the new coinage of lesser fineness by circulating it. The situation soon becomes known to all; the old coinage disappears and is hoarded, and only the new coinage is now in use. The ruler loses the temporary advantage as soon as the new value of the coinage becomes common knowledge. The situation is very similar to modern devaluation, when the state prints more fiduciary money than its gold reserves allow (gold standard) or more money than is justified by the quantity of goods available (post-gold standard).

b. Ancient Units of Weight

Roman Units of Weight

	Approximation in gr
<i>chalcus</i>	0.71
<i>siliqua</i>	0.189
<i>obolus</i>	0.568
<i>scripulum</i>	1.137
<i>drachma</i>	3.411
<i>sicilicus</i>	6.822
<i>uncia</i>	27.288
<i>libra – pondo</i>	327.453

Greek Units of Weight (according to the Attic Standard) in use in the Seleucid Empire during the second century BCE

	Approximation in gr
<i>chalkoi</i>	0.09
<i>hemiobolos</i>	0.36
<i>obolos</i>	0.72
<i>drachma</i>	4.32
<i>tetradrachma</i>	17.28
<i>mina</i>	432
<i>talent</i>	25860

Greek Units of Weight (according to the Phoenician Standard) in use in the Ptolemaic Empire (Egypt)

	Approximation in gr
<i>chalcoi</i>	0.075
<i>hemiobolos</i>	0.30
<i>obolos</i>	0.60
<i>drachma</i>	3.58
<i>tetradrachma</i>	14.32
<i>mina</i>	358
<i>talent</i>	21480

The units of weight used in the Talmud are the same as the Roman units of weight. This is the result of the similarity between the weight of the Tyrian *dinar* and the Roman *denarius* during the first century, at the end of the First Temple period; they weighed about one Roman *drachma* (in fact 4 percent more), or, more precisely, they contained one *drachma* of fine silver.

The equivalence of the two systems can be deduced from the Mishna Sheviit I: 2, ככר רבילה של ששים מנה באיטלקי.¹ The system of the talmudic units of weight was thus coupled with the Roman system; the talmudic *mana* was identical to the Roman *mina*, and was equal to the weight of 100 *denarii*. The situation appears then similar to that of the units of capacities; the talmudic units of capacity were also linked to the Roman ones. The plain meaning of the Mishnah in Sheviit is then that the talmudic *mana* is the same as the Roman *mina*, and that the talmudic *dinar* weighs the same as the Roman *denarius*. The assimilation of the talmudic system of units of weight to the Roman system of units of weight is not done without posing a problem of approximation. The talmudic system of units of weight was certainly based at its origin on the Tyrian coinage. The weight of the Tyrian *shekel* was stable for a very long period, beginning in 125 BCE. The *shekel* weighed about 14.16 gr and the *dinar* weighed 3.54 gr. The great stability of the Tyrian coinage allowed for the coinage to be considered as a unit of weight. The talmudic *dinar* thus weighed 3.54 gr and the talmudic *mana* weighed 354 gr. At the beginning of the reign of Augustus, the Roman *denarius* had a weight and a fineness similar to the Tyrian *dinar*, but the unit of weight of the *drachma* was only 3.41 gr, i.e. only 96 percent of the Tyrian *dinar*. The adoption by the Rabbis of the Roman standard of weight represented thus a diminution of 4 percent of the different units of weight.

1 We find the same passage in Y. Sheviit I: 1 and II: 1.

Furthermore, the use by the Rabbis of the same denomination “*dinar*” for the coinage (which, at least at the beginning, still weighed 3.54 gr) and for the unit of weight, the *drachma* representing 3.41 gr, i.e. 1/96 of the *pondo* or *libra*, has increased the confusion. When we examine the classical commentaries, we note a new difficulty because the medieval rabbis did not agree on the weight of the talmudic *shekel* and *dinar*, and some of their commentaries are somewhat farfetched. The Rash (Rabbi Samson ben Abraham of Sens)² writes that this identity between talmudic and Roman systems of units of weight existed in the time of Moses. He bases himself on a passage in B. Kiddushin 12a:

...וכי תאמר הני מילי בדורו של משה, אבל. The Rash seems to have known the weight of the Roman *denarius*, about an eighth of the *uncia* of Cologne, and his explanation allowed him to follow the *geonim*, who considered that the talmudic *dinar* weighed about 4.25 gr – the same as the gold Arab *dinar*. At the time of Moses, before the reevaluation of the weight of the *shekel*, the *dinar* weighed about 3.50 gr, and corresponded then to the weight of the Imperial Roman *denarius*. This is the reason why R. Samson wants to compare and equalize the Jewish standard unit of weight of the time of Moses with the modern Imperial Roman standard of weight.

This rather strange explanation corresponds to the generally accepted notion of the reevaluation of the *shekel* by 20 percent of its weight at an indeterminate period of Jewish history during the Second Temple period. We find a similar exposition in the commentary of R. Ovadia of Bertinoro on the Mishnah, *ad locum*. But he immediately adds a contradictory statement, that the *mana* is 100 *dinar*, each *dinar* being 6 *maah* of 16 barleycorns.³ Maimonides writes more simply, according to the plain explanation of the passage, that the modern and reevaluated *dinar*, weighing 96 barleycorns instead of 80 barleycorns before the reevaluation, is in accordance with the Roman standard of weight. But this is erroneous: the modern *dinar* of Maimonides’ time weighed about 4.25 gr while the Roman *denarius* weighed about 3.54 gr, and the Roman *drachma* weighed 3.41 gr.⁴

- 2 Late twelfth and early thirteenth centuries.
- 3 This ratio is correct after the reevaluation, but not at the time of Moses, before the reevaluation.
- 4 Maimonides certainly knew the talmudic *shekel* and *dinar*, but he considered these coins bearing inscriptions in old Hebrew as belonging to the period preceding the reevaluation. See *Tshuvot ha-Rambam*, Blau, responsum 268, p. 513.

c. Ancient Coinage

Greek Coinage

Coins and weights in ancient Greece were divided into *talent*, *mina*, *drachma* and *obolos*.

1 *talent* = 60 *mina*

1 *mina* = 100 *drachma*

1 *stater* = 2 *drachma*

1 *drachma* = 6 *oboloi*

1 *diobolos* = 2 *oboloi*

1 *obolos* = 8 *chalcoi*

1 *obolos* = 32 *lepton*

1 *tetradrachma* = 192 *chalcoi*

1 *tetradrachma* = 768 *lepton*

In the Seleucid Empire, the *tetradrachma* or *stater* weighed about 17.20 gr.

In the Ptolemaic Empire and, later, through the conquest of the Near East (Palestine and Syria) by Pompey, the *tetradrachma* became equal to the Phoenician *tetradrachma* and weighed about 14.20 gr, and the *drachma* then became equal to the Roman *denarius*.

In fact, in the Greek-speaking East, provincial and city mints struck traditional currency based on a silver *drachma* more or less equal to the Roman *denarius*, working according to the Attic Standard or other standards. There was a bewildering array of local, provincial, and city silver and bronze coins in the Roman East. Nevertheless, it seems that the *obolos*, according to the Attic Standard, was not struck for a long time after Augustus.

Roman Coinage, according to the reform of Augustus.

1 *aureus* = 25 *denarii*

1 *denarius* = 2 *quinarii*

1 *quinarius* = 2 *sestertii*

1 *sestertius* = 2 *dupondii*

1 *dupondius* = 2 *as*

1 *as* = 2 *semis*

1 *semis* = 2 *quadrantes*

J. Jean Ajdler

The *aureus* is in gold; the *denarius* and *quinarius* are in silver.

The *sestertius*, *dupondius* and *semis* are in orichalcum or brass, the *as* and *quadrans* are in copper.

d. Augustan Currency System or Imperial Coinage at the Beginning of the First Century

Denomination	Metal	Weight in gr	Value in <i>denarii</i>	Size in mm
<i>aureus</i>	gold	7.90	25	~20
<i>quinarius</i>	gold	3.80	12.5	~15
<i>denarius</i>	silver	3.80	1	~19
<i>quinarius</i>	silver	1.90	1/2	~15
<i>sestertius</i>	orichalcum	25	1/4	~25-30
<i>dupondius</i>	orichalcum	12.5	1/8	~28
<i>as</i>	copper	11	1/16	~24-28
<i>semis</i>	orichalcum	3.25	1/32	~18
<i>quadrans</i>	copper	3	1/64	~15

The fractional denominations were struck in two metals: orichalcum or brass (75 percent copper, 20 percent zinc and 5 percent tin) and pure copper. The ratio of gold to silver was about 12:1, the ratio of silver to orichalcum was about 29:1, and the ratio of silver to copper was about 55:1.

Before the reform of Augustus and the replacement of the Republic by the Principate, the Romans used only pure gold and silver coins. Augustus,⁵ and later his stepson Tiberius,⁶ succeeded in maintaining a stable financial situation. But, under Caligula and Nero,⁷ we observe the first signs of debasement of the money.

- 5 In order to finance his vast infrastructure expenditures, Augustus ordered that government mines in Spain and France be exploited 24 hours a day, a measure that increased the money supply significantly. It is estimated that, between 27 BCE (the date of his installation as the first ruler of the Empire) and 6 BCE, prices in Rome doubled. In the second part of his reign (6 BCE to 14 CE), Augustus reduced the value of the coinage drastically, as he recognized that this was what had led to the rise in prices.
- 6 After the death of Augustus in 14 CE, his stepson Tiberius succeeded him. The rate of the new coinage was far inferior to that during Augustus's reign, which inevitably led to a real scarcity of money in the Empire. At the same time, however, it also led to a vast surplus in the coffers of the Imperial treasury. Thus, when Tiberius was assassinated in 37 CE he left his insane successor Caligula with 700 million *denarii* – about thirty times the sum left by Augustus.
- 7 Caligula's lavish spending necessitated the expropriation of properties from a number of

At the end of Nero's reign, the Imperial Roman *denarius* and the Tyrian *dinar* had similar weight, silver content, and value.

II. DEBASEMENT OF THE ROMAN CURRENCY

The debasement of the *denarius* and more generally of the Roman coinage started with Nero. Nevertheless, the value of the Imperial *denarius* during the first century remained close to the value of the Tyrian *dinar*. In fact, the Imperial *denarius* under Augustus was heavier and had a higher degree of fineness than the Tyrian *dinar*,⁸ but the Imperial coinage had limited circulation in Palestine and Syria during the first century.

The table below shows the gradual and then total collapse of the *denarius* from the time of Augustus until 268 CE. Under Augustus, the *denarius* had been 98 percent pure silver; the purity declined gradually to 90 percent by the time Hadrian died in 138 CE.

Nero	54 CE	94 percent silver
Vitellius	86	80
Domitian	91	92
Trajan	98	93

wealthy families whom he falsely accused of plotting against him. He was succeeded by the equally mad Nero. By then, the accumulated fiscal surpluses of Rome had been spent, and the large trade deficits Rome maintained with its colonies induced Nero to debase Rome's currency. In 64 CE, he made the *aureus* 10 percent lighter in weight. Whereas, in the past, 41 *aurei* had been minted from one pound of gold, the ratio now became 45. Nero also minted a new silver coin, which not only was lighter in weight (96 *denarii* to the Roman pound instead of 84 previously), but also contained about 6 percent copper, which meant that the new *denarius* was worth about 18 percent less than the old one. From the start, as one can imagine, the new coins traded at a discount to the old ones, which led to inflation. Nero then tried to force a demonetization and a reminting of the old coinage, but this was only partially successful because the well-to-do either hid their wealth or emigrated to remote provinces and evaded the Roman tax collectors. However, Nero had set a precedent. Between his being deposed in 68 CE, and the sacking of Rome in the second half of the fifth century, a succession of emperors continued increasing the supply of money in the Empire by debasing the *denarius*, which in the end had a silver content of only 0.02 percent.

⁸ Under Augustus, the *denarius* weighed 3.80 gr and had a fineness of 98 percent; the amount of fine silver was thus 3.71 gr. Under Nero, the *denarius* weighed about 3.6 gr and its fineness was 94 percent, the amount of fine silver was thus 3.41 gr. The Tyrian *shekel* weighed 14.17 gr; the *dinar* weighed 3.54 gr, and its fineness was about 92 percent, and the amount of fine silver was 3.19 gr. Thus, even after Nero's debasement of the coinage, the *denarius* was still roughly equivalent to a Tyrian *dinar*.

J. Jean Ajdler

Hadrian	117	90
Antonius Pius	138	86.5
Commodus	180	73
Marcus Aurelius	161	68
Septimus Severus	193	55.5
Caracalla	211	51.5
Elagenbalus	218	43
Alexander Severus	222	35
Gordian	238	28
Philip	244	0.5
Claudius Gothicus	268	0.02

Silver debasement under Caracalla was greater than it appears from looking at the *denarius*, because he also introduced, in 215 CE, the *antoninianus* (5.1 gr, 52 percent fine). It contained 50 percent more silver than the *denarius*, but was legally valued at two *denarius*. By imperial decree, therefore, this denomination was overvalued by 33 percent with regard to its silver content. This reform of 215 CE was the cause of a significant inflation in the Empire. After Caracalla, the rate of monetary debasement accelerated, reducing the silver content of the coinage to 40 percent by 250 CE, and to virtually zero by 270 CE. In 274 CE, the emperor Aurelian reformed the currency, and his denomination – the *aurelianus* of improved weight (3.88 gr and 5 percent fine) – remained in use until the great recoinage of Diocletian in 294 CE. The *aureus*, minted then at 50 or 60 to the Roman pound, was exchanged at rates reaching 1,000 *denarii*.

In 294, the emperor Diocletian reformed the currency. The coinage had by then become so debased as to be virtually worthless. Diocletian's attempt to reissue good gold and silver coins failed because there simply was not enough gold and silver available to restore confidence in the currency. The Edict of Diocletian, in 301 CE, was a "maximum price edict" intended to curb inflation. Indeed, in order to control the hyperinflation, Diocletian passed an edict that set maximum prices on some 800 items. Wages were defined in the edict, with daily unskilled wages being set at 25 *denarii*, and daily skilled wages at 50-60 *denarii*. These wages were about 50 times the wage rates at the end of the Republic. But Diocletian's edict was not a success; it did not halt the spiraling prices, despite the threat of capital

9 See Y. Ketubot XI, 2, 34b (62a in the edition of Vilna). Rabbi Abbahu reports a case in the name of Rabbi Johanan from which it appears that, during the life of Rabbi Johanan, 1 *aureus* = 1000 provincial *denarii*.

punishment. It served only to drive goods onto the black market. Diocletian finally accepted the decline of the monetary-based economy, and revised the tax system so that it was based on payments in kind – including the soldiers' salaries. Diocletian had specified that a pound of gold was worth 50,000 *denarii*, but the market rate deteriorated to 100,000 *denarii* per pound of gold by 307 CE, to 300,000 *denarii* per pound of gold by 324 CE, and to an incredible 2.1 billion *denarii* per pound of gold in about 350 CE.¹⁰

The reasons behind this evolution reflect an important problem in the history of economics, which is not very different from modern hyperinflation. Nothing has changed; it is always induced by considerable budgetary deficits financed by the creation of money.¹¹

III. THE SITUATION IN PALESTINE

The situation in Palestine was similar and parallel to the general situation in the Empire. Nevertheless, local circumstances prevailed. During the second half of the third century, agriculture underwent a crisis because of corrupt administrative

10 Roy Davies and Glyn Davies, *A Comparative Chronology of Money*, pp. 3-4.

11 Regarding the causes of this phenomenon of debasement, there has been much debate and opinions are still divided. Except for the case at the beginning of Augustus's reign, when price inflation was the result of an important increase in monetary gold and silver supply, price inflation was generally not due to an inflatory increase in gold and silver supply, as one might assume. Duncan-Jones has shown that the monetary gold and silver supply was roughly constant, and was limited only by the loss from wear. It appears that the price inflation was strictly due to the debasement, which was carried out primarily to fund military pay increases. The causes of this inflation could give us the key to understanding the financial ruin of the Empire over the course of several centuries. The military costs, including discharge expenses after active service, consumed more than 70 percent of the government's revenue (Duncan-Jones, p. 45) once the number of legions had reached 33 under Septimus Severus.

Vespasian had increased taxes about as far as they could go without causing unrest, so there was little room to increase funding during the periods of extraordinary expenditure due to war or the reigns of extravagant emperors. At the beginning, during the Republic, financial ruin was avoided during periods of financial stress by conquering and looting new provinces. But later, this was no longer possible since virtually all the available profitable territories had already been annexed. In fact, the Empire had very little flexibility in its budget, either on the revenue side or the expense side. So long as there were no significant external threats to the Empire, the budget was sustainable over the long haul. Nevertheless, each time we observe a debasement of the currency by some percentage, price increases of the same percent will eventually be caused, all else being equal. So why debase the currency? Keith Hopkins explained that although the army rarely intervened in politics, the emperors always feared that they might, and the army therefore had to be placated.

But, practically, each time the nominal pay of soldiers was raised, the silver coinage was

arrangements, which led to neglect of the land. The inhabitants of the land also suffered from an extremely severe famine. Furthermore, upheavals and wars occurred in the East with the accession of the Sassanid dynasty. The second half of the third century was a very hard period. Some passages of the Talmud clearly show the difficulty of the situation. For example, we learn that Rabbis Johanan and Ilfa¹² were so hungry that they were obliged to abandon learning and turn to business. Nevertheless, for exceptional reasons, Rabbi Johanan continued learning and gained fame.

IV. A SHORT HISTORY OF THE *SHEKEL*

The *shekel* plays a major role in different aspects of religious and civil Jewish law:

- *Mahazit ha-shekel*: Ex. 30:13; Ex. 38:26, Nehemiah 10:33. Each Jewish male above the age of 20 must give half a *shekel* each year for the service of the Temple. This represented a very important source of income.
- Fifty *shekel* of *onees* and *mefateh*: Deut. 22:29 and 22:19.
- Fifty *shekel* of *motzi shem ra*: Deut. 22:19.
- Fifty *shekel* of *mohar ha-betulot* = fifty *shekel* of *ketuba* (according to German Rabbis)
- Five *shekel* of *pidion ha-ben* (redeeming of the firstborn): Num. 3:47 and 18:16.
- *Arakhim* are expressed in *shekel*: Lev. 27.
- Thirty *shekel* to pay to the slave's master: Ex. 21:32.

Judea was under Persian rule until the conquest by Alexander the Great in 323 BCE. With the death of the latter, Ptolemy I Soter (367-285 BCE) became the king of Egypt in 323 BCE. The victory at Gaza in 312 BCE of Ptolemy I, allied with Seleucus I, marks the beginning of the empire of the Seleucids.¹³ This event also represents the beginning of the Seleucid era. Judea passed under the rule of the Ptolemies after the victory of Ptolemy I Soter at Ipsus in 301 BCE.

debased shortly thereafter, so that the cost in precious metal to the Treasury was held roughly constant. Furthermore, the pay increase remained very close to the general price inflation.

However, once barbarian assaults became chronic and widespread rather than local and sporadic, the Empire found itself in a relentless decline. The government responded with ever-increasing tax rates that slowly stifled the entire economy and eventually destroyed the state. See Peter Bernholz, *Monetary Regimes and Inflation, History, Economic and Political Relationships*.

12 Probably in about 230-240 CE.

13 The Jews count the era of the Seleucids, or the era of contracts, from September -311, i.e.

Ptolemy II Philadelphus¹⁴ (308-246 BCE) succeeded Ptolemy Soter in 285 BCE. Ptolemy II reformed the extant coinage by reducing the weight of the *tetradrachma* from the Attic Standard (about 17.30 gr) to the Phoenician standard (about 14.20 gr). Palestine remained under the Ptolemies until the victory in about 200 BCE of Antiochus III Megas (242-187 BCE) over Ptolemy V. Through this victory, Palestine and the city of Tyre were conquered by the Seleucids, passing under their sovereignty and their coinage standard.

The tradition of the Phoenician *shekel* was adopted by the city of Tyre when it gained its independence in 126 BCE and began to issue *shekels*. These *shekels* were issued from 126 BCE until 65-66 CE. They had an average weight of 14.17 gr, and were of very good quality. Their silver fineness was about 92 percent.¹⁵ The significance of the Tyrian *shekels* results from the combination of the two following elements:

- The Tyrian *shekels* were issued continuously from 125-126 BCE until 65-66 CE, with a constant weight, quality, and fineness over a period of 191 years.
- The Sages of the Mishnah adopted the Tyrian *shekel* as corresponding to the Torah payment obligations expressed in *shekel* or *kesef*. In particular, the yearly obligation of payment of the half *shekel* was expressed in the Tyrian *shekel*.¹⁶

The *shekels* bear a date ranging from “year 1,” corresponding to 125-126 BCE, until “Year 191,” corresponding to 65-66 CE. The *shekels* issued during these 191 years may, according to Yakov Meshorer,¹⁷ be divided into two distinct groups. The first group includes coins dated 1 (125-126 BCE) to 106 (19-18 BCE). The

September 312 BCE. Al-Battani counts the era of Alexander from 0 March -310. His epoch is then six months later than the beginning of the Jewish era of contracts.

- 14 He was at the origin of the Septuagint, the Greek translation of the Bible by the seventy sages.
- 15 *Midot ve-Shiurei Torah*, p. 367 gives two different references for the fineness of the Tyrian *shekel*: a first reference gives an average fineness of 92.3 percent; a second reference gives 94.56 percent. Jacob Weiss, *Midot u-Mishkalot shel Torah*, p. 179, gives an average fineness of the Tyrian *shekel* of 92.3 percent. Yakov Meshorer in *Ancient Jewish Coinage*, Vol. 2, p. 8 gives an average fineness of 92 percent.
- 16 One side of the Tyrian *shekel* depicts the head of Heracles, the most celebrated heir of Greek mythology, son of Zeus and Alcmene. An eagle standing on the prow of a ship is represented on the reverse. The Greek inscription means: “Of Tyre the Holy and City of Shelter.” Between the legs of the eagle appears a Phoenician letter. Among the coins issued, variations occurred in the dates, the monograms and the style. It is, however, this denomination that the Sages of the Mishnah adopted because of its monetary qualities.
- 17 See Yakov Meshorer, *Ancient Jewish Coinage*, Vol. 2: *Herod the Great through Bar Cochba* (New York: Amphora Books), p. 7.

coins in general have large flans, and the full design and inscription are included. Most specimens of this group have been discovered in Lebanon and Syria. The second group is comprised of coins struck between 19 BCE and 66 CE. These coins in most cases have an inferior style. The flans are smaller and, on most specimens, the inscription is partially omitted. Most specimens of the second group were found in Israel. Meshorer¹⁸ has concluded that the *shekels* of the second group were struck in Jerusalem under Herod and his successors until 65-66 CE.

In 63 BCE, after the conquest of Palestine and Syria by Pompey, Palestine and Tyre came under Roman rule. From the reign of Augustus on, provincial Roman silver coinage was minted in Antioch and other coins were no longer needed. The Imperial *denarius* had a much greater fineness, even greater than the Tyrian *shekel*, but the Romans did not introduce their own currency into the Eastern provinces in general, and into Palestine in particular, until the first century. Even then, the use of Roman coinage remained limited until the reign of Nero.¹⁹ Whereas the Tyrian *shekels* of both groups had the highest possible silver content and fineness (about 92 percent), the Roman silver provincial *tetradrachmas* were struck with silver that was only 80 percent pure.²⁰ For this last reason, Tyre no longer needed to continue to mint currency.²¹

However, despite these elements, the minting of the Tyrian *shekel* continued. Even when Tyre stopped minting the Tyrian *shekels*, it continued in Jerusalem. This was the result of the requirement by the Sages that all payments to the Temple of Jerusalem and the payments related to religious obligations expressed in *shekels* be made in pure silver, namely, in *shekels* from Tyre.²² כסף שדברה בו תורה בכל מקום זו היא כסף צורי.

Only the Jews had this special need for high-quality silver currency. Therefore, since they could not compromise the rules established by the Sages and implemented by the religious authorities, they could neither fulfill their religious obligations nor make their payments to the Temple with the inferior Roman provincial *denarii*. The need for high-quality silver coinage was thus based on a religious rather than

18 Ibid., p. 8.

19 Ibid., p. 98.

20 Ibid., p. 8.

21 The market had an influx of inferior Roman provincial coins, which would have supplanted the use of the superior *shekels* of Tyre. Indeed, the law of the marketplace, also known as the law of Gresham, dictates that when there are two parallel coinages in existence, the inferior coinage replaces the superior one in popular usage. In other words, the inferior coinage is used in the exchanges and circulates while the superior coinage is hoarded.

22 Tosefta Ketubot XIII, 20.

an economic reason. Therefore, the Jewish authorities had to provide the population with Tyrian *shekels*, which necessitated their having to mint such Tyrian *shekels*. Since the minting of the Tyrian *shekels* was scheduled to be discontinued during the rule of Augustus, the requirements of the Temple of Jerusalem compelled the Palestinian authorities, namely Herod, to begin minting a local high-quality Tyrian *shekel*. These special editions were characterized by the letters KP. The meaning of this additional inscription is not clear. Meshorer²³ supposes that, prior to striking these Tyrian *shekels*, the minting authorities of Jerusalem probably required a special dispensation from Rome. Since the Roman officials were, on several occasions, sympathetic to the religious needs of the Jews, they probably agreed that the requirements of the Temple justified the minting of pseudo “Tyrian *shekels*” in Jerusalem. The letters KP could then, according to Meshorer,²⁴ represent a Greek inscription meaning, “according to the Roman order.” Meshorer sustains his assumption by the following quotation in Tosefta Ketubot XIII: 20: כסף שדברה בו תורה בכל מקום זו היא כסף צורי, איזהו כסף צורי, זה ירושלמי.

This proves that the Tyrian *shekel* was struck in Jerusalem during a certain epoch.

The crude style of the Jerusalemite *shekels* of the second group can probably be explained by the lack of skill of the master minters in Jerusalem. In particular, the designs depicted on the silver *shekels* were not originally part of the Jewish vocabulary of symbols, and were probably therefore treated with less attention. Only when the war against Rome began, did the Jerusalem mint issue autonomous coinage.

The Jewish war began in 66 CE and ended in 70 CE. Coins were minted in Jerusalem immediately after the outbreak of hostilities. The motivation to mint independent coinage was political; autonomous minting suggested independence. The striking of Jewish silver *shekels* thus symbolized both a declaration of war and a declaration of independence. Another motivation, however, was internal and religious: people still needed silver *shekels* for their religious duties. These coins had the same purity of silver and the same weight as the Tyrian *shekels*. Nevertheless, the design and the inscriptions on these Jewish *shekels* were adapted and changed into Jewish topics. The issues struck during the Jewish war were:

1 silver *shekel*: average weight: 14.17 gr

¹/₂ silver *shekel*: average weight: 6.83 gr

23 Meshorer, *ibid.*, p. 9.

24 *Ibid.*

J. Jean Ajdler

$\frac{1}{4}$ silver *shekel*: average weight: 3.35 gr

1 bronze *pruta*: average weight: 2.60 gr

Again, the Jewish silver *shekels* were of a higher quality and silver content than the contemporary silver provincial *tetradrachmas* minted under Nero in Antioch,²⁵ and they had almost the same value as the Imperial silver coinage.

One Imperial silver *denarius* equaled 64 *quadrans* of about 3 gr copper, but Meshorer²⁶ assumes that because the Jewish silver issues were more valuable than the corresponding provincial Roman coinage, the Jewish minting authorities may have increased the quantity of bronze in the *prutot* in order to justify the denominational equivalency of 64 *prutot* being equal to one quarter of a *shekel*. In other words, at the beginning of the revolt, one silver *shekel* would have been worth 256 *prutot*, in the same way that one *denarius* was worth 64 *quadrans*. Interestingly, the half *shekel* weighed less than half of the average weight of the whole *shekel*. The average weight of the half *shekel* is 6.83 gr and, therefore, the weight of two half *shekels* is 13.66 gr, less than a full *shekel* of 14.17 gr. This discrepancy is probably related to the fact that the amount of human work needed to strike the coins of the two denominations, the half *shekel* and the *shekel*, is the same. The minters may have compensated by reducing the amount of silver used to strike the half *shekel*.

A similar discrepancy exists in the Tyrian Standard between the half *shekel* and the whole *shekel*. According to the percentage of whole *shekels* and half *shekels* that have been found, we can infer that the whole *shekels* were more popular. The popularity of the whole *shekels* over the half *shekels* is probably related to this imbalance.

The Revolt of Bar Kochba (132-134 CE)

During the revolt of Bar Kochba, silver and bronze coins were struck.

The silver coins were:

Tetradrachmas. These were all overstruck on Roman provincial *tetradrachmas*, which were minted primarily in Antioch and, to a lesser extent, in Tyre. These provincial issues were called *selaim* in the rabbinic sources. The majority of the Roman coins that were overstruck were minted under Nero, Vespasian, and Titus. Those minted under Nero were called *sela neronit* in talmudic literature.

25 The revolt *dinar* weighed 3.35 gr. It had a fineness of 92 percent and contained 3.08 gr silver. The provincial *drachma* had a fineness of only 80 percent.

26 Meshorer, p. 127.

Denarii. These were overstruck on Roman silver *denarii* originally minted in Rome or in one of the provinces. These issues were called *dinerim*, *denarii*, or *zouzim*. Some of these *denarii* were overstruck on Roman provincial *denarii* of the province Arabia,²⁷ which is mentioned in the Talmud.²⁸ Nabatia was indeed annexed in 106 by Rome and renamed provincia Arabia.

V. THE PRUTA

The importance of the *pruta* lies in the fact that, from a legal point of view, it represents the smallest significant value. For example, any damage or any contesting about an amount less than one *pruta* is considered nonexistent. Therefore, it seems clear that the estimates of the *pruta* are made with regard to the extant coinage, Imperial coinage, or more likely provincial coinage – but certainly not the Tyrian coinage. The latter was only known in Palestine because of its Tyrian *shekel* of good, constant quality, which the Sages had considered fitting to fulfill the Torah requirements.

Apparently, the *pruta* must be related to the Hasmonean and early Herodian coinage. The Hasmoneans still adjusted their coinage according to the Seleucid Standard. According to Yakov Meshorer,²⁹ the *pruta* may be compared to the Seleucid *dilepton*.³⁰ The *pruta* was a copper coin of about 1.5 to 2 gr and about 15 mm diameter.

From the time of Agrippa I (42 CE) the *pruta* increased in weight and size to an average of 2.55 gr and 17 mm. This brought the *pruta* close to the Roman *quadrans*, which weighed about 3 gr and had a diameter of 15 mm. Yakov Meshorer's conclusions, however, should be considered with caution.³¹

VI. EXAMINATION OF TALMUDIC TEXTS CONNECTED TO COINAGE

a. The Palestinian Coinage Standard

In the Tosefta Bava Batra V: 4 we find the following description of the Palestinian coinage:

27 Meshorer, p. 99.

28 B. Bekhorot 49b.

29 Meshorer, p. 15.

30 Based on the weight of coins supposed to have been *prutot*. Nevertheless, we deduce from the data given by the *Tosefta* that 1 *denarius* = 192 *prutot*. But 1 *drachma* = 192 *lepton*. And 1 *drachma* = 1 *denarius*; therefore it seems, according to the talmudic data, that 1 *pruta* = 1 *lepton*.

31 See also note 36.

פרוטה שאמרו אחד משמונה פרוטות לאיסר, איסר אחד מעשרים וארבעה לדינר, שש מעה כסף דינר, מעה כסף שני פונדיון, פונדיון שני איסרין, איסר שני מסמסין, מסמס שני קונטריסין, קונטריס שתי פרוטות. רבן שמעון בן גמליאל אומר, פרוטה שאמרו אחת מו' פרוטות לאיסר, שלש הדרסין למעה, שני הינצין להדריס, ב' שמינים להינץ ושתי פרוטות לשמין.

The first part of the *baraita* is mentioned in Y. Kiddushin³² in the name of Rabbi Hiya. The second part is mentioned³³ in the name of Rabban Simeon ben Gamaliel II.

The *pruta* which the sages mentioned is one eighth of an *issar*, an *issar* is one twenty fourth of a *dinar*, six silver *maah* equal one *dinar*, one silver *maah* equals two *pundion*; one *pundion* equals two *issar*; one *issar* equals two *musmis*; one *musmis* equals two *kuntron*; one *kuntron* equals two *pruta*. Rabban Simeon ben Gamaliel says: “The *pruta* which the sages mentioned is one-sixth of an *issar*; three *hadriassin* equal one *maah*, two *hanzin* equal one *hadriass*, two *shamin* equal one *hanez*, two *prutas* equal one *shamin*.”

Rabbi Hiya and Rabban Simeon ben Gamaliel mention two ancient traditions relating to standards of coinage. Shurer³⁴ had already observed that the *pruta* is an old denomination of Semitic origin, and does not belong to the Roman system. In *Dorot ha-Rishonim*,³⁵ Halevy observed that the expression פרוטה שאמרו shows that we are dealing with something ancient, which is no longer known.

It seems that both the *pruta* and the *maah*, and, more generally, the whole coinage standard described by the *baraita*, are ancient elements. Apparently, Rabbi Simeon ben Gamaliel describes the old coinage standard that was in use in Palestine under Hasmonean rule. It bears no relation either to the Attic Standard or the Roman Standard; it was probably, according to David Sperber, in use before Pompey's conquest in 63 BCE. If we consider now the first system, described by Rabbi Hiya, it ascertains that:

$1 \text{ dinar} = 6 \text{ maah} = 12 \text{ pundions} = 24 \text{ issar} = 48 \text{ musmis} = 96 \text{ kuntrons} = 192 \text{ pruta}$, where the *dinar* must represent the provincial *drachma*.³⁶

32 Y. Kiddushin I, 1, 58d.

33 B. Kiddushin 12a and Y. Kiddushin I, 1, 58d.

34 *Geshichte* E. Schürer, English edition, Vol. I, part 2, p. 40.

35 R. Isaac Eizik Halevi in *Dorot ha-Rishonim*, Part 1, Vol. 3, p. 228 (Frankfort am Main, 1906).

36 The Gospel, according to Mark 12:42, speaks about a poor old woman who put in the alms box two small coins, two *leptons*, which make one *quadrans*. This quotation is fully in

The Imperial Roman system is a little different: 1 *denarius* = 4 *sestessii* = 8 *dupondii* = 16 *as* = 32 *semis* = 64 *quadrans*.

The system described by Rabbi Hiya represents a system that is similar to the Roman Standard, but still different. Many denominations are similar to Roman denominations but are not equal to the parallel Roman denomination because of the ratio 1 *dinar* = 6 *maah*, similar to the ratio 1 *drachma* = 6 *oboloi*, but different from the Roman ratio 1 *denarius* = 4 *sestertii*. It is a compromise between the Roman system and the Seleucid *obol-drachma* system. Some scholars think that this system is no different than the Roman system, but simply expresses the fact that copper was less valued in the Orient than in Rome; the ratio of silver to copper would be 55:1 in Rome and 82:1 in the Orient. This explanation is nevertheless untenable because the *maah* was a silver coin and not a copper coin.³⁷ Furthermore, the *dinar* (*drachma*) and the *denarius* were not necessarily equal. Although, during the first century, the Tyrian *dinar*, the Syrian *drachma* and the Imperial *denarius* had about the same weight, they did not have the same value. We have seen above that the imperial coinage had a greater value than the provincial coinage. The fineness of the *drachma* was about 80 percent while the fineness of the *denarius* was still 98 percent, and the fineness of the Tyrian *dinar* was about 92 percent. The system described by Rabbi Hiya, according to Daniel Sperber,³⁸ would have been introduced during the implementation of the new currency system of Mattathias Antigonus in about 40-37 BCE. This system would have been continued, with some adaptations, under Herod. At the time of the Mishnah, it would already have been obsolete and replaced by the Roman Standard. Yakov Meshorer³⁹ dates the system described by Rabbi Hiya to the time of the first Roman procurator Coponius. He observes further that the denomination “hadris” recalls the similar word *hadris*, or in another reading *hardis*, which means “Herodian.”⁴⁰ Yakov Meshorer thinks,

accordance with the *Tosefta*. We know that 1 *drachma* equals 192 *leptons*. But, according to the *Tosefta*, 1 *dinar* = 192 *pruta*; thus, 1 *pruta* = 1 *lepton* = 1/2 Jewish *quadrans*. There is then perfect concordance between the *Tosefta* and the quotation from the Gospel: the two small coins were *prutot*, called in the Gospel *leptons*, and together they make a *kuntrum*, the Jewish *quadrans*.

37 In the Mishnah and in the *Tosefta* the *maah* is always mentioned with the word *kessef*: *maah kessef*. References in the Mishnah: Shekalim I: 7, Hagiga I: 2 and 5, Ketubot V: 9. Furthermore, the Jerusalem Talmud ascertains that the *maah* is the smallest silver denomination: see Y. Kiddushin I, 1, 58c and Y. Shevuot VI, 1, 36d.

38 D. Sperber, “Palestinian Currency Systems during the Second Commonwealth,” *The Jewish Quarterly Review*, 56 (1965/66): 273-301.

39 Meshorer, pp. 14-16.

40 See B. Hulin 139b.

therefore, that the system described by Rabban Simeon ben Gamaliel refers to the Herodian coinage, while the system described by Rabbi Hiya would have referred to the provincial coinage introduced by the first procurator Coponius in 6 CE, which would still represent a bridge between the old Syrian *drachma-obol* system and the Roman system. In any case, these two systems were already out of use and completely forgotten when the *baraita* relating to the halakhic ratio of the *pruta* was taught. From the text of B. Kiddushin⁴¹ and Y. Kiddushin⁴² we see that the Rabbis of the beginning of the third century still doubted whether the *pruta* was equal to one-sixth or one-eighth of the *issar*. In Mishna Kiddushin I: 1 and Eduyot IV: 7, we read: וכמה היא פרוטה, אחד משמונה באסר האיטלקי.

The text of these Mishnahs is written in such a way that we can infer that the value of the *pruta* was no longer known with precision at the time when it was written. In this text, the value of the *pruta* is compared to the Italian, as i.e. the Imperial *as*. Apparently, there is no reason to confuse the *issar* or provincial *as* with the Imperial *as*. If we consider that these anonymous Mishnahs were taught by Rabbi Meir, or at least during the same period, we should have a third opinion expressed at about the same time, during the second half of the second century. During the last quarter of the second century, the provincial coinage of Palestine and Syria was organized parallel to the Roman system; it was based on the *sestertius*. Nevertheless, we have reason to consider that the provincial coinage was still inferior to the Imperial coinage. We read indeed in B. Bekhorot 49b: “Rabbi Hanina⁴³ says that five old Syrian *stater*, when eight of them equal one *aureus*, allow one to redeem a firstborn.”

Thus, at a slightly later period, at the very beginning of the third century, it was generally known that the provincial coinage was less valued than the imperial coinage in a proportion of 25/32 for similar denominations. Therefore, it seems impossible that Rabbi Meir or another anonymous author of the two Mishnahs would have identified the *issar* with the Italian *as*. It seems that a third opinion is expressed, leading to a *pruta* with a value of 1/8 of the Imperial *as* or 1/128 of a

41 B. Kiddushin 12a.

42 Y. Kiddushin I, 1, 58d.

43 Probably Rabbi Hanina bar Hama. He was born in Babylonia and joined Rabbi Judah ha-Nassi when he was already highly educated, married, and a father. He had a long life: about 165 CE – 250 CE.

44 Rabbi Hanina bar Hama was probably the closest and most important pupil of Rabbi (B. Ketubot 103b). Nevertheless, for an inconsequential self respect, Rabbi did not name him during his life (Y. Taanit IV: 2). He lived until a ripe old age, over 80 (see Heiman, *Toldot Tanaim ve-Amoraim*, Vol. 2, p. 491; Heyman believes that he even survived Rabbi Judah

denarius.⁴⁵ The distinction between the provincial and the Italian denominations appears clearly in the Mishnah, but will soon be forgotten when the creeping inflation becomes hyperinflation in the second half of the third century. As we see in Y. Kiddushin,⁴⁶ Ilfa, who already had suffered because of the hyperinflation that began in 215 CE, identifies the Mishnah with the *Tosefta*, and necessarily confuses the provincial *issar* and the Italian *as*. It is not surprising that this confusion generalizes itself in the text of Babylonian *kiddushin*,⁴⁷ where the confusion appears even in the transcription of the *Tosefta*.

The problem of the *pruta* was not resolved; the Rabbis of the third and even the fourth century continued to debate the value of the *pruta*. Y. Kiddushin I, 1, 58d writes (according to the emendations proposed by R. David Frankel of Dessau in his commentary *Korban ha-Eda*):

א"ר זעירא בימי רבי סימאי ורבתינו עשו אותם עשרים וארבעה למעה..... רבי חנינה ורבי מנא, רבי חנינה אומר נחשא באתריה קיים, כספא זליל, כספא יקר. רבי מנא אמר, כספא באתריה קיים, נחשא יקר, נחשא זליל. על דעתיה דרבי מנא לעולם שמונה נשים מתקדשות באיסור, על דעתיה דרבי חנינה פעמים שש, פעמים שמונה.

Said Rabbi Ze'ira II:⁴⁸ This was the situation at the epoch of Rabbi Simai⁴⁹ (the *maah* was worth 32 *pruta*) but afterwards our Rabbis adapted the former

Ha-Nassi, but this remains conjectural). Therefore, we can estimate that he lived from about 170-175 CE until about 265 CE. This assertion could date him from after the inflation of 215 CE. He made reference to the old provincial *tetradrachma*, which he said was worth 25/32 of four Imperial *denarii* of the first century or the beginning of the second century, i.e. 0.78 percent of four Imperial *denarii*. It is also interesting to note that in *Mossaf ha-Aruch*, entry "dinar," R. Benjamin Mossafia writes, without any reference, that 1 *drachma* = 7/8 *denarius*.

45 Let us be accurate: during the beginning of the direct Roman administration of Palestine at the beginning of the Common Era, the Imperial coinage was not very popular in Palestine, and people used mainly the provincial coinage that was still aligned on the Attic Standard. At the time of Rabbi Meir, however, in the second half of the second century, it was more widespread and coexisted with the provincial coinage, and people were aware of their respective valuation. When Rabbi Meir, or an anonymous colleague, spoke about the *issar ha-italki*, the Imperial *as*, he surely wanted to note the difference between it and the provincial *issar*.

46 Y. Kiddushin I, 1, 58d.

47 B. Kiddushin 12a.

48 Rabbi Zeira II, or Rav Zeira II (in the Babylonian Talmud), was a Babylonian *amora* born at the end of the third century and belonging to the first half of the fourth century. He established himself in Palestine but came back with all the Babylonian wayfarers and Rabbis in about 323 CE. He was one of four candidates to succeed Rav Joseph in 325 CE. He later came back to Palestine. See Heyman, *Toldot Tanaim ve-Amoraim*, Vol. 1, p. 398.

J. Jean Ajdler

maah-pruta ratio, which was 32 to 24.⁵⁰ Rabbi Hanina and Rabbi Mana⁵¹ have divergent opinions. Rabbi Hanina says that the price of copper remained stable while the price of silver went down; Rabbi Mana says that the price of silver remained stable while the price of copper went up. According to Rabbi Mana, eight women can always be married with one *issar*. According to Rabbi Hanina, it depends; sometimes six but sometimes eight women can be married with one *issar*.

Let us consider the first sentence relating the change of the *maah-pruta* ratio at (or after) the epoch of Rabbi Simai, at the beginning of the third century.

The ancient ratio was thus:

1 *dinar* = 6 *maah* = 12 *pundion* = 24 *issar* = 48 *musmis* = 96 *kuntrons* = 192 *pruta*.

The new ratio, introduced after Rabbi Simai, is then:

1 *dinar* = 6 *maah* = 9 *pundion* = 18 *issar* = 36 *musmis* = 72 *kuntrons* = 144 *pruta*.

The number of *pruta* per *maah* changes then from $192/6 = 32$ to $144/6 = 24$.

This seems to be the only way to explain the variation of the *maah-pruta* ratio, caused by a relative variation of the value of silver and copper. If we consider copper as stable, then the silver *denarius* went down from 192 to 144 *pruta*, a 25 percent decrease. If we consider further that silver remained stable, then the copper *pruta* went up from $1/192$ to $1/144$ *denarius*, or by 33 percent.

This event could be related to the reign of Caracalla.⁵² At the end of the reign of Septimus Severus, the *denarius* weighed 3.22 gr. It had a fineness of 56.5 percent and contained 1.81 gr fine silver. At the beginning of Caracalla's reign the *denarius* weighed 3.23 gr. It had a fineness of 51.5 percent and contained 1.66 gr silver. After Caracalla's reform in 215 CE, the *antoniniamus* weighed 5.1 gr, had a fineness of 52 percent, contained 2.65 gr of fine silver and was legally valued at two former *denarii*, which contained 2×1.66 gr or 3.32 gr. Thus, the *antoniniamus* contained 80 percent of the silver of two former *denarii*, but was valued legally at the same price as the original *denarii*. In other words, the silver of the *antoniniamus* was overvalued by 25 percent. As the market refused to accept the *antoniniamus* at the official rate and valued it according to its silver content, this corresponded to a new debasement of the *denarius* by 25 percent. Thus, the reform of 215 CE

49 Beginning of the third century.

50 David Sperber in his paper "Gold and Silver Standards," *Numismatic Chronicle*, 8 (1968): 83-109 translated this sentence incorrectly.

51 See note 53.

52 David Sperber in his paper "Gold and Silver Standards," supra n. 50, already proposed relating the adaptation of the value of the *pruta* to Caracalla's reform.

represented a debasement of 25 percent; but, if we refer to the situation at the end of the reign of Septimus Severus in 211 CE, then we observe that the *antoninianus* contained only 73 percent of the silver contained in two *denarii* of Septimus Severus, corresponding to a global debasement of 37 percent. The proximity in time between the reform of Caracalla and the period of Rabbi Simai, and the similar significant debasement make it likely that the change in value of the *pruta* after Rabbi Simai was the consequence of the debasement under Caracalla's reign. Therefore, the only plausible explanation for the evolution of the situation is that the former ratio: $1/25 \text{ aureus} = 1 \text{ denarius} = 6 \text{ maah} = 24 \text{ issar} = 192 \text{ pruta}$ was replaced, after the reform, by:

$1/33.3 \text{ aureus} = 1 \text{ denarius} (= 1/2 \text{ antoninianus}) = 6 \text{ maah} = 18 \text{ issar} = 144 \text{ pruta}$.

The *maah*, a silver coin corresponding to the *obolus*, was not struck for a long time after Augustus, and must be considered a silver account currency bound to the *denarius*. The former relationship expresses the debasement of the *denarius*.

We see further that Rabbi Hanina and Rabbi Mana⁵³ differed on the subject. Rabbi Hanina maintains that the copper coinage remained unchanged, and that it was the silver coinage that went down. Thus, the standard of valuation was the stable coinage, i.e. the copper coinage,⁵⁴ and a woman needs one *pruta* to marry. Therefore, one *issar* was equal to eight *prutot* and it allowed for the marriage of eight women; after the reform, however, it was worth only six *prutot* and allowed for the marriage of six women. Rabbi Mana considers that the silver coinage remained unchanged⁵⁵ and that it was the copper coinage that went up. Therefore, he says, one *issar* allowed for the marriage of eight women before the reform. After the reform, although the copper coinage went up and six *prutot* were now

53 David Sperber, in the above-mentioned paper, proposed attributing Rabbi Hanina to Rabbi Hanina bar Hama, Rabbi's most important pupil, and Rabbi Mana to Rabbi Mana I, Rabbi Yanai's pupil. Rabbi Hanina lived from about 170-175 until about 265 CE, and Rabbi Mana I probably about 220-295 CE. I would prefer to attribute Rabbi Hanina to Rabbi Hanina of Zippori and Rabbi Mana to Rabbi Mana II. Both Rabbis would then belong to the fourth century and would be followers of Rav Zeira II, Rav Dimi and Rabbin. It would also explain why all these Rabbis, except Rav Zeira II, had an incomplete understanding of exactly what happened in 215 CE during Caracalla's monetary reform. During a last reading, I found that Daniel Sperber changed his mind in his book, *Roman Palestine 200-400, Money and Prices*, p. 78. R. Hanina is indeed R. Hanina of Zippori, and Rabbi Mana is Rabbi Mana II.

54 Contradicting the general rule that the silver coinage always represents the standard coinage with regard to copper coinage and even gold coinage; see Rambam, *Hilkhot Mekhira* VI:3. The relationship between silver coinage and gold coinage is in fact much more complex; see B. Bava Metzia 44a.

worth the same amount as eight *prutot* before, eight women could still be married with this *issar*. In other words, as the silver coinage is the standard of value, a woman is not married with one *pruta* but with 1/8 of an *issar*.

The only way to understand their point of view is to consider that these Rabbis considered the *issar* to be a silver coin.⁵⁶ Otherwise, how is it possible that the ratio between the *issar* and the *pruta* could evolve from 8 to 6?

Therefore, according to the two rabbis, Rabbi Hanina and Rabbi Mana, the new ratio after the reform was:

$$1/33.3 \text{ denarius} = 1 \text{ denarius} = 6 \text{ maah} = 24 \text{ issar} = 144 \text{ pruta}.$$

The *issar* is supposed to be a silver coin; therefore the *issar-pruta* ratio is now 6 and the *maah-pruta* ratio is now 24. We must then consider the fact that these two rabbis, living in the fourth century, no longer remembered that the *issar* had always been a copper coin. The debasement had indeed reached such a degree that there was no more silver coinage extant, except perhaps a silver washed *denarius*.

In B. Kiddushin 11a we have a parallel passage stating that in the time of Rabbi Simai, one *issar* was worth 8 *prutot*, but later, in the time of Rabbi Dostai,⁵⁷ it was worth 6 *prutot*.

This change was not related to the old discussion between the two *baraitot* of the *Tosefta*, in the name of Rabbi Hiya and Rabbi Simeon ben Gamaliel, expounding two different standards of Jewish currency. Rather, it resulted from the supposed evolution of the *issar*. The old ratio was:

$$1 \text{ dinar} = 6 \text{ maah} = 24 \text{ issar} = 192 \text{ prutot}.$$

55 This is a more dogmatic position: silver coinage was always considered to be the most important by the civil authorities. So Rabbi Mana ignores the debasement of the silver coinage and considers it to be the official standard coinage; the copper coinage, therefore, is considered to be increasing in value with regard to the official standard coinage.

56 In fact, we know that the Roman *as* was always a copper coin. Furthermore, we have talmudic evidence that the *issar* is a copper coin and not a silver coin: *Tosefta Bava Metzria III* proves that the *issar* is a copper coin. We have further a quotation from Y. Kiddushin I, 1, 58dc and Y. Shevuot VI, I, 36d: סוף מטבע כסף, מעה. Most commentators nevertheless thought that the *issar* was a silver coin: Rashi on Mishna Kiddushin I, 1 and Tosafot B. Bava Batra 166a: נסכה. But Tosafot B. Bava Metzria 44b משמונה ב, אחר, consider that the *issar* is a copper coin worth 1/24 *maah*. This would then imply that the weight of this coin must always be adapted so that its value is 1/24 *maah*; this seems unlikely.

57 Rabbi Dostai, Rabbi Yanai and Rabbi Oshayah: according to the reading of the Talmud. Heyman, Vol. I, p. 326, mentions the reading of Sefer Yukhsin: Rabbi Dostai be-Rabbi Yannai. This reading is better because this *tanna* is generally named by his complete name. Rabbis Simai and Dostai belonged to the generation of Rabbi. However Rabbi Dostai would

The new ratio was thus:

$$1 \text{ dinar} = 6 \text{ maah} = 32 \text{ issar} = 192 \text{ prutot.}$$

Apparently, Rabbin, who came back to Babylonia in about 320 CE, was completely unaware of the reform of 215 CE. He could not explain what had happened after the time of Rabbi Simai, and his solution is untenable. Not only did he consider a silver *issar*, but why did this *issar* depreciate with regard to both the *pruta* and the *dinar*?⁵⁸ His solution also contradicts the statement of Rav Zeira II in Y. Kiddushin,⁵⁹ that the Rabbis brought the *pruta* from $1/32 \text{ maah}$ to $1/24 \text{ maah}$. Thus, only Rav Zeira II understood clearly the consequences of Caracalla's debasement in 215 CE.

b. The Ratio between the *Aureus* (golden *denarius*) and the *Denarius*

According to Yakov Meshorer,⁶⁰ from the end of the Ptolemaic period in 200 BCE gold coinage was rarely used and was in relatively short supply in Palestine and, more generally, in the Near East. Gold first attained large-scale circulation in Judea during the years prior to the war of 66 CE. Thus, from the time of Nero, both gold coins and silver Roman issues circulated and were used in Judea. In other words, the gold *dinar* mentioned in the Mishnah is normally the Imperial Roman gold *denarius*. The silver *dinar* mentioned in the Mishnah is sometimes the Roman *denarius*, of about the same weight and the same value as the Tyrian *dinar*, and sometimes the provincial *tetradrachma* of the same weight but less value.

There is a certain confusion about the ratio between the *aureus* and the *denarius*: in some texts we find a ratio of 25; in others we find a ratio of 24. According to the Roman coinage system, the ratio is 25.

If we consider the weight of these denominations in Rome at the beginning of

have lived longer than Rabbi Simai, after the debasement of Caracalla in 215. He is nevertheless mentioned in Mishna Eruvin V:4 and Avot III:8.

58 R. Moses Margalioth in his commentary *Mareh ha-Panim* has explained the passage of Y. Kiddushin I, 1, 58d according to B. Kiddushin 11a. That means that he identifies the position of Rabbi Mana, who said that copper remained stable, with that of Rabbin who said, according to Rashi, that the *pruta* remained stable with regard to the *dinar* but that the *issar* went down from $1/24 \text{ dinar}$, at the time of Rabbi Simai, to $1/32 \text{ dinar}$ at the time of Rabbi Doustai. This explanation is nevertheless untenable because it contradicts the introductory declaration of Rav Zeira II, who said that our Rabbis have made the *prutot* $1/32 \text{ maah}$ instead of $1/24 \text{ maah}$. According to the commentary of *Mareh ha-Panim*: $1 \text{ dinar} = 6 \text{ maah} = 32 \text{ issar} = 192 \text{ prutot}$; therefore, the *maah-pruta* ratio remained unchanged at 32.

59 Y. Kiddushin I, 1, 58d.

60 Meshorer, *Ancient Jewish Coinage*, p. 97.

the Principate, we see that 1 *aureus* = 7.90 gr and 1 *denarius* = 3.80 gr. With a ratio of gold to silver of 12:1, we find that the *aureus-denarius* ratio is 25.

What is the origin of this confusion of the ratios of 24 and 25 in the talmudic literature?

Roughly, if the gold *denarius* weighs about twice the *denarius*, and therefore has a ratio of gold to silver of 12:1, we get a ratio of 24. Apparently some rabbis of the Middle Ages considered that the golden *denarius* weighs exactly twice the *denarius*, and therefore explained that the golden *denarius* is worth 24 silver *denarii* and the 25th *denarius* represented the commission that one had to pay the money changer for the purchase of a golden *denarius*.⁶¹

This explanation seems farfetched because it would imply that, when exchanging a golden *denarius* for silver *denarii*, we would receive only 23 *denarii*,⁶² and that the mean value of the golden *denarius* should then be 24. It is not excluded that, in Tyrian coinage, the golden coin weighed twice the corresponding silver denomination and the ratio of the values was exactly 24. This would be remembered in the text of the Mishnah⁶³ and of the Jerusalem Talmud.⁶⁴ This explanation is purely conjectural. Everywhere else the ratio is always 25. Another explanation was given by Daniel Sperber:⁶⁵ during a short period at the very beginning of the second century, the exchange ratio between the *aureus* and the silver *denarius* dropped because of an increase in gold supply following the new conquests of Dacia by Trajan in 101-102 and 105-107 CE. This brought Rome rich gold mines and re-established the monetary equilibrium of the empire, but the ratio between

61 See the commentary of R. Gershom, *Meor Ha-Gola*, on B. Bekhorot 49b and Tosafot B. Bekhorot 50a: בר"ה דמזובנא in the name of R. Tam. The remark of R. Tam, according to which the golden *dinar* is twice as thick as the silver *dinar*, is really astonishing for a professional money changer, who would not have been able to ignore the fact that the density of gold and silver are 19.3 and 10.5, in a ratio of about 2:1. Thus the thickness of the *aureus* should have been 1.09 times the thickness of the silver *denarius* and not 2. There was probably a corruption in this *Tosafot*. This problem is also raised in Tosafot B. Ketubot 99a, בר"ה נתן. *Tosafot* write that the gold-silver ratio is 12:1, and the ratio between the worth of both coins is 24 because the gold *dinar* weighs twice the weight of one silver *dinar*.

62 This figure is never mentioned.

63 Mishna Me'ila VI: 4. The commentators generally considered that the equation: 1 golden *denarius* = 6 *selaim* is an approximation for 6.25 *selaim*. But, if 1 golden *dinar* = 24 silver *dinar* then it is exactly 6 *selaim*.

64 Y. Kiddushin I, 1, 58d. However, the reference of B. Bekhorot 49b proposed by D. Sperber, in his paper "Gold and Silver Standards," *Numismatic Chronicle*, 8 (1968): 83-109, esp. p. 91 n. 3, seems incorrect: indeed, 1 *stater* would be worth 3 *denarii* and the firstborn would be redeemed at the rate of 15 *denarii*, which seems too low.

65 Daniel Sperber in his paper "Gold and Silver Standards," *ibid*.

gold and silver dropped slightly, and the ratio between the gold *aureus* and the silver *denarius* would have fallen to 24 instead of 25.

c. *Kessef Medina* or the Provincial Nickel⁶⁶ Coinage of the *Shekel* and the *Denarius*

B. Kiddushin 11b writes:⁶⁷

אמר רב יהודה אמר רב אסי, כל כסף קצוב האמור בתורה כסף צורי ושל דבריהם כסף מדינה.

Rav Judah says in the name of Rav Assi:⁶⁸ “all the fixed amounts in *shekalim* mentioned in the Torah refer to the Tyrian coinage, but those fixed by the Sages are expressed in nickel coinage.”

The Talmud states that a *sela* represents either 4 *zouz*, or a half *zouz* in the case of a *sela medina*. The nickel coinage would then be worth 1/8 of the normal coinage. The problem concerns different payments, like the redeeming of the firstborn, which are prescribed in the Torah. It also concerns fines imposed by the Sages in the Talmud, as well as the payment of the *ketuba*. There is a discussion in the Talmud,⁶⁹ whether the *ketuba* of 200 *zouz* is a Torah or a rabbinic prescription. Those Rabbis⁷⁰ who consider that it is a rabbinic prescription will settle the *ketuba* in provincial nickel coinage.

The problem of the payment of the *ketuba* in Tyrian coinage or in another coinage is also raised in Y. Ketubot I, 2, 25b (top). The Jerusalem Talmud is divided between two opinions: is it expressed in Tyrian coinage or in legal currency? The Babylonian Rav Hunna in the name of Samuel and Rabbi Mana think that it is in Tyrian *shekels*. The position of Rabbi Johanan is not clear, but he says that even according to those

66 We use this formulation in order to make a distinction between the official provincial coinage, struck in Antioch or in Palestine, and the nickel coinage considered here. There are many reasons to believe that this nickel coinage was a Babylonian phenomenon that did not exist in Palestine. The provincial coinage was already sufficiently debased.

67 The same passage appears also in B. Bekhorot 49b and in B. Bava Kama 36b. In this last case, the text of the *gemara* is: אמר רב יהודה אמר רב אסי. But the reading of Rabbenu Hananel is also: אמר רב יהודה אמר רב אסי.

68 Rav Assi is a Babylonian *amora* who died in about 250 CE. He should not be confused with Rabbi Assi, the colleague of Rabbi Ami, who immigrated to Palestine and became one of the important pupils of Rabbi Johanan.

69 B. Ketubot 110b, B. Bava Kama 36b (see Tosafot *דבריהם*) and 89b-90a (see also Tosafot *לא מפסיד*), B. Kiddushin 11b and B. Bekhorot 50b.

70 The Rabbis, in the last Mishnah of Ketubot. Rabbi Simeon ben Gamliel considers that the *ketuba* is a Torah obligation.

who think it is in legal currency, מטבע היוצא, that the *ketuba* must be settled, it must be paid in legal currency having a similar value to 50 *shekels* or 200 *dinar* in Tyrian coinage.

In order to understand the situation, we must recall that Rabbi Johanan was at the head of the Academy of Tiberias from 239 CE to 279 CE. During this period, the debasement of the *denarius* was dramatic. In 238 CE, the *denarius* was half of the *antoninianus*. The latter weighed 4.79 gr, its fineness was 49.5 percent, and it contained 2.38 gr silver. In 265 CE it weighed 2.81 gr, had a fineness of 9 percent and contained 0.31 gr silver. In 274 CE, before the Aurelian reform, it weighed 3.88 gr, had a fineness of 5 percent and contained only 0.2 gr of silver!

It is in light of this historical background of economic collapse that we must consider Rabbi Johanan's statement. One can imagine how difficult it was to express religious and legal financial obligations. Rabbi Johanan expresses the five Tyrian *selaim* of the redeeming of the firstborn through the use of an old rubbed-off golden *denarius* that Hadrian struck in about 120-138 CE, a hundred years earlier, which, despite its decay, had a very good fineness and was still worth 25 Tyrian *dinars*.⁷¹ For the settlement of the *ketuba*, he says, even those who would not use Tyrian *selaim*, because the *ketuba* is a rabbinic prescription,⁷² accept that it must be settled at the value of 200 Tyrian *zouz* and paid with *selaim* of Tiberias, which are comparable to those of Jerusalem. Rabbi Johanan speaks of: סלעים סברייניות מהגינות ירושלמיות. The exact meaning of this sentence has puzzled commentators.⁷³ Among the different proposed explanations, the only acceptable one⁷⁴ is that of Jastrow,

71 See B. Bekhorot 50a, top and bottom.

72 The problem of whether the *ketuba* is an obligation of the Torah (paid with Tyrian *shekalim*) or a rabbinic obligation (paid in local legal coinage) is also discussed in Mishna Ketubot XIII, 11. According to B. Ketubot 110b, Rabbi Simeon ben Gamaliel considers the amount of the *ketuba* to be a Torah obligation. It is interesting to note that, in contradiction to Maimonides and the Spanish *rishonim*, R. Tam and *Tosafot* consider that the amount of the *ketuba* is a Torah obligation: see *Tosafot* in B. Bava Kama 89b לא הפסיד and in B. Bava Kama 36b ושל דבריהם. In the latter reference, it says that according to the last Mishnah of Ketubot, even those who consider the amount of the *ketuba* as a rabbinic obligation agree that the value of the amount of the *ketuba*, paid in local money, must equal 200 Tyrian *zouz*. This is exactly the opinion of Rabbi Johanan in Y. Ketubot I, 1, 25b.

73 The Korban ha-Eda understood that we are dealing with three occasions where the coinage is comparable to the Tyrian coinage. He understood also that even if the *ketuba* is paid in מטבע יוצא, there is no question of diminishing the value of the amount. Zuckerman has proposed: *selaim* of Septimus Severus, of Menonios (an Illyrian king!) and of Jerusalem. This exegesis is really farfetched: what would an Illyrian king and his currency be doing here?

74 The reading סבריינית, meaning a *shekel* struck under Septimus Severus or his successors,

who corrects טבריונית to סבריונית, This would mean that Rabbi Johanan requires that one make use of good *selaim* like those hoarded in Tiberias,⁷⁵ of a similar value, מהגינות,⁷⁶ as the Tyrian *selaim* struck previously, during the first century in Jerusalem.⁷⁷ Rabbi Johanan would then refer to a legal currency comparable to the old Tyrian coinage. In other words, Rabbi Johanan seems to state that one can use legal coinage but one must pay an amount equal to the value of the sum expressed in Tyrian coinage. This point of view is diametrically opposed to that of Rav Assi in B. Kiddushin 11a.

It appears that there is no mention in the Jerusalem Talmud of a nickel coinage worth 1/8 of the Tyrian coinage; this seems to be a Babylonian phenomenon. The *ketuba* of 200 nickel *zouz*, equal to 25 Tyrian *dinars*, is a Babylonian ruling. The Palestinian *amoraim* were also divided over the *ketuba*, whether it is fixed by the Torah or by the Sages, but even the latter agreed that the amount of the *ketuba* must be settled in current coinage at an amount equal to 200 Tyrian dinars.⁷⁸ It

doesn't seem likely; this coin had already undergone a debasement of about 50 percent. The attribution of the second term is strange and quite astonishing and, finally, the third term, of Jerusalem, is not comprehensible. Furthermore, there was no coinage in Jerusalem at this epoch. What would then represent the *sela* of Jerusalem in connection with a debased currency of Septimus Severus? On the other hand, Daniel Sperber in "Gold and Silver Standards," p. 87 n. 1, praises Zuckerman's explanation and criticizes the emendation of Jastrow, arguing that there never was silver coinage in Tiberias. In conclusion, the elucidation of this passage remains problematic. The explanation of Zuckerman was followed by Moses Schwab in his French translation of the Jerusalem Talmud. Scheftil in *Erekh Milin* (Berditchov, 1907), p. 100 has also followed this farfetched explanation. More recently, Neusner, in the English translation of the Jerusalem Talmud, translated "Severine coins, those of the weight of the ones of Jerusalem." He uses the grammatical structure adopted by Jastrow, but maintains the attribution of Severus. I prefer Jastrow's explanation because of the important debasement of the *denarius* under Severus. It is nevertheless possible that the reference is not to the town of Tiberias, but to the Emperor Tiberius, in whose honor the town of Tiberias was named. It would then be the coins struck with the effigy of Tiberius at the beginning of the first century.

75 This was a long time ago. In all probability, the people of Tiberias were hoarding these coins because of their intrinsic value. Rabbi Johanan requires that they use these coins for the settlement of the *ketuba*. It is also possible that Rabbi Johanan had in mind the silver coins of the Imperial coinage struck with the effigy of Tiberius more than two hundred years earlier. They were of very good quality.

76 The translation of "*mehaginot*" as similar, of the same weight, is the main originality of Jastrow's explanation.

77 See the following quotation in Tosefta Ketubot XIII: 20: כסף שדברה בו תורה בכל מקום זו היא כסף צורי, איזהו כסף צורי, זה ירושלמי.

78 Rabbenu Tam considers that the *ketuba* is a Torah obligation, and that the 200 *zouz* are Tyrian *dinars*: see Tosafot B. Ketubot 10a: אחר and Tosafot B. Bava Kama 36b: ושל, which

appears that there is a very different attitude between Babylonian and Palestinian *amoraim* resulting from different economic conditions. In Babylonia, where a nickel coinage was in circulation, with denominations worth 1/8 of the corresponding denomination of the silver coinage, the Babylonian Rabbis seem to have equated the Tyrian coinage to the local (Persian) Sassanid silver coinage,⁷⁹ and the provincial debased coinage to their local nickel coinage.⁸⁰

The Palestinian Sages, on the contrary, were confronted with hyperinflation. At the end of the life of Rabbi Johanan, one *aureus* was worth about 1,000 *denarii*,⁸¹ which could be compared to the situation in Germany in 1918-23. For them, the problem of payment in Tyrian currency or legal currency does not relate to the amount to be paid, but the quality of currency to be used. The privilege of being paid in Tyrian currency was that this coinage gave a certain advantage, because it was at a premium with regard to other currency with the same silver content. But, apparently, the quality of the used currency did not significantly influence the amount paid. Rabbi Johanan's statement recalls that even the legal coinage must be of the same value and of comparable quality to the Tyrian coinage. The difference in receiving an amount in Tyrian currency or in legal currency of lower quality would be similar to the difference in receiving a damage in earth of the first quality, עירית, or in earth of lower quality, בינונית, or זיבורית. This difference is probably a certain premium with regard to the negotiability and the ease of conversion. The meaning of Rabbi Johanan's statement is then that the quality of the legal currency used must remain high.

The importance of the difference in Babylonia between the two coinages (a ratio of 1:8) had an influence on the understanding of the Mishna Bava Kama VIII, 6 and was the origin of a new exegesis. The text is the following:

התוקע לחברו, נותן לו סלע. רבי יהודה אומר משום רבי יוסי הגלילי, מנה. סטרו נותן לו ארבע מאות זוז. צרם באזנו.....נותן ארבע מאות זוז. זה הכלל, הכל לפי כבודו.

writes that if the *ketuba* is an obligation of the Sages, it is paid in local money in the amount of 200 Tyrian *dinars*.

79 Rav Ashi redeemed his firstborn by sending 17 *dinars* to Rav Akha. These 17 *dinars* were certainly Persian Sassanid *dinars* weighing on average 4 gr.

80 The Babylonian Rabbis often made use of their provincial or nickel coinage; for example: סלע מדינה איסתירא פשיטא, זווי פשיטא, סלע מדינה. P. Benish, *Midot ve-Shiurei Torah*, p. 163, describes a Sassanid half *dinar* with a low silver content, which could correspond to the provincial coinage called *kessef medina* in the Talmud. This was thus a purely Babylonian phenomenon; there was nothing similar in Palestine. Maimonides was persuaded that this was the situation in Jerusalem.

81 See note 9.

According to the Babylonian understanding:⁸²

Striking someone's ear or shouting in it:	Tana Kama:	0.25 <i>zouz</i>
	Rabbi Yossi:	100 <i>zouz</i>
Slapping someone's face:		50 <i>zouz</i>

It is then easy to understand R. Tam's surprise in the face of such a difference between Tana Kama and Rabbi Yossi.⁸³ But according to the original, and the Palestinian understanding, the prescription of the Tyrian or the legal currency has no fundamental influence on the amount of payment, and the summary of the Mishnah is then the following:

Striking someone's ear or shouting in it:	Tana Kama:	4 <i>zouz</i>
	Rabbi Yossi:	100 <i>zouz</i>
Slapping someone's face:		400 <i>zouz</i>

The objection of R. Tam is now less crucial, and one could comment on this difference: either Tana Kama and Rabbi Yossi differ in the appreciation of whether the first offense is fundamentally different from or similar to the following ones, or they differ on the definition of תוקע. Tana Kama thinks that it means shouting in one's ear, which seems to be a minor offense, while Rabbi Yossi thinks it means striking someone's ear, making it a similar offense to striking him. Now, according to the Babylonian understanding, the differences are so great that the Babylonians must, according to R. Tam, introduce in the exegesis at the beginning of the Mishnah the social status of the offended.

It is interesting to note that Maimonides was persuaded that this provincial coinage, considered in the Babylonian Talmud, was the current Palestinian coinage, in use in Palestine at this epoch, when he wrote:⁸⁴ כל אלו הסלעים הם מכסף ארץ ישראל. Similarly, he wrote:⁸⁵

כל כסף האמור בתורה הוא שקל הקודש והוא עשרים מעה וכל כסף של דבריהן ממטבע ירושלים שהיה הסלע שלהן אחד משמנה בו כסף והשאר נחושת כמו שבארנו. אבל המעה היתה כסף נקי אפילו בירושלים והיא כסף של ירושלים. ולפי שזה שהצריכו להיות כפירת הטענה שתי כסף היא מדבריהם, עשו אותה שתי כסף של ירושלים שהן שתי מעין ולא עשו אותה שני שקלים בשקל הקודש.....

82 B. Bava Kama 90b.

83 B. Bava Kama 36b סלע נותן סלע.

84 Hilkhhot Hoveel u-Mazik III: 9.

85 Hilkhhot To'ein ve Nitán III: 2.

d. Mishna Shekalim I: 6

ואלו שחייבין בקלכון, לויים וישראלים וגרים ועבדים משוחרין, אבל לא כהנים ונשים ועבדים וקטנים. השוקל על ידי כהן על ידי אישה, על ידי עבר, על ידי קטן פטור. ואם שקל על ידו ועל יד חברו, חייב בקלכון אחד. רבי מאיר אומר, שני קלבונות.

There are different and contradictory explanations for this Mishnah. According to the Tosefta Shekalim I: 4, Rabbi Meir considers that any Jew giving a half *shekel* must add a small supplementary amount, representing $1/12$ or 8.33 percent, called a “kolbon.”⁸⁶ On the other hand, the Sages are opposed to Rabbi Meir and consider that he must not add the *kolbon* because the half *shekel* is exactly the Torah obligation. The Sages impose the payment of a *kolbon* of only $1/24$ or 4.167 percent when two people want to pay their obligation together with one *sela*. This *kolbon* is the *agio* or exchange premium necessary to exchange one *sela* for two half *sela*. In this last case, Rabbi Meir requires that each of these two people adds a *kolbon*.

The first sentence of the Mishnah, which requires that anyone, with the exception of some special cases, should add a *kolbon*, seems to be taught in accordance with Rabbi Meir.⁸⁷ Thus, according to the Sages, one fulfills one’s duty with a coin of half a *sela*. Therefore, the *kolbon* (one *pundion* or 4.167 percent) that one has to pay to the money changer when changing a *sela* into two half *selas* represents either the price of the change or the price of the half *sela* with regard to its true value. Both explanations are mentioned. Maimonides writes⁸⁸ that there was a great demand for half *selaim* and, therefore, that these coins were at a premium with regard to their intrinsic value. Meiri⁸⁹ writes that the *sela* was more current than the half *sela*. According to Rabbi Meir, the half *shekel* is not sufficient to fulfill one’s obligation and one must add to it one *kolbon* (a *maah* or two *pundion*, i.e. 8.333 percent) to ensure that the correct amount has been paid.⁹⁰ It is generally accepted that Rabbi Meir’s concern is connected to the fineness of the half *sela*.

86 In Latin, “*collybus*” or “*collubus*” mean the change premium asked by the money changer. In Greek it is *kollubon*. It means the exchange commission or *agio*.

87 The Talmud, Y. Shekalim I: 1 writes that the beginning of the Mishnah is in accordance with Rabbi Meir. *Korban ha-Eda, ad locum*, understands that from the text of the Mishnah itself. It says explicitly that anyone is obliged to give a *kolbon*.

88 His commentary on Mishna Shekalim I: 7 and Hilkhot Shekalim III: 1.

89 Y. Shekalim, *ad locum*.

90 See in Y. Shekalim, end of the first chapter, the destination of the *kolbon*. Rabbi Meir says that the *kolbon* is used with the half *shekel*. This proves that he considers the *kolbon* as belonging to the obligation of the half *shekel* and completing its true value. According to another opinion, the *kolbon* is used to pay the money changers, whether they are independent money changers or functionaries of the Temple.

We know that the fineness of the Tyrian coinage was about 92 percent, and therefore a *kolbon* of 8.33 percent should compensate for this imperfection. The *kolbon* is thus, according to Rabbi Meir, not an exchange premium but the difference between the value of the half *shekel* coin and the theoretical value of the half *shekel* of the Torah that was shown to Moses in the form of a fire coin.⁹¹

Rashi explained this Mishnah on three⁹² separate occasions, each time in a different way.⁹³ It should be observed that the Mishna Shekalim, similarly to the Mishna Midot, is different than all the other treatises of the Mishnah. Currently, the Mishnah is a summary of the Oral Law. Its opinions are analyzed and debated by the Sages of different generations on the basis of rationalistic arguments. On the other hand, the Mishna Shekalim and the Mishna Midot are related respectively to the rules prevailing in the organization of the Temple, and to its architectural dimensions. The traditional commentators have interpreted these texts in the same manner as the common halakhic texts. They have fixed the Halakhah according to the traditional rules used by the rulers, fixing for example the Halakhah according to one Rabbi over other Rabbis because the rule is to give precedence to him over the others. Maimonides' halakhic compendium of *Hilkhot Shekalim* was established on this basis, and should represent, therefore, the practical conclusion of the Talmud Shekalim. However, there is little chance that Maimonides' ruling, established on this basis, corresponds to the reality and the rule existing during the period of the Second Temple. It is, nevertheless, this reality that the *tannaim* tried to reconstitute. They based themselves on traditions reported in contradictory versions of the *baraitot* or in the Mishnah.

There are still many difficulties in the traditional explanations of our Mishnah;

1. The money changers considered in Mishna Shekalim I: 3 were probably not independent money changers, working on their own and making a livelihood at the expense of the contributors. How would they have the

91 This is the explanation of R. Ovadia of Bertinoro and of R. Judah ben Benjamin Anav on the Mishnah, although they follow the opinion of the Sages.

92 He gives a fourth explanation in B. Menakhot 98a, top, but his explanation, inspired by that of R. Gershom is difficult and contested by *Tosafot ad locum*.

93 In B. Beitzah 39b, without making any reference to the divergence between Rabbi Meir and the Sages, he writes that the obligation to give a *kolbon* for anyone bringing a half *shekel* is to make sure that the administration of the sanctuary will never lose money, even if it were obliged to change it into more important denominations; for example, for transportation. In B. Hulin 25b, he writes that people must pay a *kolbon* “כדי להכריע שקליהם” in order to make sure that they give the required weight of silver ordained by the Torah. In B. Bekhorot 56b he gives both explanations.

- power to seize pledges and to undertake the transportation of the money? The carrying of money to Jerusalem seems beyond the activities of the money changers. It seems then more likely that they were civil servants, working for the Temple administration. In this capacity, acting as agents of the Treasury, it is more likely that they had the power to seize pledges.
2. The change commission of $4 \frac{1}{6}$ percent and *a fortiori* of $8 \frac{1}{3}$ percent seems unrealistically high with regard to our economic understanding. A more realistic rate is about 2 percent, as we find that the money changers asked 49 *pundion* for one *shekel* worth 48 *pundion*, and gave only 47 *pundion* in exchange for one *shekel*. This corresponds to a change commission of 2.08 percent.⁹⁴
 3. The ancients, during the Second Temple period, were not technically able to obtain pure silver. The Tyrian *shekel*, with a fineness of 92 percent, was considered the best silver available.⁹⁵ It seems unlikely that the *kolbon* would account for the difference between pure silver and the practical fineness of 92 percent of the Tyrian *shekel*.
 4. Numismatic research teaches us that there were many more *selaim* in circulation than half *shekels*. Strangely enough, R. Solomon Meiri ascertains this point in his commentary to Shekalim.⁹⁶
 5. Numismatic research teaches us that the average weight of the Tyrian *shekel* was 14.17 gr. The average weight of the Tyrian half *shekel* was 6.83 gr. This discrepancy is also observed with the half and full *shekalim* struck in Jerusalem during the years 66-70 CE. This data is striking, and in contradiction with the traditional commentaries that depart from the

94 See B. Bekhorot 50a; see Lev. 27: 18, Rashi and Sifra *ad locum*. R. Gershom on B. Bekhorot 50a writes that the *kolbon* paid on the occasion of the exchange of one *shekel* into two half *shekels* is similarly an exchange commission. He nevertheless doesn't observe that the exchange commission is quite different.

Tosafot B. Bekhorot 50a: דמזדבנה, also examines this problem, and notes the different rates of exchange commission in the two following cases: in the case of the division of one *shekel* into 48 *pundion* the commission is $\frac{1}{48}$ but in the case of the exchange of one gold *dinar* into 24 silver *dinar* the commission is $\frac{1}{24}$. The answer of *Tosafot* is not convincing, particularly once we have seen that the gold *denarius* was a little more than the weight of two silver *denarii*, and was worth exactly 25 silver *denarii*.

95 They nevertheless met the Roman coinage after the conquest of Pompei. It had a higher fineness than the Tyrian coinage.

96 Meiri on Shekalim I: 3. There were more *selaim* in circulation than half *shekels*. There was a certain scarcity in half *shekels*, and people therefore had to change their *shekalim* to half *shekels*.

fact that the weight of the half *shekel* was half of the weight of the full *shekel*. The explanation for this discrepancy is probably that the amount of time needed to strike the coins of a full *shekel* or of a half *shekel* is the same. The cost of the coins is the total of the price of the metal, plus the price of the labor. If the latter is the same, then the cost of a half *shekel* must be more than half the price of the full *shekel*. Now, the legal price of the half *shekel* must be half that of the full *shekel*. It is therefore likely that the minters compensated for the situation, and made their profit by slightly diminishing the quantity of silver used to strike the half *shekel*. This could be the origin of the greater popularity of the *shekel* over the half *shekel*; the latter contained proportionally less fine metal.

It appears now that the backdrop of the Mishnah is quite different than expected and, therefore, that the explanation of the Mishnah and reality could have been the following, which is very different from the accepted exegesis: the half *shekels* had proportionally less intrinsic value than the *shekel*. Therefore, in order to fulfill the obligation of the Torah to pay the half *shekel*, they had to add a *kolbon* of $4 \frac{1}{6}$ percent or $8 \frac{1}{3}$ percent to the half *shekel* in order to compensate for the imbalance of the half *shekel*. We observe that a *kolbon* of $4 \frac{1}{6}$ percent was, in principle, sufficient because the imbalance of the half *shekel* is $(6.83 \times 2)/14.17 = 0.9640$. Therefore, a *kolbon* of $4 \frac{1}{6}$ percent compensates by $0.9640 \times 1.04167 = 1.00417$.

Thus, a *kolbon* of $4 \frac{1}{6}$ percent is sufficient to correct the average half *shekel*, but is insufficient to correct for a light half *shekel*. Therefore, the *kolbon* of a *maah*, representing $8 \frac{1}{3}$ percent of the average value of the half *shekel* is more likely. It ensures that the required amount of silver has been reached. Indeed, the Mishna Bava Metzia IV, 5 provides the maximum variation of weight that the coinage may present and still remain acceptable. This maximum variation is $4 \frac{1}{6}$ percent according to Rabbi Meir, 8.33 percent according to Rabbi Judah, and 16.67 percent according to Rabbi Simeon. The value of Rabbi Meir seems most likely, considering the function of money in the economy.

Thus the half *shekel* was issued at half the price of the *shekel*, but it contained proportionally less silver than the *shekel*. Therefore, the common people preferred the *shekel*, which contained proportionally more silver and the Temple required the correction of this imbalance by an additional *kolbon*. If two people paid together with one *shekel*, they still had to add a *kolbon* in order to take into account light *shekalim*, which would not have the required weight. In any case it was more favorable for two people to pay together one *shekel* + one *kolbon* than to pay separately $\frac{1}{2}$ *shekel* + 1 *kolbon*.

The whole subject of the *kolbon* considered in Mishna Shekalim I: 6 and 7 could then be the consequence of the imbalance between the half *shekel* and the *shekel*. The true historical reality would then be somewhere between the positions of Rabbi Meir and the Sages: everyone had to pay a *kolbon* to supplement the half *shekel* in order to pay the required amount, as stated by Rabbi Meir. But two people paying their obligation with one *shekel* must add only one *kolbon* in order to compensate for light *shekalim*. Similarly, if someone paid his half *shekel* by giving one shekel in order to receive a half *shekel* in return, he had to add a *kolbon* in order to take into account the case of light *shekalim*. The *kolbon* had then a similar status to the half *shekel*, and was used as the half *shekel* itself for the sacrifices, according to the opinion of Rabbi Meir. It is interesting to note that, in B. Menakhot,⁹⁷ the Talmud seems to decide in favor of Rabbi Meir.⁹⁸

The שולחנים were then functionaries of the Temple. When they were handling the currencies⁹⁹ of foreign pilgrims, they were obliged to weigh and appreciate the coins in order to change them into half *shekels*. Apparently, however, they did not waste time examining each individual *shekel* of the local population; they had a standard treatment accounting for light *shekels*, weighing up to 4.167 percent less than the average weight, and used it in all cases, even if the *shekels* were heavy. One can suppose that the people, for this reason, didn't give heavy *shekels*; otherwise they would be penalized twice.

e. Mishna Shekalim II: 4

..... כשעלו ישראל מן הגולה היו שוקלים דרכונות, חזרו לשקול סלעים, חזרו לשקול טבעין,
ובקשו לשקול דינרים.....

All the commentators have connected the denomination “*darkonot*” with the same word appearing in the Book of Ezra and representing the Persian *daric*, a coin existing in gold and silver. This denomination appears nevertheless in the first Mishnah of this chapter, which represents a practical ruling: one may change the

97 B. Menakhot 108a.

98 מעה נמי לשקלים אולא דתניא.....
This is a double conclusion in favor of Rabbi Meir: first, the *kolbon* has the same function as the half *shekel* and, second, the text speaks of *maah* and not of half *maah*.

R. Samuel Strashun has already remarked that the text of the Talmud in B. Menakhot seems to rule according to Rabbi Meir, in contradiction with Maimonides' ruling.

99 The Talmud notes that all the currencies were circulating in Jerusalem because of the pilgrims coming from the diaspora; see המטבעות היו יוצאות, Tosefta Shekalim II: 13. See also B. Bava Kama 97b and Y. Maaser Sheni I, 2, 52d.

silver half *shekel* into gold coins in order to make carrying easier. It seems unlikely that the Mishnah would write such a practical ruling using a denomination that was never used in the time of the Mishnah. Therefore, I assume that the Mishnah uses the denomination “*darkonot*” or “*darkemon*” to designate the Greek *drachma*, which was already in use during the early period of the Mishnah. It is even possible that the Rabbis of the Mishnah did not make any distinction between the *drachma* and the *daric*, mentioned in the Book of Ezra. Apparently, the *drachma* mentioned in the first Mishnah is a gold coin, while the *drachma* of the fourth Mishnah is a silver coin.

Maimonides understood that the Jews were giving half of the principal coin of the circulating currency each year to the Temple of Jerusalem.¹⁰⁰ The Jews were thus giving half of the successive enumerated denominations, but they could not give less than a half *shekel*. Rabbi Abraham ben David objects: the currency was what it was, but the contribution was calculated according to necessity, and the burden was shared among the people. The contribution of each depended on the number of contributors. When the number of people increased, their contribution diminished, but it could not drop under a half *shekel*. Maimonides understands that they were using *darics* as the current currency, and they were therefore paying half *darics*.

R. Abraham ben David and R. Judah Anav believe that they were effectively paying *darics*; we have thus two different understandings of the verb שוקלים, used as currency or as paying the Temple obligation.

f. B. Bekhorot 49b-50a on Mishna Bekhorot VIII: 4

The Talmud examines different ways of paying the amount required for the redeeming of the firstborn. To understand the backdrop to this discussion, one must remember the economic situation and the hyperinflation throughout the third century, which made it difficult to express the required amount in a stable currency.

Rabbi Assi explains that the Mishnah refers explicitly to the Tyrian currency. Rabbi Ami says that the *denarius* of the province of Arabia¹⁰¹ is suitable for the

¹⁰⁰ Maimonides understands in Mishnah II, 4 that the *darics* are silver coins weighing and worth two *sela*. The origin of this statement remains unexplained. I suppose that Maimonides observed that the different denominations considered in the Mishnah constitute a geometrical progression of the ratio 2. Maimonides has thus considered that the first denomination is then twice the second. In Mishnah II, 1, he explained that we deal with gold coins but, without justification, he translated that into gold *dinars*.

¹⁰¹ The province of Arabia was created by the Romans under Trajan in 106 CE. Its capital was

redeeming of the firstborn, probably because it is in accordance with the Tyrian standard.¹⁰² Rabbi Hanina says that the obligation of redeeming the firstborn can be fulfilled with five Syrian *staters*; eight of them having the same value as a golden *denarius*. At first glance, this position is surprising because these five Syrian *staters*, which probably correspond to the Palestinian provincial coinage, represent an amount (5/8) of a golden *denarius* or (5/8) x 25 silver *denarii*, i.e. 15.63 *denarii* instead of the necessary 20 Tyrian *dinars*, equivalent to 20 *denarii* during the first century and the beginning of the second century. The only explanation¹⁰³ seems to be that Rabbi Hanina bar Hama, having a similar status to that of Rav and Samuel, is opposed to the Mishnah and considers that even the Torah obligation can be fulfilled with legal coinage without using Tyrian coinage.¹⁰⁴

Another possibility would be to associate the position of Rabbi Hanina with that of Rav Ashi, who considered that the five *selaim* for the redeeming of the firstborn must be paid according to the old biblical value before the reevaluation, i.e. 16 2/3 *dinars* instead of 20 *dinars*.¹⁰⁵

Rabbi Johanan, who lived during a period of hyperinflation, proposed paying the five *selaim* of the redeeming of the firstborn with a gold *dinar*. As this gold *dinar* was worth 25 silver *dinars*, the priest had to give back five *zouz*, which he expresses in a rather strange manner: subtract one *zouz*, one gets 24 *zouz*, and then subtract 1/6 of 24 and one gets 20 *zouz*. Now the gold *dinar* is an old non-debased *dinar* with the deleted¹⁰⁶ effigy of Hadrian, the stepson of Trajan (hence both names together, which puzzled the commentators), but the five *zouz* that the priest must return are probably in debased legal currency.

Bostra and Petra also had the statute of a Metropolis. The province corresponded to the ancient kingdom of the Nabataeans. Rabbi Ami likely refers to coins struck under Trajan or Hadrian, which were not yet significantly debased.

102 This *denarius* was probably struck with the effigy of Trajan or Hadrian, and it weighed about 3.5 gr.

103 *Tosafot* have a farfetched explanation, and want to explain that the Syrian *stater* has the same value as the Tyrian *sela*. Ramban and Ran share the same opinion; see their commentaries on Rif, B. Sukkah p. 11b (according to the Vilna paging).

104 The statement of Rabbi Hanina bar Hama is probably anterior to 215 CE, the date of the great inflation contemporaneous with Caracalla's monetary reform in 215 CE.

105 The amount of the firstborn redemption of five Syrian *staters*, equal to 15.63 *dinars*, would then be a rough approximation of 16 2/3 *dinars*. He would then limit the amount of the redemption to the Torah obligation and would even accept a little rounding-off. Nevertheless, it is surprising that Rabbi Hanina's position raised no remarks in the Talmud.

106 These coins were about 100 to 125 years old. The Rabbis authorized the use of these coins, but only if they were rubbed-off. Hadrian was detested to such a degree that the Jews were not willing to look at his effigy.

There then follows an exceptional gaonic interpolation, stating that the five silver *selaim* of the redeeming of the firstborn represent the same weight as five gold Arabic *dinars*,¹⁰⁷ or 28.5833 silver Babylonian *dirham*.¹⁰⁸ This passage, which represents the position of the *geonim*, reflects the confusion in Babylonia about the value of the Tyrian *dinar*. Its weight was always about 3.5 gr, but during the gaonic period the tradition was forgotten and the weight of the *dinar* was assimilated to the weight of the Arabic gold *dinar* of 4.25 gr. This is the origin of the discussion about the weight of the *shekel* between Babylonian and Spanish Rabbis, fixing its weight to about 17 gr, and the German Rabbis, who had a correct appreciation of its weight of about 14 gr. Rava states then that the *shekel* of the Torah was worth 3.33 Tyrian *dinars*. Rav Ashi wanted to pay $16 \frac{2}{3}$ *dinars* for the redeeming of his firstborn, and therefore sent 17 *dinars* to Rav Akha, who was a Cohen. It is likely that they were Persian Sassanid *dinars*.¹⁰⁹ When the latter asked for the three last *dinars*, Rav Ashi asked for $\frac{1}{3}$ *dinar* in return. In other words, Rava and Rav Ashi considered that the *shekel* was revalued from 20 *maah* to 24 *maah*, by 20 percent or $\frac{1}{5}$ of the initial value, or $\frac{1}{6}$ of the final value. Rav Ashi considers that the Torah obligation is still the ancient Torah value, but this would contradict the whole principle of the reevaluation!¹¹⁰

107 The Arabic *dinar* is a gold coin weighing about 4.24-4.25 gr. The *dirham* of the Babylonian *geonim* weighs 0.7 Arabic *dinar*, i.e. about 2.97 gr.

108 This value is an approximation of $20/0.7 = 28.5714$ Arabic *dirham*. The five *selaim* for the redeeming of the firstborn correspond to 20 Tyrian *dinars*. The *geonim* assimilated the Tyrian *dinar* to a silver coin weighing 4.25 gr, like their gold *dinar*. The origin of this shift of the weight of the *sela* from about 3.5 gr to 4.25 gr is unclear. It is likely that the first step of this shift happened already during the talmudic period. The Sassanid *dinar* then ranged in weight from 3.5 to 4.25 gr, with an average weight of about 4 gr. It is likely that already Rava and later Rav Ashi equalized the Tyrian *dinar* with the Sassanid *dinar*; this represented the major part of the shift. With time and the replacement of the Sassanid *dinar* by the Arab gold *dinar*, the remaining part of the shift was easily reached.

109 They had an average weight of 4 gr.

110 This reevaluation of the *shekel* from 20 *maah* to 24 *maah* remains a mystery. It is mentioned only one time, by relatively late Babylonian *amoraim*, Rava and Rav Ashi. We don't know on which tradition this information is based, and, further, we do not know to which event this reevaluation is related.

According to Jacob Weiss, *Midot ve-Shiurei Torah* p. 181, the reevaluation could have corresponded to the return from Babylonia. The *shekel* before the reevaluation would have weighed about 11.80 gr. After the exile in Babylonia, it weighed 14.17 gr. In fact, things were surely more complicated, and it is likely that the *shekel* also weighed about 17 gr during the periods when Palestine was under Seleucid rule and the coinage was according to the Attic Standard. *Tosafot* have examined this problem in B. Menakhot 5a: ד"ה והשקל and B. Ketubot 10a: ד"ה נותן לה; the problem nevertheless remains unresolved. Maimonides

Rabbi Oshayah said that the Rabbis wanted to hide all the silver and gold in the world on account of the silver and gold of Jerusalem,¹¹¹ until they found a text from the Torah making their use permissible, because the Scripture says: “and the robbers will enter into it and profane it.” The text continues: “but is Jerusalem the greatest part of the world (so that we should forbid all the silver and gold of the world)?”¹¹² Therefore Abbaye corrects this and says that the Rabbis wanted to hide all the rubbed-off¹¹³ *dinars* of Hadrian, the stepson of Trajan,¹¹⁴ on account of the coinage of Jerusalem, until they found a text from the Torah making their use permissible because it is written “and the robbers will enter into it and profane it.”¹¹⁵

g. Tosefta Maaser Sheni I: 5

אין מחללין אותו על מטבע מרוד ולא על מטבע שאינו יוצא ולא על המעות שאין ברשותו.
כיצד היו לו מעות כזביות וממעות ירושלמיות, אין מחללין אותו עליהן. אם חלל לא קנו
מעשר.....

The second tithe may not be redeemed with money of revolt, nor by money which is not current, nor by money of which one is not in possession. How is this to be understood? If he had money of Bar Koziva or of Jerusalem, he

has addressed the problem only incidentally. In *Hilkhot Shekalim* I, 3 he writes that one *sela* is worth 24 *maah*, and he adds that the *maah* is the *geira* of Moses.

The conclusion is then that the *shekel* was 20 *geira* at the time of Moses, and the *sela* is now worth 24 *geira*.

- 111 The classical explanation (see Rashi *ad locum*) is that the coinage of Jerusalem designates the Temple Treasury, which was holy and forbidden for common use.
- 112 The coinage of Jerusalem is not the majority of the coinage in the world, so how can we forbid the use of all the silver and gold of the world for fear of using that of Jerusalem?
- 113 The hatred of Hadrian was so great that the Jew could not look at the effigy of Hadrian. Even when these coins were sufficiently old and rubbed off, the Rabbis wanted to forbid their use. This explains why Rabbi Johanan spoke about a gold *dinar* with the effigy of Hadrian rubbed off.
- 114 These coins were struck in Jerusalem with silver and gold of the Temple Treasury. This, at least, is the classical explanation given by Rashi. The sentence, brought to justify the fact that the money is now allowed to be used, seems well adapted to this exegesis, as we can understand that the enemies have made this money profane.
- 115 In fact, we speak of the coinage of Hadrian after the repression and the destruction of Betar. The Jews could not forget the atrocities of Hadrian and the religious persecutions, recalling the era of Antiochos Epiphanes. The fact that Hadrian struck his coinage in Jerusalem was the last straw. They now considered rehabilitating the rubbed-off coins, as they understood through this passage that the enemy had taken away the sacred character of Jerusalem and, therefore, that using this new coinage of Jerusalem would not be considered a capital offense.

cannot redeem his second tithe with that money and, if he redeemed, his tithe is not redeemed....

In this *Tosefta*, the coins of revolt are defined as the money of Bar Koziva, the money struck by Bar Kokhba during the war against Rome in 132-135 CE, and the money of Jerusalem represents the money struck in Jerusalem during the war of 70 CE. These two kinds of money had been demonetized by the Romans, and their use was forbidden; the Rabbis were therefore obliged to forbid their use.

The same *Tosefta* is quoted slightly differently in B. Bava Kama 97b:

אין מחללין על המעות שאינם יוצאות, כיצד היו לא מעות כוזביות ירושלמיות או של מלכים הראשונים אין מחללין.

Because of this text, Rashi believed that the money of Bar Koziva was from Jerusalem. In fact, even if Bar Kokhba briefly occupied Jerusalem, it is not likely that he struck money in Jerusalem. The money of Jerusalem seems, in the context of money of revolt, to relate to the money of the first revolt in 66-70 CE.

This *Tosefta* is also quoted in Y. Maaser Sheni I, 1, 52d:

מטבע שמרד כגון בן כוזיבא אינו מחלל. היו לו מעות של סכנה, אתא עוברא קומי רבי אימי אמר יוליך הנייה לים המלח.

It is not allowed to redeem the second tithe with money of revolt. And what is the rule if he had money of danger? Such a case was asked to Rabbi Eimi,¹¹⁶ and he said that one should send the value of the second tithe to the Dead Sea.

Many opinions were expressed about the exact meaning of “the money of danger.”¹¹⁷ The true meaning seems to be the official provincial money struck by the Roman administration of Palestine and more generally any Roman money struck with the

116 In B. Talmud he is known as Rabbi Ami, the pupil and successor of Rabbi Johanan.

117 The Korban ha-Eda understood that we speak of the money of a foreign country at war with the local country, i.e. the Roman government. This seems to be the case with the Babylonian currency (under Sassanid ruling), which is mentioned just after that statement. Now if the Rabbis had decided, as proposed by Korban ha-Eda, to seize this foreign money, and not to redeem the second tithe, the text must then be simply: יוליך לים המלך ואין המעשר מחולל. The expression suggests that the second tithe is really redeemed but its value must still be brought to the Dead Sea. See also Mishna Avoda Zara III:9, where the same expression occurs with the meaning that the value of the burned wood should be brought to the Dead Sea in order to make the bread cooked with this wood permissible. The Mishnah makes a clear distinction between יוליך לים המלך (Mishna Avoda Zara III: 2) and יוליך לים המלך (Mishna Avoda Zara III:9).

Zuckerman (*Ueber Talmudische Münzen und Gewichte* [Breslau, 1862]) has probably

effigy of Hadrian during the period 135-138 CE, corresponding to the end of the reign of Hadrian from the end of the revolt until Hadrian's death, when he decided to solve the "Jewish problem." There is indeed much evidence¹¹⁸ that the סכנה, the danger, represents this terrible period of religious and physical persecution, contemporaneous with the revolt of Bar Kokhba, during which Rabbi Akiva and some of his colleagues were sentenced to death. It is likely that the "money of *sakana*" in the Jerusalem Talmud is related to the דינרא הרדיינא טריינא שייפא, the rubbed-off *denarii* with the effigy of Hadrian minted between 135 CE and 138 CE, i.e. at the end of the reign of Hadrian after the destruction of Betar. As long as the effigy of Hadrian and the text of these coins were readable, the Jews boycotted them and forbade their use; this was the "money of danger." When, more than 120

made an incorrect parallel with the preceding Mishnah, and explains that this money was forbidden because of idolatry. This explanation is nonsense. Yakov Meshorer (*Ancient Jewish Coinage*, Vol. II, pp. 31 and 105) writes that the money of *sakana* is the money struck in Jerusalem during the war of 66-70 CE. This is also unacceptable. As argued above, in such a case the Rabbis would have seized the money and would not have used this expression יוליך הנייה. Eliezer Lambert, *REJ*, 51 (1906): 240, is the only one to have related the money of *sakana* with the coinage of Hadrian after the destruction of Betar. But his explanation of the passage of Y. Maaser Sheni is not acceptable. He thought that the Rabbis had decided to seize the money and destroy it; but, as observed above, the text then should have been יוליך לים המלך. However, we see further (note 121) that the text of the Jerusalem Talmud is not always accurate and does not make a formal difference between יוליך לים המלך and יוליך הנייה. Therefore, we cannot rest only on the formality of the text. The main argument seems to be the following: in all the other quotations the money was not legal tender and it was forbidden and demonetized by the Romans. The text tells us that the redeeming is not valid, but that the forbidden money apparently remains in the hands of their owners at their own risk. Here, the money is legal tender but the Rabbis forbid its use. It does not make sense that the Rabbis would dare to invalidate the redeeming and confiscate the litigious money.

- 118 The word *sakana* represents clearly the period of the persecution of Hadrian, one of the most difficult periods of Jewish history:

Mishna Ketubot IX, 9:גבט שלא בגט. אישה גובה כתובתה שלא בגט.
B. Sukkah 14b: אמר רבי יהודה מעשה בשעת הסכנה שהביאנו נסרים שהיו בהן ארבעה וסיככנו על גבי מפרסת וישבנו תחתיהם

B. Eruvin 91a: אמרו לא אין שעת.....מחצר לגג. אמרו לא אין שעת.
הסכנה ראייה

Y. Bava Metzia II, 7, 8c: מן הסכנה ואילך התקינו: משהחרב בית המקדש התקינו שיהיו מכריון שלשה ימים, מן הסכנה ואילך התקינו: שיהא מודיע לקרוביו ולשכניו ודיו.

The period of *sakana* is thus a specific period, different from the period 66-70 CE, when the Temple was destroyed. It happened during the youth of Rabbi Judah (ben Ilai) and Rabban Simeon ben Gamaliel; it corresponds with certitude to the persecution of Hadrian during the period 132-138 CE, probably with more precision to the period 135-138, when

years later, the coins had been modified and the effigy of Hadrian and his name had been rubbed off, Rabbi Johanan authorized them.¹¹⁹ Rabbi Ami was the successor of Rabbi Johanan in Tiberias, and there is no reason why Rabbi Ami would have objected to his master Rabbi Johanan.¹²⁰ We can then consider that Rabbi Ami was referring to well-conserved coins with the effigy of Hadrian still visible, which were still under the former interdiction despite a time span of 150 years.

It seems, therefore, that the answer of Rabbi Ami *לִים הַמְלַח יוֹלֵיךְ הַנִּייה* means that the second tithe is redeemed,¹²¹ but that one must bring to the Dead Sea an

Hadrian, after the repression of the revolt of Bar Kokhba, decided to solve the problem of the Jewish people by suppressing their religion. It is during this period that Rabbi Akiva and Rabbi Judah ben Bava and other *tannaim* were killed.

119 See B. Bekhorot 50a top and bottom.

120 See B. Bekhorot 50a top and bottom. At the top we learn that Rabbi Johanan used the rubbed-off *denarius* of Hadrian. At the bottom of the same page we see how these coins were finally authorized.

121 The Pnei Moshe understood that the “money of danger” is the money of a foreign country at war with Rome, which endangers its owner and cannot be used. Therefore, he considered that the tithe is not redeemed but that the money of danger must be brought to the Dead Sea. The justification that he gives, i.e. that the money is considered as if it had taken the sanctity of *maaser sheni* is nevertheless farfetched. Apparently, in other similar cases where certain money is not allowed for the redeeming, there is no obligation to bring that money to the Dead Sea; why then this obligation in this particular case? Further, the expression *יוֹלֵיךְ הַנִּייה* suggests that it is the value and not the litigious money itself that one must bring to the Dead Sea.

In order to understand this passage of *maaser sheni* one must take the following elements into consideration.

- The second tithe is applied even if the Temple doesn't exist.
- The second tithe must be brought and eaten in Jerusalem only if the Temple exists.
- Without the Temple, the second tithe cannot be consumed without redeeming.
- The *geonim* decided that one *pruta* can be used for redeeming products worth one *mana* (one *mana* = 19,800 *prutot*).
- At the beginning of the fourth century, at the time of Rabbi Ami, it is likely that the redeeming was performed at the true value and was not symbolic; hence the use of coins with the effigy of Hadrian, which were important denominations.
- The coins used for redeeming the second tithe took over the sanctity of *maaser sheni* and, when there was no longer a Temple, this money had to be brought to the Dead Sea.

We should be aware that the coins with the effigy of Hadrian had a legal value – contrary to the money of revolt or the currency of a foreign country – and, therefore, even if the Rabbis forbade their use *a priori*, they could not invalidate *a posteriori* the redeeming of the second tithe with a Roman currency officially in circulation and in current use. If there really was such a rabbinical ruling and it was known by the authorities, it could have had very bad consequences. The only thing that the Rabbis could afford themselves – and this

additional amount representing the value of this second tithe in current money. It is indeed difficult to understand it differently; the money of danger is legal tender, and the Rabbis would not dare to ignore or refuse it. However, we should clarify what exactly must be brought to the Dead Sea. Either we understand that the expression used by Rabbi Ami is not to be understood strictly, and means: המעשר מחולל ויוליך המעות לים המלך, the money is legal tender and the operation is regular, the second tithe is redeemed and the money “of danger” bears the sanctity of *maaser sheni* and must be brought to the Dead Sea, or we consider the expression used by Rabbi Ami *stricto sensu*: the second tithe is redeemed and the money with the effigy of Hadrian must be brought to the Dead Sea, as above, but an additional amount of current money of the same value must be brought to the Dead Sea as a penalty. The first solution seems less likely; it implies that the boycott of the “money of danger” could easily be evaded.¹²² Therefore, I feel inclined to prefer the second solution; it implies the respect of the legality but a reinforcement of the boycott.¹²³ However, there remains one difficulty: when the Temple doesn’t exist, the redeeming of the second tithe is symbolic, and one *pruta* is sufficient for redeeming one *mana* of *maaser sheni*. This is nevertheless a gaonic regulation,¹²⁴ and it is likely that at the time of Rabbi Ami the redeeming of the second tithe was still performed at its true value. It is probable that the expression יוליך הנייה¹²⁵ means that one must bring

was also not without some danger – was to fine such a transaction by the obligation of bringing supplementary money, representing the value (הנאה=הנייה) of the second tithe and of the litigious money to the Dead Sea. But even in the absence of the application of this last disposition, the redeeming of the second tithe was valid because the money used was of good quality and commercially valid.

Therefore, it seems to me that the rather sibylline answer of Rabbi Ami means:

- That the second tithe is redeemed.
- That the coins with the effigy of Hadrian bear the sanctity of *maaser sheni* and must be brought to the Dead Sea.
- That Rabbi Ami prescribes that one should pay an additional fine representing the value of the second tithe and bring it to the Dead Sea.

122 We could say: B. Bava Metzia 17b: אם כן מה הועילו חכמים בתקנתם.

123 We could say: B. Ketubot 11a: שלא יהא חושה נשכר.

124 See Maimonides Hilkhot Maaser Sheni II:2. This gaonic regulation is probably inspired by a similar disposition mentioned by Samuel in B. Erakhim 29a.

125 The expression in the Jerusalem Talmud יוליך הנייה לים המלך corresponds to the expression יוליך הנאה לים המלך in the Babylonian Talmud. These expressions appear less frequently than the expression יוליך לים המלך. The last expression is used when the litigious object, which is not biodegradable, must be brought to the Dead Sea because it bears in itself the interdiction – idolatry – or in our days, בזמן הזה, because it bears the sanctity of *maaser sheni* or the sanctity of *herem (bedek ha-bait)* for the maintenance of the Temple. If it is

to the Dead Sea the true value of the second tith, as was the case during the existence of the Temple, when this money was brought to Jerusalem and converted into food to eat in Jerusalem under the rules of the sanctity of the second tith.

III. CONCLUSIONS

In the field of the study of coinage, we have the great advantage in that we have found nearly all the old coins; this allows us to know their weight and their fineness. The only difficulty is in classifying them, dating them, and making the correct attributions. Today, most of these problems have been solved. Only the problem of the exact denomination of some of the small Hasmonean nickel coinage remains unsolved. Another difficulty is that nothing is less stable than coinage, because of the manipulations of the rulers. This is quite different than the other units of measure, which present much greater stability over time. Nevertheless, the numerous remaining Tyrian *tetradrachmas* and the Jewish silver coins of the Roman war from 66-70 CE allow us to know exactly the characteristics of the halakhic coinage. After the destruction of the Temple, the halakhic coinage became virtual and theoretic; the main concern was to ensure its stability. The main difficulty was to express its correct value in contemporary currency.

biodegradable, then it must be abandoned to decompose. The expression **יוליך הנייה לים** generally means that the interdiction doesn't exist with certitude in a fixed object. Therefore, the Rabbis decided that one should bring to the Dead Sea the value of this object.

Let us examine in detail the different occurrences of the expression:

1) Mishna Avoda Zara III: 9: **הנאה לים המלח**, **רבי אליעזר אומר**, **יוליך הנאה לים המלח**.

We have here a rare case where the Halakhah is according to Rabbi Eliezer and, therefore, the meaning of this expression has been extensively examined. The subject under discussion is bread, which was baked with wood belonging to *avoda zara*. Rashi explains that the bread is allowed and it may be eaten on the condition that one brings to the Dead Sea the value of the wood, which is no more extant and represents the only element of *avoda zara*. This explanation of Rashi seems to be the true explanation of the passage, as it gives its full meaning to the word **הנאה**. Ran on Rif (p. 22a, beginning by **רבי אליעזר**, at line 29) praises Rashi's explanation.

Maimonides (Hilkhot Avodat Kokhavim VII, 13) and *Tosafot (ad locum)* understand differently: such bread must be thrown away. It is only if such bread were mixed with other breads, then all these breads may be eaten on the condition that one brings the value of the bread to the Dead Sea. We see then that even for this explanation the expression means that the litigious object is allowed and it is its value that must be brought to the Dead Sea.

2) Tosefta Avoda Zara IV: 3 and *idem* in B. Yoma 66a: **כסות וכלים ירקבו ומעות**, **וכלי מתכות יוליך הנאה לים המלח**.

This passage is disturbing; we find indeed the use of **הנייה** in a case where the object itself must be brought to the Dead Sea. We find nevertheless the same phraseology in B. Avoda

Similarly, economic history gives the real situation and the backdrop to the talmudic texts, and allows us to understand their significance. In this article we have described the halakhic coinage considered in the Mishnah and the Talmud. We have examined a few talmudic passages related to halakhic coinage. We have shown that the numismatic contribution and the history of Roman economy allow us to better understand them. We have also seen that, sometimes, the differences between parallel passages in the Babylonian Talmud and the Jerusalem Talmud are the consequences of different economic situations, apparently not understood by the protagonists. Finally, we have seen yet again how much the backdrop of Judean life was bound to Roman civilization and economic constraints.

Zara 13a and 13b with the correct text יוליכם לים המלח.

3) B. Bekhorot 13b: משנתן מעות משך, יוליך הנאה לים המלח.

This text is also problematic because the objects must be brought to the Dead Sea, but we find the correct text in B. Avoda Zara 53a.

4) Y. Demai VI, 10, 25d: עקילס הגר חילק עם איחו והחמיר על עצמו והוליך הנייה לים המלח.

Here also the text seems incorrect because Aquilas sent the objects to the Dead Sea. We find nevertheless the correct text in Tosefta Demai VI, 12.

5) Y. Avoda Zara I, 1, 39b: אמר יוליך הנייה לים המלח.

Rabbi Judah Nessia had received from a Roman Procurator, on a Roman religious day, a moneybox filled with *denarii*; he had held on to one *denarius* and sent back the rest. Resh Lakish taught Rabbi Judah Nessia to bring this *denarius* to the Dead Sea. Again, the formulation is incorrect.

Conclusion: We cannot rest on the text to give a correct interpretation. The exegesis results from the correct interpretation of “money of *sakana*.” The commentary Penei Moshe understood that it is the money of a foreign country at war with Rome and therefore that the money must be sent to the Dead Sea. Nevertheless in the following case of the Babylonian currency, such regulations – to bring the coins to the Dead Sea – are not imposed!

Zuckerman (*Ueber Talmudische Muenzen und Gewichte* [1862]) followed by Moses Schwab (*Le Talmud de Jerusalem*, Vol. 2, p. 201), understood that the “money of danger” is constituted by coins belonging to *avoda zara* (the necklace of the idol) and, therefore, that the money must be brought to the Dead Sea. The English translation, *The Talmud of the Land of Israel*, Vol. 8, p. 17, follows the Penei Moshe.

As explained above, these explanations don't seem to be genuine; the money of danger must relate to the period of repression and eradication of Judaism under Hadrian during the years 135-138 after the fall of Betar. This explains the aversion that the Jews had to Hadrian and his effigy. But this money was legal tender and the redeeming was valid.