Talmudic Metrology IV: The Halakhic Currency

Abstract.

In 66 B.C.E. Palestine entered under Roman protection and from 6 C.E. on it would be under Roman administration. This situation persisted until the conquest by the Persians in the beginning of the seventh century. The Jerusalem Talmud was thus completely elaborated under Roman rule. Therefore, as for the other units of measure, the Halakhik coinage and the Jerusalem Talmudic monetary denominations are 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 the Roman equivalents of the shekel, in which the Torah obligations are expressed and of the prutah, the least amount in Jewish law.
In this article we describe the Halakhik coinage, originally based on the Tyrian coinage, and examine the history of the Shekel and the Prutah.
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 to numismatic data that was unknown to the traditional commentators of the Talmud.
Differences between parallel passages of both the Jerusalem and the Babylonian Talmud can then be explained by referring to the economical situation prevailing in Palestine and Babylonia. For example, the notion of Kessef Medina, worth one eighth of the silver denomination, is a Babylonian reality that was unknown to Palestinian Tanaïm and Amoraïm. We can then observe that new Babylonian understandings based on local Babylonian circumstances will appear and assert themselves and finally enter into Halakha.

Talmudic Metrology IV: the Halakhic Currency.

   A. Weight Standard and Coinage.

   1. Introduction.

The great difference between these two different notions, weight and coinage, is that the weight standard is generally stable for long periods. On the contrary, coinage is generally unstable because of the phenomenon of debasement. The rulers try to diminish the quantity of fine metal in the coins in order to be able to mint more coins with the same quantity of fine metal. The advantage taken by the ruler is generally limited to a short period because the money changers become rapidly aware of the new characteristics of the mintage. Either by rumors and indiscretions or by direct regular measurements of the density of the coins (by measurement of weight and volume), the changers become aware of the changes to the fineness of the coins; they then try to keep the old coinage of higher fineness and to get rid of the new coinage of lesser fineness by circulating it. The situation is soon known by everyone; the old coinage disappears and is hoarded; only the new coinage is now in use. The ruler loses the temporary advantage as soon as the new value of the coinage is generally known. The situation is very similar to the 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).

   2. Ancient Units of Weight.
Roman Units of Weight

	Approximation in gr.
Chalcus	0.71
Siliqua	0.189
Obolus	0.568
Scripulum	1.137
Drachma	3.411
Sicilicus	6.822
Uncia	27.288
Libra- Pondo	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.
Chalkoi	0.09
Hemiobolos	0.36
Obolos	0.72
Drachma	4.32
Tetradrachma	17.28
Mina	432

Talent   25860

Greek units of Weight (according to the Phoenician standard) in use in the Ptolemaic
     Empire (Egypt).

	Approximation in gr.
Chalcoi	0.075
Hemiobolos	0.30
Obolos	0.60
Drachma	3.58
Tetradrachma	14.32
Mina	358
Talent	21480

The units of weight used in the Talmud are the same as the Roman units of weight. This
is certainly 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 Temple; they weighed about
one Roman drachma (in fact 4% 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
דבילה של ששים מנה באיטלקי.[1] The system of the Talmudic units of weight was thus coupled
with the Roman system and the Talmudic mana was identical to the Roman mina and was
equal to the weight of 10 denarii. The situation appears then similar to that of the units of
capacities; the Talmudic units of capacity were also attached to the Roman units of
capacity. The plain meaning of the Mishna 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 during a very long period beginning
in 125 B.C.E. The shekel weighed about 14.16 gr. and the dinar weighed 3.54 gr. The
great stability of the Tyrian coinage allowed for the consideration of the coinage 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 August 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% of the Tyrian dinar. The adoption by the rabbis of the Roman standard
of weight represented thus a diminution of 4% of the different units of weight.
 Furthermore, the use by the Rabbis of the same denomination ''dinar'' for the coinage
which, at least in 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.
Now, when we examine the classical commentaries we note a new difficulty because the
medieval rabbis differed about the weight of the Talmudic shekel and dinar and some of
their commentaries are somewhat far-fetched. 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 Köln, and his explanation allowed him to follow the Gaonim, who consider that the Talmudic dinar weighed about 4.25 gr. the same as the gold Arab dinar. In 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 Roman Imperial denarius. This is the reason why R' Samson wants to compare and equalize the Jewish standard of 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% 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 Mishna, 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 precisely is erroneous: the modern dinar of Maimonides weighed about 4.25 gr. while the Roman denarius weighed about 3.54 gr. and the Roman drachma weighed 3.41 gr.[4]

   3.   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
1obolos   = 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 equal to about the Roman denarius and 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 obol, according the Attic standard, was no longer struck for a long time after Augustus.

Roman Coinage, according the reform of Augustus.

1   aureus = 25 denarii
1 denarius = 2 quinarii
1quinarius = 2 sestertii
1 sestertius = 2 dupondii
1dupondius = 2 as
1 as = 2 semis
1 semis = 2 quadrantes
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.

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

Denomination	Metal	Weight in gr.	Value in denarii	Size in mm
Aureus	gold	7.90	25	~20
Quinarius	gold	3.80	12.5	~15
Denarius	silver	3.80	1	~19
Quinarius	silver	1.90	1/2	~15
Sestertius	orichalcum	25	1/4	~25-30
Dupondius	orichalcum	12.5	1/8	~28
As	copper	11	1/16	~24-28
Semis	orichalcum	3.25	1/32	~18
Quadrans	copper	3	1/64	~15

The fractional denominations were struck in two metals: orichacum or brass (75% copper, 20% zinc and 5% 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 substitution of the Republic by the Principate, the Romans used only pure gold and silver coins.
Augustus[5] and later his stepson Tiberius[6] succeeded to maintain a sane financial situation. But under Caligula and Nero[7] we observe a first beginning of debasement of the money. At the end of the reign of Nero the Imperial Roman denarius and the Tyrian dinar have similar weight, silver content and value.

B. 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 fineness than the Tyrian dinar[8] but the imperial coinage had limited circulation in Palestine and Syria during the first century.

We give a table showing the gradual and then total collapse of the denarius from the time of August to 268 C.E. Under Augustus the denarius had been 98% pure silver and the purity declined only modestly to 90% by the time Hadrian died in 138 C.E.

Nero	54 C.E.	94% silver.
Vitellius	86	80
Domitian	91	92
Trajan	98	93
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 C.E., the antinonianus (5.1 gr. 52% fine). It contained 50% more silver than the denarius but it was legally valued at two denarius. That means that by imperial decree this denomination was overvalued by 33% with regard to its silver contents. This reform of 215 C.E. was the cause of an important inflation in the Empire. After Caracalla, the rate of monetary debasement accelerated, reducing the silver content of the coinage to 40% by 250 C.E. and to virtually zero by 270 C.E. In 274 C.E. the emperor Aurelian reformed the currency and his denomination, the aurelianinus of improved weight (3.88 gr. and 5% fine) remained in use until the great recoinage of Diocletian in 294 C.E. The aureus, minted then at 50 or 60 to the Roman pound, was exchanged at rates reaching 1,000 denarii.[9]

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 C.E. 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 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 it was not a success. Diocletian's edict did not halt the spiraling prices in spite of the threat of capital punishment. It served only to drive goods onto the black market. Diocletian finally accepted the ruin of the money economy and revised the tax system so that it was based on payments in kind. The soldiers came to be paid in kind. 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 C.E. and to 300,000 denarii

per pound of gold by 324 C.E. and to an incredible 2.1 billion denarii per pound of gold in about 350 C.E.[10]

The causes of this evolution constitute an important problem in the history of economics; it is not very different from modern hyperinflation. Nothing has changed; they are always induced by considerable budgetary deficits financed by money creation.[11]

C. 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 there was a crisis in agriculture because of corrupt administrative arrangements, which led to neglect of the land. The land also suffered from an extremely severe famine. Furthermore, upheavals and wars occurred in the East with the accession of the Sassanide 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 Rabbi Johanan and Ilfa[12] suffered from hunger and were obliged to abandon learning and turn to business. Nevertheless, for exceptional reasons, Rabbi Johanan continued learning and gained fame.

D. 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, Nehemia 10: 33. Each Jewish male above 20, must give half a shekel each year for the service of the Temple. This represented a very important influx of money.
- 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-betoulot = fifty shekel of ketuba (according to German Rabbis)
- Five shekel of pidion ha-ben (redeeming of the first-born): Num 3: 47 and 18: 16.
- Arakhim are expressed in shekel: Leviticus chap. 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 BCE-285 BCE) became the king of Egypt in 323 BCE. The victory of Gaza in 312 BCE of Ptolemy I, allied with Seleucos I, marks the beginning of the empire of the Seleucids.[13] This event also represents the beginning of the era of the Seleucids. Judea passed under the rule of the Ptolemies after the victory of Ptolemy I Soter at Ipsos in 301 BCE.

Ptolemy II Philadelphe[14] (308 BCE- 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 Antiochos III Megas (242 BCE- 187 BCE) over Ptolemy V. Through this victory Palestine and the town of Tyre were conquered by the Seleucids and passed 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 %.[15] The importance of the Tyrian shekels results from the conjunction of the two following elements:

- The Tyrian shekels were issued without discontinuity from 125-126 BCE until 65-66 CE, with a constant weight, quality and fineness during a period of 191 years.
- The sages of the Mishna adopted the Tyrian shekel as corresponding to the Torah obligations of payments expressed in shekel or kessef. 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 be, according to Yakov Meshorer,[17] divided into two distinct groups. The first group includes coins dated 1 (125-126 BCE) to 106 (19-18 BCE). The 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. Meshorer[18] 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, Palestine and Tyre came under Roman rule, after the conquest of Palestine and Syria by Pompey. 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 %), the Roman silver provincial tetradrachmas were struck with silver that was only 80 % pure.[20] For this last reason, Tyre had no need to continue to mint currency.[21]

However despite these elements the minting of the Tyrian shekel went on and even when Tyre stopped minting the Tyrian shekels, it continued in Jerusalem. This is the result of the requirement by the sages that all the 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 silver currency of a high quality. Therefore, since they could not compromise the rules established by the sages and implemented by the religious authorities, they could not 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 an economic reason. Therefore the Jewish authorities had to provide the population with Tyrian shekels, and so they had to mint such Tyrian shekels. Since the striking of the Tyrian shekels was

scheduled to be stopped during the rule of Augustus, the needs of the Temple of Jerusalem compelled the Palestinian authorities, namely Herod, to begin minting a local high quality Tyrian shekel. These special editions are characterized by the letters KP. The meaning of this additional inscription is not clear. Meshorer[23] supposes that before striking these Tyrian shekels, the minting authorities of Jerusalem probably had to require 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 Tosephta 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 mint masters of Jerusalem.

In particular, the designs depicted on the silver shekels were not originally part of the Jewish vocabulary of symbols, and they 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 strike independent coinage was political; autonomous minting suggested independence. The striking of Jewish silver shekels was thus both the symbol of a declaration of war and of a declaration of independence. But another motivation 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.
½ siver shekel: average weight: 6.83 gr.
¼ silver shekel: average weight: 3.35 gr.
1 bronze prutah: 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 nearly the same value as the silver imperial coinage.

One silver imperial denarius equaled 64 quadrans of about 3 gr. copper, but Meshorer[26] 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 as equal to one quarter of a shekel. In other words, one silver shekel would have been worth, at the beginning of the revolt, 256 prutot, in the same way that one denarius was worth 64 quadrans. Interestingly, the half shekel weighed less than the 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 shekels.

A similar discrepancy exists in the Tyrian standard between the half shekels and the whole shekels. According to the percentage of whole shekels and half shekels that were 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 C.E.).

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 selaïm 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.
denarii. These were overstruck on Roman silver denarii minted originally in Rome or in one of the provinces. These issues were called dinerim, denarii or zouzim. Some of these denarii were overstruck over 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.

    E. The Prutah.

The importance of the prutah lies in the fact that it represents the smallest significant value from a legal point of view. For example any damage or any contesting about an amount less than one prutah is considered nonexistent. Therefore, it seems clear that the estimates of the prutah 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 prutah must be related to the Hasmonean and early Herodian coinage. The Hasmoneans still adjusted their coinage to the Seleucid standard. According to Yakov Meshorer,[29] the prutah may be compared to the Seleucid dilepton.[30] The prutah was a copper coin of about 1.5 to 2 gr. and about 15 mm diameter.
From the time of Agrippa I (42 C.E.) the prutah increased in weight and size to an average of 2.55 gr. and 17 mm. This brought the prutah close to the Roman quadrans, which weighed about 3 gr. and had a diameter of 15 mm. These conclusions of Yaakov Meshorer must however be considered with caution.[31]

    F. Examination of Talmudic Texts Connected to Coinage

  1. The Palestinian Coinage Standard.

In the Tossefta Baba Batra V: 4 we find the following description of the Palestinian coinage.

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 Braita is mentioned in Y. Kiddushin[32] in the name of Rabbi Hiya. The second part is mentioned[33] in the name of Rabban Simeon ben Gamaliel II.

 "The prutah 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 hadrissin equal one maah, two hanzin equal one hadriss, two shamin equal one hanez, two prutas equal one shamin."

Rabbi Hiya and Rabban Simeon ben Gamaliel mention two ancient traditions about standards of coinage. Shurer[34] had already observed that the prutah 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 prutah and the maah, and more generally the whole coinage standard described by the braitah, are ancient elements. Apparently Rabbi Simeon ben Gamaliel describes the old coinage standard, which was in use in Palestine under Hasmonean rule. It bears no relation to either the Attic standard or the Roman standard; it was probably, according to David Sperber, in use before Pompey's conquest in 63 B.C.E.
If we consider now the first system, considered by Rabbi Hiya, it ascertains that
 1 dinar = 6 maah = 12 pundions = 24 issar = 48 musmis = 96 kuntrons = 192 prutah, where the dinar must represent the provincial drachma.[36]
The imperial Roman system is a little different:
1 denarius = 4 sestesii = 8 dupondii = 16 as = 32 semis = 64 quadrans.
The system described by Rabbi Hiya represents a system which is similar to the Roman standard but still different. Many denominations are similar to Roman denominations but are not equal to the Roman parallel denomination because of the relation 1 dinar = 6 maah, similar to the relation 1 drachma = 6 oboloi, but different from the Roman relation 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 it 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 and the fineness of the drachma was about 80% while the fineness of the denarius was still 98% and the fineness of the Tyrian dinar was about 92%. The system, described by Rabbi Hiya, according to Daniel Sperber,[38] would have been introduced during the introduction

of the new currency system of Mathathias Antigonus in about 40-37 B.C.E. This system would have been continued, with some adaptations, under Herod. In the time of the Mishna, it would have already been obsolete and replaced by the Roman standard. Now Yakov Meshorer[39] dates the system described by Rabbi Hiya to the time ofthe 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] Yaakov Meshorer thinks therefore that the system described by Rabban Simeon ben Gamaliel refers to the Herodian coinage while the system described by Rabbi Hiya would refer to the provincial coinage introduced by the first procurator Coponius in 6 C.E., which would still represent the 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 Braita about the halakhik ratio of the prutah was taught. From the text of B. Kiddushin[41] and Y. Kiddushin[42] we see that the Rabbis of the beginning of the third century still doubted whether the prutah equals one sixth or one eighth of the issar. Now in Mishna Kiddushin I: 1 and Eduyot IV: 7, we read:

וכמה היא פרוטה, אחד משמונה באסר האיטלקי.

 The text of these Mishnas is written in such a way that we can infer that the value of the prutah was no longer known with precision at the time when it was written. In this text the value of the prutah 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 Mishnas 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. But we have reason to consider that the provincial coinage was still inferior to the imperial coinage. We read indeed in B. Bekhorot 49b:
"Rabbi Hanina[43] says that five old Syrian stater, when eight of them equal one aureus, allow one to redeem a first born."[44]
Thus at a slightly later period, in 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 the similar denominations. Therefore it seems impossible that Rabbi Meir or another anonymous author of the two Mishnas would have identified the issar with the Italian as. It seems that a third opinion is expressed, leading to a prutah with a value of 1/8 of the imperial as or 1/128 of a denarius.[45] The distinction between the provincial and the Italian denominations appears clearly in the Mishna, but it will be soon forgotten when the groveling inflation becomes hyperinflation in the second half of the third century. As we see in Y. Kiddushin,[46] Ilfa, who already suffered because of the hyperinflation which began in 215 C.E., identifies the Mishna with the Tossefta and necessarily confuses the provincial issar and the Italian as. It is then not surprising that this confusion generalizes itself in the text of Babylonian Kiddushin,[47] where the confusion appears even in the transcription of the Tossefta.
Now the problem of the prutah was not closed; the Rabbis of the third and even the fourth century continued to care about the value of the prutah.
Y. Kiddushin I, 1, 58d writes (according to the emendations proposed by R' David Frankel from Dessau in his commentary Korban ha-Eda):

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

Said Rabbi Zeïra:[48] This was the situation at the epoch of Rabbi Simaï[49] (the maah was worth 32 prutah) but afterwards our Rabbis adapted the former ratio maah-prutah which was 32 to 24.[50] Rabbi Hanina and Rabbi Mana[51] 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 isaar. According to Rabbi Hanina, it depends; sometimes six but sometimes eight women can be married with one isaar.

Let us consider the first sentence relating the change of the ratio maah-prutah at (or after) the epoch of Rabbi Simaï, in the beginning of the third century.
The ancient relation was thus:
1 dinar = 6 maah = 12 pundion = 24 issar = 48 musmis = 96 kuntrons = 192 prutah.
The new relation, introduced after Rabbi Simaï, is then
1 dinar = 6 maah = 9 pundion = 18 issar = 36 musmis =72 kuntrons = 144 prutah.
The number of prutah 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 ratio maah-prutah, 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 prutah, a 25% decrease. If we consider further that silver remained stable then the copper prutah went up from 1/192 to 1/144 denarius, or 33%.
This event could be related with 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% and contained 1.81 gr. fine silver. At the beginning of the reign of Caracalla the denarius weighed 3.23 gr. It had a fineness of 51.5% and contained 1.66 gr silver.
After the reform of Caracalla in 215 C.E. the antoniniamus weighed 5.1 gr., had a fineness of 52%, contained 2.65 gr. of fine silver and was legally valued to two former denarii, which contained 2*1.66 gr. or 3.32 gr. Thus the antoniniamus contained 80% of the silver of two former denarii but they were valued legally at the same price as these two former denarii. In other words, the silver of the antoniniamus was overvalued by 25%. As the market refused to accept the antoniniamus at the official rate and valued it according to its silver contents, this corresponded to a new debasement of the denarius by 25%. Thus the reform of 215 C.E. represented a debasement of 25%; but if we refer to the situation at the end of the reign of Septimus Severus in 211 C.E. then we observe that the antoniniamus contained only 73% of the silver contained in two denarii of Septimus Severus corresponding to a global debasement of 37%. The proximity in time between the reform of Caracalla and the period of Rabbi Simaï and the similar significant debasement make it likely that the change in value of the prutah after Rabbi Simaï was the consequence of the debasement under the reign of Caracalla. Therefore the only plausible explanation of the evolution of the situation is that the former relation:
1/25 aureus = 1 denarius = 6 maah = 24 isaar = 192 prutah
was replaced, after the reform, by

1/33.3 aureus = 1 denarius (= 1/2 antoninianus) = 6maah = 18 isaar = 144 prutah.
The maah, a silver coin corresponding to the obolus, was not struck for a long time after Augustus and must be considered as 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 Mana[53] differed on the subject. Rabbi Hanina ascertains that the copper coinage remained unchanged and it is the silver coinage that went down. Thus the standard of valuation was the stable coinage, the copper coinage[54], and a woman needs one prutah to marry. Therefore one isaar was equal to eight prutot and it allowed for the marriage of eight women, but after the reform it was worth only six prutot and allowed for the marriage of six women. Rabbi Mana considers that the silver coinage remained unchanged[55] and it is the copper coinage that went up. Therefore, he says, one isaar allowed for the marriage of eight women before the reform. After the reform, although the copper coinage went up and six prutot were now worth the same amount as eight prutot before, eight women could still be married with this isaar. In other words, as the silver coinage is the standard of value, a woman is not married with one prutah but with 1/8 of an isaar.
The only way to understand their point of view is to consider that these Rabbis considered the isaar to be a silver coin.[56] Otherwise how is it possible that the ratio between isaar and prutah could evolve from 8 to 6?
Therefore, according to the two Rabbis, Rabbi Hanina and Rabbi Mana, the new relationship after the reform was:
1/33.3 denarius = 1 denarius = 6 maah = 24 isaar = 144 prutah.
The issar is supposed to be a silver coin and therefore the ratio isaar-prutah is now 6 and the ratio maah-prutah is now 24. We must then consider that these two rabbis who were 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 relating that in the time of Rabbi Simaï one issar was worth 8 prutot, but later in the time of Rabbi Dostaï[57] it was worth 6 prutot. This change was not related to the old discussion between the two Braitot of the Tossefta, in the name of Rabbi Hiya and Rabbi Simeon ben Gamaliel, expounding two different standards of Jewish currency, but rather it resulted from the supposed evolution of the issar. The old relationship was:
1 dinar = 6 maah = 24 isaar = 192 prutot.
The new relationship was thus
1 dinar = 6 maah = 32 isaar = 192 prutot.
Apparently Rabbin, who came back to Babylonia in about 320 C.E., was completely unaware of the reform of 215 C.E. He could not explain what happened exactly after the time of Rabbi Simaï and his solution is untenable. Not only did he consider a silver isaar, but why did this issar depreciate with regard to both the prutah and the dinar?[58] His solution also contradicts the statement of Rabbi Zeïra in Y. Kiddushin[59] that the rabbis brought the prutah from 1/32 maah to 1/24 maah. Thus only Rabbi Zeira understood clearly the consequences of the debasement of Caracalla in 215 C.E.

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

According to Yaakov Meshorer,[60] since the end of the Ptolemaic period in 200 B.C.E. gold coinage was both rarely employed and in relatively short supply in Palestine and more generally in the Near East. Gold first attained large scale circulation in Judea during the few years prior to the war of 66 C.E. 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 Mishna is normally the imperial Roman gold denarius. The silver dinar mentioned in the Mishna 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 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 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 ratio aureus-denarius 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 two times 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 they explained that the golden denarius is worth 24 silver denarii and the 25th denarius represented the commission that one had to pay the changer for the purchase of a golden denarius.[61]

This explanation seems far-fetched because it would imply that when exchanging a golden denarius for silver denarii, we would receive only 23 denarii[62] and the mean value of the golden denarius should then be 24. Now 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 Mishna[63] and of the Y. 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 Trajanus in 101-102 and 105-107 C.E. This brought to Rome rich gold mines and re-established the monetary equilibrium of the empire, but the ratio between gold and silver dropped slightly and the ratio between gold aureus and silver denarius would have fallen to 24 instead of 25.

3. Kessef Medina or the Provincial Nickel[66] 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 first-born, 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 Rabbis[70] 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 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 shekel or 200 dinar in Tyrian coinage.

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

It is in light of this historical background of economic collapse that we must consider the statement of Rabbi Johanan. One can imagine how difficult it was to express religious and legal financial obligations. Rabbi Johanan expresses the five Tyrian selaïm of the redeeming of the first-born through the use of an old rubbed off golden denarius that Hadrian struck in about 120-138 C.E., a hundred years earlier, which, despite its decay, had a very good fineness and was still worth 25 Tyrian dinars.[71] Now for the settlement of the ketuba, he says, that even those who would not use Tyrian selaïm, because the ketuba is a rabbinic prescription,[72] accept that it must be settled at the value of 200 Tyrian zouz and paid with selaïm of Tiberias, which are comparable to those of Jerusalem. Rabbi Johanan speaks of: סלעים סברייוניות מהגינות ירושלמיות. The exact meaning of this sentence has puzzled the commentators.[73] Among the different proposed explanations the only acceptable one[74] is that of Jastrow who corrects סברייונית by טברייונית. This would mean that Rabbi Johanan requires that one make use of good selaïm like those hoarded in Tiberias,[75] of a similar value, מהגינות,[76] as the Tyrian selaïm struck formerly, 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 Amoraïm 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 appears that there is a very different attitude between Babylonian and Palestinian Amoraïm resulting from different economical 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 equaled the Tyrian coinage to the local (Persian) Sassanide silver coinage,[79] and the Provincial debased coinage to their local nickel coinage.[80]

On the contrary, the Palestinian sages 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 existing in the period 1918-1923. For them, the problem of payment in Tyrian currency or legal currency does not concern the amount to pay, but the quality of currency to use. 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. The statement of Rabbi Johanan 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, עידית, 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 the statement of Rabbi Johanan 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 mishnah Baba 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 מעות זוז. זה הכלל, הכל לפי כבודו.

According to the Babylonian understanding:[82]

Striking someone's ear or shouting in it: tana kama: 0.25 zouz

               Rabbi Jossi: 100 zouz

Slapping someone's face: 50 zouz

It is then easy to understand the surprise of R' Tam in the face of such a difference between tana kama and Rabbi Jossi.[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 Mishna is then the following:

Striking someone's ear or shouting in it: tana kama: 4 zouz

               Rabbi Jossi: 100 zouz

Slapping someone's face: 400 zouz

The objection of R' Tam is now less crucial and one could answer about this difference: either, tana kama and Rabbi Jossi 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 Jossi 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 of the beginning of the Mishna 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 באותו הזמן. 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........

4. Mishna Shekalim I: 6.

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

There are different and contradictory explanations for this Mishnah. According to the Tossefta 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% called "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% 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 into two half sela. In this last case, Rabbi Meir requires that each of these two people adds a kolbon.
The first sentence of the Mishna, 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 and therefore the kolbon (one pundion or 4.167%) that one has to pay to the changer when changing a sela into two half-sela 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 writes[88] that there was a great demand for half-selaïm and therefore these coins were at a premium with regard to their intrinsic value. Meiri[89] writes that the sela was more current than the half-sela. Now 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%) in order to make sure that the correct amount has been paid.[90] It is generally accepted that the concern of Rabbi Meir is connected to the fineness of the half-sela. We know that the fineness of the Tyrian coinage was about 92% and therefore a kolbon of 8.33% 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 Mishna on three[92] different occasions, each time in a different way.[93]

Now we must observe that the Mishna Shekalim, similarly to the Mishna Midot, is different than all the other treatises of the Mishna. Currently, the Mishna 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 the architectural dimensions of the Temple. The traditional commentators have interpreted these texts in the same manner as the common halakhik texts. They have fixed the halakha according to the traditional rules used by the rulers, fixing for example the halakha according to one Rabbi over other Rabbis because the rule is to give precedence to him over the others. Maimonides' halakhik compendium of Hilkhot Shekalim was established on this basis, and so it should represent the practical conclusion of the Talmud Shekalim. However, it has little chance of corresponding to reality and the rule during the second Temple. It is nevertheless considered to be reality, as it was this practice that the Tanaïm tried to reconstitute. They based themselves on traditions reported in contradictory versions of the Braitot or in the Mishna.

Still there are many difficulties in the traditional explanations of our Mishna;

1. The changers considered in Mishna Shekalim I: 3 were probably not independent money changers working on their own and paying themselves at the expense of the contributors. How would they have the power to seize pledges and to undertake the transportation of the money? The carrying of the money to Jerusalem seems beyond the activities of the 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 1/6% and a fortiori of 8 1/3% seems unrealistically high with regard to our economical understanding. A more realistic rate is about 2%, as we find that the changers asked 49 pundion for one shekel worth 48 pundion and gave only 47 pundion in exchange of one shekel. This corresponds to a change commission of 2.08%.[94]

3. The ancients, during the second Temple, were not technically able to have pure silver. The Tyrian shekel, with a fineness of 92%, was considered the best available silver.[95] It seems unlikely that the kolbon would account for the difference between pure silver and the practical fineness of 92% of the Tyrian shekel.

4. Numismatic research teaches us that there were many more selaïm 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 C.E. This data is striking and in contradiction with the traditional commentaries which depart from the fact that the weight of the half-shekel was half of the weight of the full shekel. The explanation of 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 of that of the full shekel. It is therefore likely that the minters compensated for the situation and paid themselves by diminishing slightly 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 Mishna is quite different than expected and therefore the explanation of the Mishna and the 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 1/6 % or 8 1/3% to the half-shekel in order to compensate for the imbalance of the half-shekel. We observe that a kolbon of 4 1/6% was in principle sufficient because the imbalance of the half-shekel is (6.83*2)/14.17 = 0.9640. Therefore a kolbon of 4 1/6% compensates by 0.9640* 1.04167 = 1.00417.

Thus a kolbon of 4 1/6% is sufficient to correct the average half-shekel, but it is insufficient to correct for a light half-shekel. Therefore, the kolbon of a maah, representing 8 1/3 % of the average value of the half-shekel is more likely. It makes sure that the required amount of silver has been reached. Indeed, the Mishna Baba Metsia IV, 5 provides the maximum variation of weight that the coinage may present and still remain acceptable. This maximum variation is 4 1/6% according to Rabbi Meir, 8.33% according to Rabbi Judah and 16.67% according to Rabbi Simeon. The value of Rabbi Meir seems most likely considering the function of the 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, containing proportionally more silver and the Temple required the correction of this imbalance by an additional kolbon. Now 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. Anyhow, it was more favorable for two people to pay together one shekel + one kolbon than to pay separately ½ 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: anyone had to pay a kolbon to supplement the half-shekel in order to pay the required amount, like 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 back a half-shekel, 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 currencies[99] 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% 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.

5. 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 Ezra and representing the Persian Daric, a coin existing in gold and silver. This denomination appears nevertheless in the first Mishna of this chapter, which represents a practical ruling: one may change the silver half shekel into gold coins in order to make carrying easier. It seems unlikely that the Mishna would write such a practical ruling using a denomination that was never used in the time of the Mishna. Therefore, I think the Mishna uses the denomination "darkonot" or "darkemon" to designate the Greek drachma, which was already in use during the early period of the Mishna. It is even possible that the Rabbis of the Mishna did not make any distinction between the drachma and the daric, mentioned in Ezra. Apparently the drachma mentioned in the first Mishna is a silver coin while the drachma of the fourth Mishna is a gold 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 that the currency was what it was but the contribution was calculated according to necessity, and the burden was shared among the people, and the contribution of each of them depended on the number of contributors. When the 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, using as currency or paying the Temple obligation.

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

The Talmud examines different ways of paying the amount required for the redeeming of the first-born. To understand the backdrop of 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 Mishna refers explicitly to the Tyrian currency. Rabbi Ami says that the denarius of the province of Arabia[101] is suitable for the redeeming of the first-born, probably because it is in accordance with the Tyrian standard.[102] Rabbi Hanina says that the obligation of the redeeming of the first-born 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 5 Syrian staters, which probably

correspond to the Palestinian provincial coinage, represent an amount (5/8) of a golden denarius or (5/8) * 25 silver denarii i.e. 15.63 denarii instead of the necessary 20 Tyrian dinars, equivalent to 20 denarii during the first and the beginning of the second century. The only explanation[103] seems to be that Rabbi Hanina bar Hama, having a similar status to that of Rav and Samuel, is opposed to the Mishna 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 selaïm for the redeeming of the first-born must be paid according to the old biblical value which was 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 5 selaïm of the redeeming of the first-born with a gold dinar. As this gold dinar was worth 25 silver dinars, the priest had to give back 5 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 deleted[106] effigy of Hadrian, the stepson of Trajan (hence both names together, which puzzled the commentators) but the five zouz that the priest must give back are probably in debased legal currency.

There follows then an exceptional Gaonic interpolation stating that the 5 silver selaïm of the redeeming of the first-born 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 Gaonim, gives evidence of 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 2/3 dinars for the redeeming of his first-born and therefore he sent 17 dinar to Rav Akha, who was Cohen. It is likely that they were Persian Sassanide dinars.[109] When the latter asked for the three last dinars, Rav Ashi asked for 1/3 dinar back. In other words, Rava and Rav Ashi considered that the shekel was revalued from 20 maah to 24 maah, by 20% or 1/5 of the initial value, or 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]

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 off[113] 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]

7. Tossefta Maasser Sheni I: 5.

אין מחללין אותו על מטבע מרוד ולא על מטבע שאינו יוצא ולא על המעות שאין ברשותו. כיצד היו לו
מעות כוזביות 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 cannot redeem his second tithe with that money and if he redeemed, his tithe is not redeemed………"

In this Tossefta, 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 C.E. and the money of Jerusalem, the money struck in Jerusalem during the war of 70 C.E. These two kinds of money had been demonetized by the Romans, and their use was forbidden, and so the rabbis were therefore obliged to forbid their use.
The same Tossefta is quoted slightly differently in B. Baba Kama 97b:

אין מחללין על המעות שאינם יוצאות, כיצד היו לו 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 likely that he didn't strike 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 C.E.
This Tossefta is also quoted in Y. Maasser Sheni I, 1, 52d:

מטבע שמרד כגון בן כוזיבא אינו מחלל. היו לו מעות של סכנה, אתא עובדא 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 this money, representing 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 effigy of Hadrian during the period 135-138 C.E. 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 evidence[118] that the סכנה, the danger, represents this terrible period of religious and physical persecution, contemporaneous with the revolt of Bar Kokhba, during which Rabbi Akiba 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 הדריינא טריינא שייפא, the rubbed off denarii with the effigy of Hadrian struck between 135 C.E. and 138 C.E. i.e. during 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 had boycotted them and forbidden their use; this was the "money of danger." When, more than 120 years later, the coins had been modified and the effigy of Hadrian and his name had been rubbed off, Rabbi Johanan authorized them.[119] Now Rabbi Ami was the successor of Rabbi Johanan in Tiberias and there is no reason that 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 span of time of 150 years.

Therefore it seems that the answer of Rabbi Ami יוליך הנייה לים המלח means that the second tithe is redeemed[121] but one must bring to the Dead Sea an additional amount representing the value of this second tithe in current money. It is indeed difficult to understand differently; the money of danger is legal tender and the Rabbis would not dare ignoring and refusing it. However we should clarify what must exactly be brought to the Dead Sea. Either we understand that the expression used by Rabbi Ami must not be understood strictly and it 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 Maasser 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 at 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 be easily 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 prutah is sufficient for redeeming one mana of Maasser Sheni. This is nevertheless a Gaonic regulation[124] and it is likely that in the time of Rabbi Ami, the redeeming of the second tithe was still performed at its true value. It is likely that the expression [125]יוליך הנייה means that one must bring to the Dead Sea the true value of the second tithe, as was the case during the existence of the Temple when this money was brought to Jerusalem to be consumed there.

    G. Conclusions.

In the field of the study of coinage we have the great advantage of finding 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 are solved. Only the problem of the exact denomination of some of the little 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 remaining Jewish silver coins of the Roman war from 66-70 C.E. allow us to know exactly the characteristics of the halakhik coinage. After the destruction of the Temple the halakhik coinage became virtual and theoretic; its main concern was to ensure its stability. Its main difficulty was in expressing its correct value in current currency.

Similarly, economic history gives the real situation and the backdrop of the Talmudic texts and allows us to understand their significance. In this article we have described the halakhik coinage considered in the Mishna and the Talmud. We have examined a few Talmudic passages related to halakhik 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 and Jerusalem Talmud are the consequences of different economical

situations, apparently not understood by the protagonists. Finally, we have seen again how much the backdrop of Judean life was bound to Roman civilization and economic constraints.

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

[2] Late 12th and early 13th century.

[3] This relationship is correct after the reevaluation but not in the time of Moses, before the reevaluation.

[4] Maimonides knew certainly the Talmudical 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.

[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 B.C.E. (the date of his installation as the first ruler of the Empire) and 6B.C.E. prices in Rome doubled. In the second part of his reign (6 B.C.E. to 14 C.E.), Augustus reduced coinage drastically, as he recognized what had led to the rise in prices.

[6] Upon the death of Augustus in 14 C.E. his stepson Tiberius succeeded him. Under him, the rate of new coinage was far inferior to that during Augustus's reign, which inevitably led to a real scarcity of money in the empire, but at the same time, to a vast surplus in the coffers of the imperial treasury. Thus when Tiberius was assassinated in 37C.E. he left his insane successor Caligula with 700 million denarii –about 30 times the sum Augustus had left.

[7] Caligula's lavish spending necessitated the expropriation of properties from a number of 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 C.E. he made the aureus 10% lighter in weight. So , 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 was not only lighter in weight (96 denarii to the Roman pound instead of 84 before) but also contained about 6% of copper, which meant that the new denarius was worth about 18% less than the old one. From the start, the new coins traded at a discount to the old coins, as one can imagine, and 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 C.E. and the sacking of Rome in the second half of the 5th century, a succession of emperors continued increasing the supply of money in the empire by debasing the denarius, which in the end only had a silver content of 0.02%.

[8] Under Augustus the denarius weighed 3.80 gr. and had a fineness of 98%; the amount of fine silver was thus 3.71 gr. Under Nero the denarius weighed about 3.6 gr. and its fineness was 94%, 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%; the amount of fine silver was 3.19 gr. Thus even after the debasement of Nero, the denarius was still about a Tyrian dinar.

[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.

[10] Davies, Roy 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 in the beginning of the reign of August, when price inflation was the result of an important increase in monetary gold and silver supply, price inflation was generally not due to an inflator 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 limited only by the loss by wear.[11] It appears that the price inflation was strictly due to the debasement, which was done primarily to fund military pay increases. The causes of this inflation would give us the key to understanding the financial ruin of the empire over the course of several centuries. The military costs, including discharge costs after active

service, consumed more than 70% of the government's revenue (Duncan-Jones p. 45) once the number of legions 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.

In the beginning, during the Republic, financial ruin was avoided during periods of financial stress by conquering and ravishing new provinces. But this was later 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 we observe each time a debasement of the currency by some percentage, which will eventually cause price increases of the same percent, all else being equal. So why produce such a debasement? Keith Hopkins[11] explained that although the army rarely intervened in central politics, emperors always feared they might, and therefore the army had to be placated.

But practically, each time the nominal pay of soldiers was raised, the silver coinage was soon debased so that the cost in precious metal to the treasury was held roughly constant. Furthermore, the pay increase remained very close to 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 whole economy and eventually destroyed the state. See Bernholz, Peter: Monetary Regimes and Inflation, History, Economic and Political Relationships.

[12] Probably in about 230-240 C.E.

[13] The Jews count the era of the Seleucids or the era of contracts from September -311.i.e. September 312 B.C.E. 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 Septuaginta, the Greek translation of the Bible by the 70 sages.

[15]Midot ve-Shiurei Torah p. 367 gives two different references about the fineness of the Tyrian shekel: a first reference gives an average fineness of 92.3%; a second reference gives 94.56%.
 Midot u-Mishkalot shel Torah, Jacob Weiss, p. 179 gives an average fineness of the Tyrian shekel of 92.3%.
Yakov Meshorer in Ancient Jewish Coinage, Volume 2, p. 8 gives an average fineness of 92%.

[16]One side of the Tyrian shekel depicts the head of Herakles, the most celebrated heir of Greek mythology, son of Zeus and Alemene. 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 Mishna adopted because of its monetary qualities.

[17] See Meshorer, Yaakov. Ancient Jewish Coinage. Volume 2: Herod the Great through Bar Cochba. Amphora Books, N.Y. p. 7.

[18]Meshorer, Ancient Jewish Coins Vol 2, p. 8.

[19] Meshorer, Ancient Jewish Coins, Vol 2, p. 98.

[20] See Meshorer, Ancient Jewish Coins, Volume2. 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] Tossefta Ketubot XIII,20.

[23] Meshorer, Yaakov, Ancient Jewish Coins, Vol 2, p. 9.

[24] Ibidem.

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

[26] Meshorer, p. 127.

[27] Meshorer, p. 99.

[28] B. Bekhorot 49b.

[29] Yakov Meshorer, Ancient Jewish Coinage, Volume 2, p. 15.

[30] based on the weight of coins supposed to have been prutot. Nevertheless we deduce from the data given by the Tossefta 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.

[32] Y. Kiddushin I, 1, 58d.

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

[34] Schürer, Geshichte. English edition Vol. I, part 2, p40.

[35] Issac Eizik Halevi in Dorot ha-Rishonim part 1, Vol 3, p. 228, Frankfort am Main 1906.

[36] The Gospel, according to Mark, XII: 42, speaks about an old poor woman who introduced in the alms box two little coins, two leptons which make one quadrans. This quotation is fully in accordance with the Tossefta. We know that 1 drachma equals 192 leptons. But according to the Tossefta 1 dinar = 192 prutah; thus 1 prutah = 1 lepton = ½ Jewish quadrans. There is then perfect concordance between the Tossefta and the quotation from the Gospel: the two little coins were prutot, called in the Gospel leptons and together they make a kuntrum, the Jewish quadrans.

[37] In the Mishna and in the Tossefta the maah is always mentioned with the word kessef: maah kessef. References in the Mishna: Shekalim I: 7, Hagiga I: 2 and 5, Ketubot V: 9.
Furthermore the Jerusalem Talmud ascertains that the maah is the littlest silver denomination: see Y. Kiddushin I, 1, 58c and Y. Shevouot VI, 1, 36d.

[38] Sperber, D, Palestinian Currency Systems during the Second Commonwealth, The Jewish Quarterly Review, 56 (1965/66) pp. 273-301.

[39] Yakov Meshorer, Ancient Jewish Coinage, Volume 2: Herod the Great through Bar Cochba, pp. 14-16. Amphora Books, New York, 1982.

[40] See B. Hulin 139b.

[41] B. Kiddushin 12a.

[42] Y. Kiddushin I, 1, 58d.

[43] Probably Rabbi Hanina bar Hama. Ha was born in Babylonia and joined Rabbi when he was already highly educated, married and a father. He had a long life: about 165 C.E.- 250 C.E.

[44] Rabbi Hanina bar Hama was probably the closest and most important pupil of Rabbi (B. Ketoubot 103b). Nevertheless, for a stupid reason of self respect, Rabbi did not name him during his life (Y. Taanit IV: 2). He lived until an old age, over 80 (see Heiman, Toldot Tanaïm ve-Amoraïm, volume 2, p. 491; Heyman thinks that he even survived Rabbi Judah Nessia, but this remains conjectural). Therefore we can estimate that he lived from about 170-175, C.E. until about 265 C.E. This assertion could date him from after the inflation of 215 C.E. He would make 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% 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 which was still aligned on the Attic standard. But in the time of Rabbi Meir, in the second half of the second century, it was more widespread and coexisted with the provincial coinage, and people knew about their respective valuation. When Rabbi Meir, or an anonymous fellow, spoke about the issar ha-italki, the imperial as, he surely wanted to note the difference between it and the provincial issar.

[46] J. Kiddushin I, 1, 58d.

[47] B. Kiddushin 12a.

[48] Rabbi Zeïra, or Rabbi Zeira II (in 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 travelers and Rabbis in about 323 C.E. He was one of four candidates for the succession of Rav Joseph in 325 C.E. He later came back to Palestine. See Heyman: Toldot Tanaïm ve-Amoraïm, Vol. 1 p.398.

[49] Beginning of the third century.

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

[51] See note 53.

[52] David Sperber in his paper "Gold and Silver Standards" Numismatic Chronicle, 8 (1968) pp.83-109 already proposed relating the adaptation of the value of the prutah to the reform of Caracalla.

[53] David Sperber, in the above mentioned paper, has proposed attributing Rabbi Hanina to Rabbi Hanina bar Hama, Rabbi's most important pupil, and Rabbi Mana to Rabbi Mana I, Rabbi Yanaï's pupil. Rabbi Hanina lived from about 170- 175 until about 265 C.E. and Rabbi Mana I probably about 220-295 C.E. 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 Rabbi Zeïra, Rav Dimi and Rabbin. It would also explain why all these Rabbis, except Rabbi Zeïra, did not have a complete understanding of exactly what happened in 215 C.E. during the monetary reform of Caracalla. Now during a last reading, I found that David 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] In contradiction with the general rule that the silver coinage always represents the standard coinage with regard of the copper coinage and even the gold coinage; see Rambam Hilkhot Mekhira VI:3. The relationship between silver coinage and gold coinage is in fact much more intricate; see B. Baba Metsia 44a.

[55] This is a more dogmatic position: the silver coinage was always considered to be the most important by the civil authorities. So he ignores the debasement of the silver coinage and considers it the official standard coinage, and therefore the copper coinage 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: Tossefta Baba Metsia III: proves that the isaar is a copper coin. We have further a quotation from Y. Kiddushin I, 1, 58dc and Y. Shevouot VI, I, 36d. סוף מטבע כסף, מעה. Now most of the commentators have nevertheless thought that the issar is a silver coin: Rashi on Mishna Kiddushin I, 1 and Tossafot B. Baba Batra 166a:נסכא. But Tossafot B. Baba Metsia 44b אחד משמונה, consider that the isaar 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 farfetched.

[57] Rabbi Dostaï, Rabbi Yanaï and Rabbi Oshayah: according to the reading of the Talmud. Heyman, vol I, p. 326 mentions the reading of Sefer Youkhsin: Rabbi Dostaï be-Rabbi Yannaï. This reading is better because firstly Rabbi Dostaï is really the son of Rabbi Yanaï, and secondly Rabbi Yanaï in general is a later authority, living until the mid-third century, later than Rabbi Dostaï, Rabbi Meir's pupil, and Rabbi Oshayah, Rabbi Hiya's colleague.

[58] R' Moses Margaliot 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 prutah remained stable with regard to the dinar but the issar went down from 1/24 dinar, in the time of Rabbi Simaï, to 1/32 dinar in the time of Rabbi Doustaï. This explanation is nevertheless untenable because it contradicts the introductory declaration of Rabbi Zeïra who said that our Rabbis have made the prutot 1/32 maah instead of 1/24 maah. According to the commentary of Mareh ha-Panim: 1 dinar = 6 maah = 32 isaar = 192 prutot; therefore the ratio maah-prutah remained unchanged at 32.

[59] Y. Kiddushin I, 1, 58d.

[60] Yakov Meshorer, Ancient Jewish Coinage, Volume 2, p. 97.

[61] See the commentary of R' Guershom meor ha-gola on B. Bekhorot 49b. and Tossafot B. Bekhorot 50a: בד"ה דמזדבנא in the name of R' Tam. The remark of R' Tam according which the golden dinar is twice as thick as the silver dinar is really astonishing for a professional changer who could not ignore 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 be 1.09 times the thickness of the silver denarius and not 2. There was probably a corruption in this Tossafot. This problem is also raised in Tossafot B. Ketubot 99a, בד"ה נתן. Tossafot write that the ratio gold-silver 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 Meïla VI: 4. The commentators generally considered that the equation: 1 golden denarius = 6 selaïm is an approximation for 6.25 selaïm. But if 1golden dinar=24 silver dinar then it is exactly 6 selaÏm.

[64] J. Kiddushin I, 1, 58d. However the reference of B. Bekhorot 49b proposed by D. Sperber, in his paper "Gold and silver standard," p. 91, note 3, seems incorrect: indeed 1 stater would be worth 3 denarii and the first-born would be redeemed at the rate of 15 denarii, which seems too low.

[65] Daniel Sperber in his paper "Gold and Silver Standards" Numismatic Chronicle, 8 (1968) pp.83-109; p. 91.

[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. Baba Kama 36b. In this last case the text of the guemara is: אמר רב יהודה אמר רב. 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 C.E. He must 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. Baba Kama 36b (see Tossafot ושל דבריהם.) and 89b-90a (see also Tossafot לא מפסיד.), B. Kiddushin 11b and B. Bekhorot 50b.

[70] The Rabbis, in the last Mishna of Ketubot. Rabbi Simeon ben Gamliel considers that the Ketuba is a Torah obligation.

[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 as a Torah obligation. It is interesting to note that in contradiction with Maimonides and the Spanish Rishonim, R' Tam and Tossafot consider that the amount of the ketuba is a Torah obligation: see Tossafot in B. Baba Kama 89b לא הפסיד and in B. Baba 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 places 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 סבריונית meaning a shekel struck under Septimus Severus or his successors doesn't seem likely; this coin had already undergone a debasement of about 50%. The attribution of the second term is completely strange and astonishing and finally the third term of Jerusalem is not understandable. There was furthermore 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, note 1, praises the explanation of Zuckerman and criticizes the emendation of Jastrow, arguing that there was never 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 Talmud of Jerusalem, has translated "Severine coins, those of the weight of the ones of Jerusalem." He adopts the grammatical structure adopted by Jastrow but maintains the attribution of Severus. I prefer the explanation of Jastrow because of the important debasement of the denarius under Severus. It is nevertheless possible that we don't refer 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 in the beginning of the first century.

[75] This was a long time ago. Probably 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 at the effigy of Tiberius more than two hundred years ago. They had a 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 Tossefta Ketubot XIII: 20.

כסף שדברה בו תורה בכל מקום זו היא כסף צורי, איזהו כסף צורי, זה ירושלמי.

[78] Rabbenu Tam considers that the ketubah is a Torah obligations and the 200 zouz are Tyrian dinars: see Tossafot B. Ketubot 10a: אחד. and Tossafot B. Baba Kama 36b: ושל, writes that if the ketubah is an obligation of the sages, it is paid in local money at the amount of 200 Tyrian dinars.

[79] Rav Ashi redeemed his first born by sending 17 dinars to Rav Akha. These 17 dinars were certainly Persian Sassanides dinars weighing on average 4 gr.

[80] The Babylonian Rabbis often made use of their provincial or nickel coinage; for example:

סלע מדינה

זוזי פשיטא

איסתירא פשיטא

The Book of P. Benish, Midot ve-Shiurei Torah p 163, represents a Sassanide half dinar with a low silver content, which could correspond to the provincial coinage called in the Talmud kessef medina. This was thus a pure Babylonian phenomenon; there was nothing similar in Palestine. Maimonides was persuaded that this was the situation in Jerusalem.

[81] See note 9.

[82] B. Baba Kama 90b.

[83] B. Baba Kama 36b בד"ה נותן סלע.

[84] Hilkhot Hoveel ou-Mazik III : 9.

[85] Hilkhot Toeen ve Nitan III: 2.

[86] In Latin "collybus" or "collubus" means the change premium asked by the 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 Mishna is in accordance with Rabbi Meir. Korban ha-Eda, ad locum, understands that from the text of the Mishna 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. Schekalim, 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 changers, whether they are independent changers or whether they are functionaries of the temple.

[91] This is the explanation of R' Ovadia of Bertinoro and of R' Judah ben Benjamin Anav on the Mishna 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' Guershom is difficult and contested by Tossafot ad locum.

[93] In B. Beitsah 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 was obliged to change into more important denominations; for example for transportation. In B. Hulin 25b, he writes that people must pay a kolbon " כדי להכריע שקליהם" that means in order to make sure that that they give the required weight of silver ordained by the Torah.

In B. Bekhorot 56b he gives both explanations.

[94] See B. Bekhorot 50a; see Lev. XXVII: 18 Rashi and Sifra ad locum. R' Gueshom on B. Bekhorot 50a writes that the kolbon paid at 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. Tossafot B. Bekhorot 50a: דמזדבנא, also examines this problem and notes the different rate of exchange commission in the two following cases: in the case of the division of one shekel into 48 pundion the commission is 1/48 but in the case of the exchange of one gold dinar into 24 silver dinar the commission is 1/24. The answer of Tossafot is not convincing particularly once we have already 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 met nevertheless 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 selaïm in circulation than half-shekels. There was a certain scarcity in half-shekels and people therefore had to change their shekalim in half-shekels.

[97] B. Manakhot 108a.

[98]   מעה נמי לשקלים אזלא דתניא ....

This is a double conclusion in favor of Rabbi Meir: first the kolbon has the 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 כל המטבעותהיו יוצאות בירושלים: Tossefta Shekalim II: 13. See also B. Baba Kama 97b and Y. Maaser Sheni I, 2, 52d.

[100] Maimonides understands in Mishna 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 Mishna constitute a geometrical progression of the ratio 2. Maimonides has thus considered that the first denomination is then twice the second. In Mishna II, 1 he explained that we deal with gold coins but, without justification, he has translated that into gold dinars.

[101] The province of Arabia was created by the Romans under Trajan in 106 C.E. Its capital was Botsra and Petra also had the statute of a Metropolis. The province corresponded to the ancient kingdom of the Nabataeans. Rabbi Ami probably 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] Tossafot have a far-fetched 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 C.E., the date of the great inflation contemporaneous with the monetary reform of Caracalla in 215 C.E.

[105] The amount of the first-born 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 redeeming to the Torah obligation and he would even accept a little rounding-off. Nevertheless, it is surprising that the position of Rabbi Hanina didn't raise any 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 modified. Hadrian was detested to such a degree that the Jews were not willing to look at his effigy.

[107] The Arabic dinar is a gold coin weighing about 4.24 – 4.25 gr. The dirham of the Babylonian Gaonim 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 selaïm for the redeeming of the first-born correspond to 20 Tyrian dinars. The Gaonim 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 Sassanide 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 Sassanide Dinar; this represented the major part of the shift. With time and the replacement of the Sassanide 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 mysterious. It is mentioned only one time, by relatively late Babylonian Amoraïm, Rava and Rav Ashi. We don't know on which tradition this information is based and we further do not know to which event this reevaluation is related.
According to Jacob Weiss, Midot ve-Shiurei Torah p. 181, the reevaluation could correspond to returning 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. Tossafot have examined this problem in B. Menakhot 5a :
ד"ה והשקל and B. Ketubot 10a: ד"ה נותן לה; the problem nevertheless remains unanswered.
Maimonides has addressed the problem only incidentally. In Hilkhot Schekalim I, 3 he writes that one sela is worth 24 maah and he adds that the maah is the gueira of Moses. The conclusion is then that the shekel was 20 gueira in the time of Moses and now the sela is worth 24 gueira.

[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 of.

[114] These coins were struck in Jerusalem with silver and gold of the treasury of the Temple. This is at least the classical explanation given by Rashi. The sentence is brought to justify 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. Now they 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 using this new coinage in Jerusalem was not to be considered a capital offense.

[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 the Sassanide 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 המלח ואין המעשר מחולל. The expression יוליך הנייה לים המלך suggests that the second tithe is really redeemed and its value must 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 Mishna makes a clear distinction between יוליכם לים המלך Mishna Avoda Zara III : 2 and יוליך לים המלך. The same difference is emphasized in Tossefta Avoda Zara IV : 3.

Zuckerman (Ueber Talmudische Münzen und Gewichte, Breslau 1862) has probably made a incorrect parallel with the preceding Mishna and he explains that this money was forbidden because of idolatry. This explanation is nonsense. Yakov Meshorer (Ancient Jewish Coinage Vol. II, p. 31 and 105) writes that the money of sakana is the money struck in Jerusalem during the war of 66-70 C.E. 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 (R.E.J. 1906, LI, p. 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. Maasser 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 farther (note 121) that the text of the Jerusalem Talmud is not always accurate and it does not make a formal difference between יוליך הנייה לים המלך and יוליך לים המלך. Therefore we cannot rest only on the formality of the text. The main argument seems 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 the forbidden money remains apparently in the hands of their owner 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 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: ....רבן שמעון בן גמליאל אומר, מן הסכנה ואילך, אישה גובה קטובתה 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 : אמר רבי יהודה מעשה בשעת הסכנה והיינו מעלין ס"ת מחצר לגג......אמרו לא אין שעת הסכנה ראיה.

Y. Baba Metsia II, 7, 8c:

משחרב בית המקדש התקינו שיהו מכריזין שלשה ימים, מן הסכנה ואילך התקינו שיהא מודיע לקרוביו ולשכיניו ודייו.

The period of *sakana* is thus a specific period, different from the period 66-70 C.E. when the Temple was destroyed. It happened during the youth of Rabbi Judah (ben Ilaï) and Rabban Simeon ben Gamaliel; it corresponds with certitude to the persecution of Hadrian during the period 132-138 C.E, probably with more precision to the period 135-138, when 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 Akiba and Rabbi Judah ben Baba and other Tanaïm 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 in war with Rome, which endangers its owner and which 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 Maasser 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 case? Further, the expression יוליך הנייה 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 Maasser 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 Gaonim decided that one prutah can be used for redeeming products worth one mana (one mana = 19,800 prutah).

-In 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 Maasser Sheni and when there was no Temple any more this money had to be brought to the Dead Sea.

Now we must 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 was really 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 was also not without any danger- was to fine such a transaction by the obligation to bring 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 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 that the rather sibylline answer of Rabbi Eimi means:

-That the second tithe is redeemed.

-That the coins with the effigy of Hadrian bear the sanctity of Maasser 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 Metsia 17b: אם כן מה הועילו חכמים בתקנתם.

[123] We could say:B. Ketubot 11a: שלא יהא חוטה נשכר.

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

[125] The expression in Y.Talmud יוליך הנייה לים המלח corresponds to the expression יוליך הנאה לים המלך in the B. Talmud. These expressions appear less frequently than the expression יוליך לים המלח. 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 Maasser Sheni or the sanctity of Herem (Bedek ha-Baït) for the maintenance of the Temple. If it is biodegradable then it must be abandoned to decompose. The expression יוליך הנייה לים המלח means generally that the interdiction doesn't exist with certitude in a fixed object. Therefore the Rabbis have 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

רבי אליעזר אומר, יוליך הנאה לים המלח

We have here a rare case where the Halakha is according to Rabbi Eliezer and therefore the meaning of this expression has been extensively examined. The subject is about 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 the explanation of Rashi.

Maimonides (Hilkhot Avodat Kokhavim VII,13 and Tossafot (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)   Tossefta Avoda Zara IV:3 and idem in B. Yoma 66a.

בהמה תיעקר, 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 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. Demaï 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 Tossefta Demaï 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 has understood that it is the money of a foreign country at war with Rome and therefore 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 Talmudishe Muenzen und Gewichte. 1862) followed by Moses Schwab (Le Talmud de Jerusalem, Vol 2, p. 201) , has understood that the "money of danger" is constituted by coins belonging to avoda zara (the necklace of the idol) and therefore 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 Pnei 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.