and answer as required by the Roman stipulatio really took place in any of these cases, but it is significant in light of the extent of Romanization of the region that the scribes took the trouble to write the phrase into the written contracts, nearly a century before this was done in Egypt and in Dura Europos.

Some twenty of the contracts are for the sale, probably or certainly, of real estate, whether fields or houses. Sixteen, if those of farming contracts Mur 24 are counted separately, are leases of real estate. Eleven are contracts of deposit, loan, or acknowledgment of debt; nine are contracts of marriage or dowry. There also are scattered documents of purchase of crop, gift, sale of moveables, concession of rights, and divorce.

On the whole, the language of the contracts in Hebrew and Aramaic is what may be expected on the basis of rabbinic literature. Marriage contract 5/6Hev 10, Babatha's ketubbah, is the most striking document in this respect. Similarly, the contracts written in Greek follow the conventions of Greek documents known from Egypt. I have argued, and A. Wasserstein and Hannah Cotton have vigorously denied, that even the Greek documents display elements drawn from the Jewish tradition.

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COPPER SCROLL. Often called the most enigmatic of the Dead Sea Scrolls, the Copper Scroll (3Q15) is a list of hidden treasures, inscribed in Hebrew on thin copper sheets. The text consists of sixty-four sections, arranged in twelve columns, each typically describing a hiding place and the treasure to be found there. A representative section is the first, which reads as follows: "In the ruins which are in the Valley of Achor, under the steps which go eastward, forty rod-cubits: a strongbox of silver and its vessels—a weight of seventeen talents." The hiding places listed appear to be mainly in and around Jerusalem, and the treasure described is enormous, consisting of many tons of silver and gold, as well as other valuables.

The Copper Scroll was discovered in Cave 3 (about 2 kilometers north of Qumran) on 20 March 1952 by archaeologists working under the joint auspices of the American School of Oriental Research, and École Archéologique Française de Jérusalem, and the Palestine Archaeological Museum. Since the 1950s, the Copper Scroll has been housed in the Archaeological Museum of Amman, Jordan. [See Amman Museum.]

Distinctive Features. The Copper Scroll stands out among the other Dead Sea Scrolls in a number of ways: writing material; script; orthography; subject matter; language; literary structure; and the inclusion of Greek letters.

Writing material. Whereas the other texts are written on parchment or papyrus, the Copper Scroll is inscribed on copper sheets. The original scroll consisted of three
copper sheets riveted together, but it was found in two rolled-up pieces. Apparently one of the three sheets had become detached before the scroll was rolled up and hidden. The metal is of exceptional purity (99 percent copper) and thinness (about 1 millimeter), and would have been very costly. The size of the sheets (roughly 30 by 30 centimeters each), as well as the way they were attached to each other and inscribed in columns, indicated that the Copper Scroll is a replica of a standard parchment scroll. It is unclear why copper was chosen as the medium on which the text was inscribed; the choice may have been dictated by considerations of durability or ritual purity.

The uniqueness of the writing material had two important consequences. Firstly, the text of the Copper Scroll was not so much “written” by a trained scribe as “engraved” by one or more metalworkers, who may themselves have been illiterate. The letters of the text appear to have been hammered into the copper with a punch (each letter requiring several blows), with the result that they showed through on the reverse side of the thin copper. Secondly, during the period of almost two thousand years that the scroll lay hidden, the copper was completely oxidized. This meant not only that some parts of the scroll were completely destroyed by corrosion, but also that its two rolled-up pieces could not be unrolled without destroying them.

**Script.** The paleographical analysis of the Copper Scroll is complicated by the fact that the engraver or engravers were themselves likely illiterate, copying from a Vorlage. As a result, the shape of the writing looks rough and unpracticed, and many look-alike letters of the Hebrew alphabet are not distinguished at all, notably bet and kap, dalet and resh, he and het, waw and yod. Despite these irregularities, it is possible to classify the script of the Copper Scroll as a “vulgar semiformal” variety of the late Herodian script. There are some indications that the Vorlage used cursive forms.

**Orthography.** The Copper Scroll has its own brand of Hebrew spelling, which conforms to neither the “Qumran orthography” characteristic of many of the literary Dead Sea Scrolls, nor to any other standard orthography. Some notable features are the use of aleph instead of he to represent a final long -a (e.g., lwmm, “wall,” in ii.10), the use of samek instead of shin (e.g., šr, “ten,” in ii.9), and the occasional dropping of gutturals (e.g., mfrb for mfrb, “cave,” in xii.1).

**Subject matter.** Whereas almost all the other Dead Sea Scrolls contain material which can be broadly classified as “religious” or “literary,” the Copper Scroll appears to be an administrative document which simply enumerates, in a dry bookkeeping style, a series of physical locations and the valuables that are hidden there. In connection with its bookkeeping character, it should be noted that the Copper Scroll is one of the very few autographs among the Dead Sea Scrolls; almost all the others, heterogeneous as they are, appear to be copies of works belonging to a religious or literary canon.

**Language.** The Copper Scroll is written in an early form of Mishnaic Hebrew, and thus constitutes an invaluable linguistic link between Late Biblical Hebrew and the language of the Mishnah. Its affinity with Mishnaic Hebrew can be demonstrated in the areas of morphology (e.g., ḫn instead of -hm as the regular masculine plural ending), of syntax (e.g., the frequent use of šel to indicate the genitival relationship), and of lexicon (some fifty vocabulary items illustrate words or usages characteristic of Mishnaic Hebrew). Another feature which it shares with Mishnaic Hebrew, and which sets it off from the literary Hebrew of the other scrolls, is the frequent use of Greek loanwords (e.g., prstyn for peristylion, “peristyle,” in i.7). The language of the Copper Scroll, therefore, is important evidence that there was a form of Hebrew used around the turn of the era that already had clearly Mishnaic features, and that this Hebrew differed significantly from the classical language used in literary works. Linguistically speaking, the closest analogue to the Copper Scroll among the other Dead Sea Scrolls is 4QMMT, although the latter still differs in important respects from Mishnaic Hebrew (e.g., the absence of -hm and shel).

**Literary structure.** Although the Copper Scroll is not “literary” in the sense of belonging to belles lettres, it does have a very specific structure by which its content is organized. In an unvarying pattern, the sixty-four sections present material in the following order: a designation of a hiding place, a further specification of the hiding place, a command to dig or measure, a distance expressed in cubits, a treasure description, additional comments, and Greek letters. Each of these standard slots has stereotypical features of its own. For example, the second slot regularly begins with shel plus a preposition, and the fourth typically consists of the word ṣmwt, “cubits,” followed by a number written out in full. Although no section includes all seven slots, a section is always filled in the order indicated. As a result, the text as a whole reads like a bookkeeper’s ledger.

**Greek letters.** The seventh slot consists of two or three Greek letters (e.g., KEN in section 1, and HN in section 6), and is found in only seven of the sixty-four sections, all of them in the first three columns. Although various theories have been offered to explain the Greek letters, they remain an enigma. It may be significant that they could in each case be the beginning of a Greek proper name.

**Making the Text Available.** Another way in which the Copper Scroll is unique is in the way it was initially opened for reading, and its text subsequently published.
Opening the scroll. After their discovery in 1952, the two rolled-up pieces of the scroll remained unopened for three and a half years. They could not be unrolled, since the oxidized copper crumbled to the touch. During this time, scientists searched in vain for a way to reconstitute the original copper, so that the scroll could be unrolled in the ordinary way. In the end, the two pieces were successively brought to Manchester in 1955 and 1956, where they were opened by being coated on the outside with an adhesive, and then cut into narrow strips by means of a small circular saw. After cleaning, the concave side of the resulting twenty-three curved segments of oxidized copper revealed the inscribed text. This delicate operation was successfully carried out by H. Wright Baker at the Manchester College of Science and Technology. He was advised and assisted by John Allegro of the University of Manchester, a member of the international team of scholars entrusted with the publication of the Dead Sea Scrolls, who had arranged for the Copper Scroll to be brought from Jerusalem to Manchester, and who was the first to transcribe and translate the Hebrew text of the scroll as it became legible. [See biography of Allegro.]

Publishing the text. Although black-and-white photographs of the Copper Scroll segments have been published in Discoveries in the Judaean Desert, 3 (Oxford, 1962), these are virtually illegible, both because the indented letters do not stand out visually from the surrounding oxidized and corroded copper, and because the curvature of the segments makes reading difficult. In the absence of legible photographs, the text of the Copper Scroll has been made available in the form of hand-drawn facsimiles. Three of these have been published. The first was prepared in collaboration with Allegro by the Jordanian artist Muhanna Durra, who copied directly from the twenty-three segments in Amman. This is the text published by Allegro (1960). The second facsimile is that prepared by Wright Baker in Manchester, published in Discoveries in the Judaean Desert, 3 (Planches XLV), in 1962. This was based on various photographs of each segment, taken from different angles, and was checked against the original, but by someone without a knowledge of Hebrew. The third facsimile is a revision of the second done by the expert Hebrew J. T. Milik, who also had an opportunity to consult the original in Amman. [See biography of Milik.] His facsimile, which may be considered the most authoritative of the three, was also published in Discoveries in the Judaean Desert, 3 (Planches XLVIII–LXX). However, the many divergences between the three published facsimiles still introduce a significant element of uncertainty in the detailed textual study of the Copper Scroll.

Given this situation, and the fact that the twenty-three copper segments have experienced further deterioration since 1956, it is highly desirable that a reliable reproduction of the Copper Scroll text be made available as the basis for further scholarly study. An important step in this direction will be the publication of the original photographs made in Manchester, as well as the publication of the sophisticated new color photographs taken by Bruce and Kenneth Zuckerman in 1990.

Major Issues of Interpretation. Apart from many differences over questions of exegetical detail, scholarship on the Copper Scroll has been divided over three major issues which affect the overall interpretation of this enigmatic document.

Dating. Although Cross, in his paleographical excursus on the Copper Scroll in Discoveries in the Judaean Desert, 3, dated its script to the period 25–75 CE, some scholars have relied on the later paleographical dating proposed by Albright, namely 70–135 CE. Depending on the dating chosen, it is thus possible to associate the Copper Scroll either with the First Jewish Revolt of 66–70, or the Second Jewish Revolt of 132–135—or the period in between.

The archaeological evidence with respect to the dating question has also been interpreted in two different ways. If the Copper Scroll was deposited in Cave 3 at the same time as the fragmentary manuscripts and broken pottery which were also discovered there, it must be dated to the time around 68 CE. According to William Reed, who reported on the discovery of the Copper Scroll (Bulletin of the American Schools of Oriental Research 135 [1954], 10): it is “certain that the rolls were placed on the floor of the cave prior to 70 A.D.” This has been the view of most scholars. However, some have argued that the archaeological evidence does not exclude the possibility that the Copper Scroll might have been a later deposit, and therefore had nothing to do with the other artifacts in Cave 3.

Authenticity. From the moment that the text of the Copper Scroll first became known, there has been scholarly disagreement about its authenticity. Could the enormous amounts of gold and silver, some of it buried at a depth of 17 cubits (about 9.3 meters), really be taken seriously as real treasure actually hidden in antiquity? Milik, followed by a number of other scholars, argued that they could not, and that the Copper Scroll therefore represented a kind of folklore, comparable to other legendary accounts of hidden treasure. The opposing viewpoint was taken by Allegro and others, who argued that a fictional account would not have been laboriously inscribed on such an expensive material, nor composed in such a dry bookkeeping style. Advocates of the latter view account for the high numbers in the scroll in different ways, either as historically plausible at face value, or as in fact representing smaller amounts. Most recent students of the scroll have adopted the view that it is realistic, partly
because the legendary interpretation may originally have been influenced by political considerations, as well as a desire to discourage treasure hunters.

**Relation to the other scrolls.** If the documents found in the caves near Qumran all belonged to the "library" of a quasi-monastic group residing at Qumran, then the Copper Scroll can reasonably be taken to be a product of that same community, and should be interpreted in that light. However, because the Copper Scroll is so distinctive in many respects, it has been argued that it was a later deposit, which has no historical connection with the other scrolls found in the vicinity. Alternatively, if the Qumran scrolls are a heterogeneous collection emanating from Jerusalem, then the Copper Scroll may be of the same date as the other scrolls, but with no essential connection to them.

**The Major Theories.** Because of the different answers which students of the Copper Scroll have given to the question of its date, its authenticity, and its relation to the other scrolls, a number of distinct theories of interpretation have emerged. They can be classified under the following six headings (for bibliographic details, see Wolters, 1994, pp. 285–292).

1. The treasure is authentic, and belonged to the Qumran community before 70 CE. This view was defended in the 1950s by Dupont-Sommer, and, more recently, by Goranson (1992).
2. The treasure is authentic, and belonged to the Temple in Jerusalem before 70 CE. Prominent defenders of this view in the 1950s and 1960s were Roth, Rengstorff, Allegro, and Driver. This theory was revived by Golb in 1980, who has since been followed on this point by many scholars, including Wilmot (1984), McCarter (1994), Lefkovits (1993), Wise (1994), and Wolters (1994).
3. The treasure is authentic, and belonged to the Jewish rebels under Bar Kokhba around 135 CE. The French scholar Laperrrousaz and the Israeli scholar Lurie independently put forward this interpretation in the early 1960s, but they have had no followers.
4. The treasure is authentic, and represents undelivered temple contributions after the destruction of the Temple in 70 CE. This is the theory of Lehmann, who believes the Copper Scroll can be dated to the period 70 to 90–92 CE.
5. The treasure is legendary, and was part of the folklore of the Qumran community before 70 CE. This was the view of a number of scholars in the 1950s, including Harding, Cross, Silberman, and Mowinckel. It was also held by Milik and De Vaux before 1959.
6. The treasure is legendary, and was part of Jewish folklore around 100 CE, when the Copper Scroll was deposited in Cave 3. This view, which Milik adopted in 1959, is reflected in his authoritative edition of the Copper Scroll in Discoveries in the Judaean Desert, 3 (1962). Milik was followed by de Vaux and Rodrigues in the 1960s, but by virtually no one thereafter.

**Evaluation.** In assessing the various theories, it needs to be borne in mind that the burden of proof rests on those who assign a post-68 CE date to the Copper Scroll. It may be true (though this has been disputed by Pinn) that the archaeological evidence does not rule out the possibility that the Copper Scroll was a later deposit in Cave 3. However, there is no positive indication that this was in fact the case. In the absence of evidence to the contrary, it is methodologically preferable to assume that the material remains found in Cave 3 were all deposited there at the same time, probably around 60 CE. In other words, there is something inherently implausible about theories three, four, and six.

Furthermore, it is difficult to imagine any document less like folklore than the Copper Scroll, with its dry catalogue of locations and valuables. Besides, the attempt to classify it under that heading can be shown to have an identifiable political background (see Wolters 1993). These considerations count heavily against theories five and six.

The weight of the evidence therefore seems to point to the theories numbered 1 and 2 above: The treasure is authentic, and belonged, prior to 68 CE, to either the Qumran community or the Jerusalem temple. Almost all recent scholarship on the Copper Scroll (with the notable exceptions of Laperrrousaz and Lehmann) has moved in this direction.

Two further considerations tip the scales in favor of linking the Copper Scroll with the Jerusalem temple rather than the Qumran community. The first is the enormous size of the treasure, which (if taken at face value) could only have come from the vast wealth of the temple. The second is the incidence of cultic terminology in the scroll, which is much higher than previously recognized. Many terms in the Copper Scroll, especially in the treasure descriptions, identify specifically temple-related items (for example, ma'aser sheni, "second tithe," in i.10 and mngy'wt, "liberation bowls," in iii.3).

If the treasure of the Copper Scroll is indeed part of the legendary wealth of the Second Temple, and if it was hidden shortly before the destruction of the temple in 70 CE, then the most likely historical context for the scroll and its treasure is the military conflict between the Romans and the Zealot-led Jewish forces in Jerusalem.

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PHYSICAL REMAINS OF COSMETIC PREPARATIONS ARE RARE IN THE ARCHAEOLOGICAL EVIDENCE FROM THE JUDEAN DESERT. NUMEROUS ARTIFACTS, HOWEVER, ASSOCIATED WITH COSMETIC USE HAVE BEEN DISCOVERED AT SEVERAL JUDEAN DESERT SITES, INDICATING THEIR COMMON USAGE. THE WIDESPREAD POPULARITY AND ACCEPTANCE OF COSMETICS ARE ALSO CLEARLY REFLECTED IN LATER ROMAN PERIOD RABBINIC SOURCES: WOMEN WERE PERMITTED BY JEWISH LAW TO ADORN THEIR FACIAL FEATURES WITH KOHL AND ROUGE (B.T., Mo'ed Q. 9b) AND A HUSBAND WAS OBLIGED TO GIVE HIS WIFE TEN DINARS FOR HER COSMETIC NEEDS (B.T., Ket. 66b).

The containers and utensils associated with cosmetic application discovered in the Judean Desert include small containers made out of wood, glass, and pottery, shell and stone palettes, and metal cosmetic applicators. Other objects associated with personal beautification include mirrors and combs. The most complete sets of cosmetics were found at Masada, associated with the later reuse of Herod's fortress-palace complex by the Sicarii during the First Jewish Revolt, and in the Cave of the Letters (Naḥal Hever), dating to the Bar Kokhba Revolt. Several items related to cosmetic use are known from the caves in Naḥal Ḥever, Naḥal David, Qumran, Murabba‘at, and Naḥal Še‘elim.

The most noteworthy cosmetic container is the cylindrical wooden box with a lid found in the Cave of the Letters. Traces of a reddish powder found in this box may be remnants of rouge. This pyxis, unusual due to the excellent state of its preservation, is a well-known cosmetic container form and imitates more expensive examples made out of metal. More common cosmetic containers include pottery perfume vials, such as those found at Masada. Small ceramic juglets and glass bottles, which are found at most Judean Desert sites and throughout Palestine, probably contained precious oils or substances as well.

Other typical items associated with cosmetics include kohl sticks and palettes. The kohl stick, used for painting the eyes, was thickened at one end, for applying the paint, while the other end was shaped like a little spoon or spatula, for extracting paint from the container. Several bronze kohl sticks have been found at Masada and in the Ein-Gedi tombs. Stone and shell cosmetic palettes were also among the personal items found in rooms inhabited by the Sicarii at Masada.

During the Roman and Byzantine periods, much attention was devoted to hair care among both men and women. Hair treatment included washing, combing, dyeing, and oiling, the latter practice mentioned in the New Testament (Mt. 26.7). Numerous wooden combs have been found at Masada, Cave 1 at Qumran, the Murabba‘at caves, the Cave of Horror and the Cave of the Letters in Naḥal Ḥever, the Naḥal Še‘elim caves, and the Cave of the Pool (Naḥal David). These combs, with fine