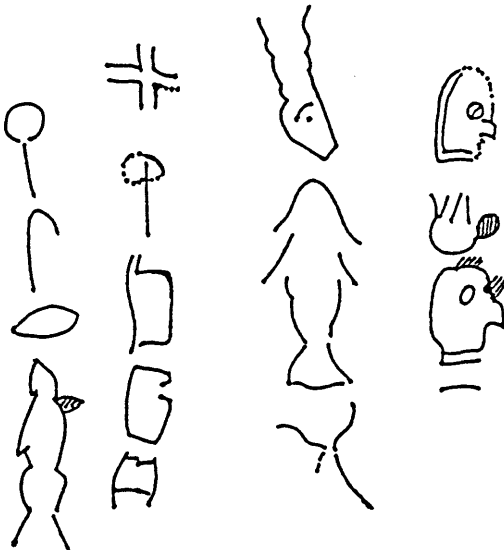
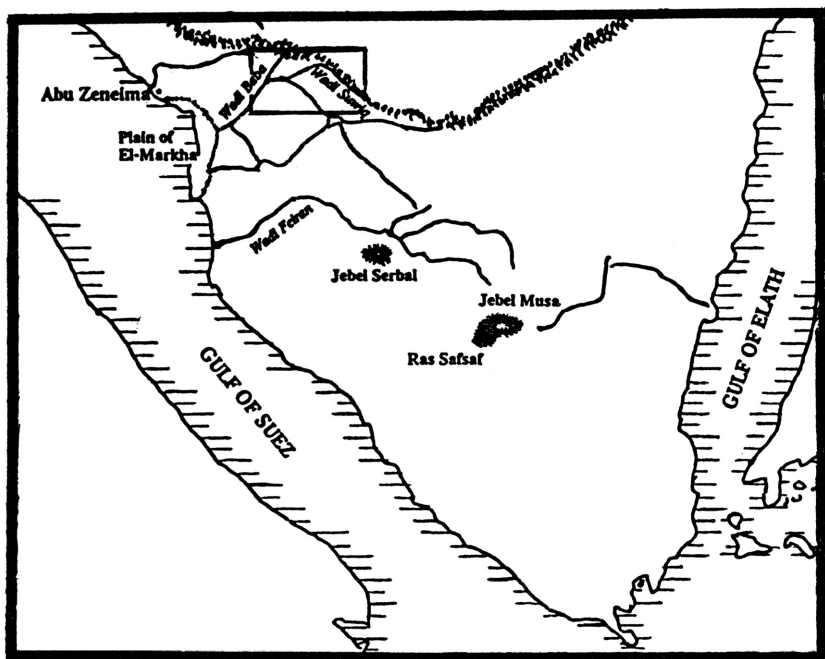


NEW LIGHT ON THE EXODUS AND
ON CONSTRUCTION OF THE TABERNACLE:
GERSTER'S PROTOSINAITIC INSCRIPTION NO. 1

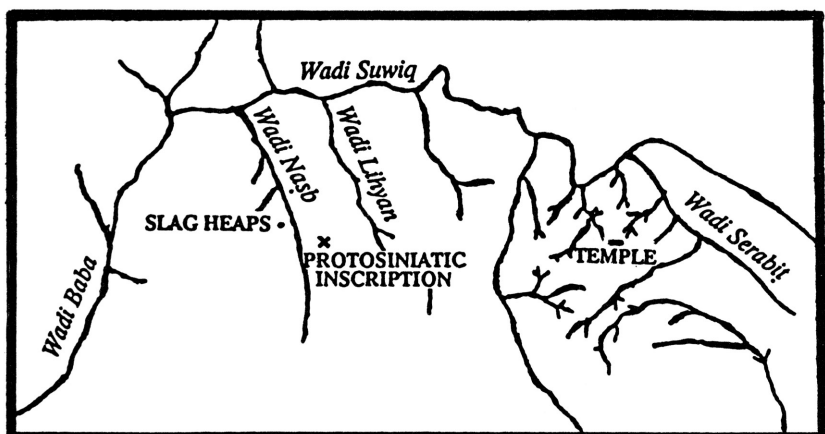
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An interesting Protosinaitic inscription discovered by Georg Gerster in the southern Sinai Peninsula early in the year 1960 has received fairly widespread attention, with a variety of suggestions being made as to its exact reading and its meaning. The present study undertakes a further analysis of the letters in this inscription, a new reading of the text based upon this analysis, and some suggestions as to the historical setting and significance of the inscription. In view of evidence set forth below, I suggest that this text, commonly designated as Gerster No. 1, sheds light on the Israelite Exodus and construction of the wilderness tabernacle. The text has four columns, as follows (in my own hand copy):





MAP A. THE SINAI PENINSULA



MAP B. THE LOCALE OF PROTOSINAIATIC INSCRIPTION AND SLAG HEAPS
(Enlargement of Area Within Box on Map A)

1. *Location and Discovery of the Inscription*

The text which is the subject of this study was incised on the rock wall of a small pass which leads over the ridge that divides the Wadi Naşb from the Wadi Lihyan in southern Sinai. These two valleys run north; and at their northern end they join the Wadi Suwiq, which runs east and west. Eastward travel in the Wadi Suwiq takes one to the heart of the region where the ancient Egyptians mined turquoise. This is also the region in which the great temple of Hathor was located at Serabiţ el-Khadem. Westward travel in the Wadi Suwiq takes one to the place where it runs into the Wadi Baba. The Wadi Baba continues to the southwest and eventually joins the coastal plain of El Markha just south of Abu Zeneima.

Thus this inscription is located in a subsidiary valley to the south, off of a main east-west route that extended through the ancient Egyptian mining region from the coastal plain to Serabiţ el-Khadem. This valley system lies to the north of the Wadi Feiran, which leads east from the coast to the traditional locations for Mount Sinai at Jebel Serbal, Jebel Musa, or Ras Safsaf.

As noted earlier, this text was found by Georg Gerster during the course of his expedition to Sinai early in 1960.¹ Gerster had a clue as to the location of inscriptions in this area from the early work in the region by Sir Flinders Petrie. When Petrie came to this particular pass during the course of his expedition through Sinai in 1905, he noted that there was an Egyptian inscription here which was dated to the 20th year of Amenemhet III of the Twelfth Dynasty.² This inscription was finally published by J. Černý, A. H. Gardiner, and T. E. Peet in 1955.³ When it was published the observation was made that there was a bull's head to the right of it and the suggestion was made that this could possibly have come from the Protosinaïtic script.⁴ When Gerster came to this spot in

¹G. Gerster, *Sinai* (Darmstadt, 1961), p. 62, fig. 65. This work is not available to me. W. F. Albright was advised of the existence of this text in a personal communication written to him by Gerster on March 7, 1960; Albright, *The Proto-Sinaitic Inscriptions and Their Decipherment*, HTS 22 (Cambridge, MA, 1966), p. 28.

²W. M. F. Petrie, *Researches in Sinai* (New York, 1906), p. 27.

³A. H. Gardiner, T. E. Peet, and J. Černý, *The Inscriptions of Sinai, Part II: Translation and Commentary* (London, 1955), p. 76.

⁴*Ibid.*

1960 he also copied this three-letter inscription—consisting of an *aleph*, an *ayin*, and a *mem*—that is located just to the right of the Egyptian inscription. This three-letter text has been identified as Gerster No. 2,⁵ but it is so brief that we are not concerned with it here.

The main inscription with which we are concerned, Gerster No. 1, is located two meters to the left of the Egyptian inscription along the same rock face. In view of its proximity to the Egyptian inscription, it is surprising that Petrie missed seeing it. He was in a hurry, however, as he had a rigorous time schedule to meet, and for this reason he noted that he did not visit the mines in this area. Petrie did, however, have a direct indication of where to look for this Egyptian inscription, for a mining prospector named Lintorn Simmons told him exactly where it was.⁶ Thus, it was this mining prospector who made the first discovery in the area which eventually led to the discovery of the Protosinaïtic inscription examined here.

2. Study of the Text

Gerster offered the publication rights to this text to W. F. Albright, but Albright turned it over to J. Leibovitch.⁷ Leibovitch published the first hand-copy and identification of the letters of the inscription in 1961,⁸ but he did not provide a translation or interpretation of the text with his study. Albright published his own observations on this inscription in 1966, as a part of his treatment of the entire corpus of Protosinaïtic inscriptions.⁹ He translated and interpreted this text as a prayer from a Kenite named Heber.¹⁰ Palaeographically he dated the text to ca. 1525 B.C., making it the

⁵Albright, p. 29.

⁶Petrie, p. 27.

⁷Albright, p. 28.

⁸J. Leibovitch, "Deux nouvelles inscriptions protosinaïtiques," *Le Museon* 74 (1961): 461-466.

⁹Albright, *op. cit.* For Gerster No. 1, see pp. 28-29 and fig. 11.

¹⁰*Ibid.*, p. 29.

earliest in the small corpus of these texts which he dated from 1525 down to 1475 B.C.¹¹

In 1962 Gardiner published a note on the date of the Proto-sinaitic inscriptions in which he continued to hold to an earlier date for these texts, from the time of the Twelfth Dynasty.¹² Since this inscription was located near an Egyptian one from the Twelfth Dynasty, Gardiner held that this new find supported his view on this subject. Albright's lower date for these inscriptions has received a broader acceptance in scholarly circles, however, and additional support for Albright's lower date may be found in the interpretation of this text presented below. While Gardiner's study did not include a translation or interpretation of this text, it is accompanied by a hand-copy made by T. G. H. James from Gerster's photograph.¹³

In the same year that Gardiner published his comments on the date of this inscription, A. van den Branden published the second overall interpretation of it.¹⁴ In the light of later studies, his results appear so exceptional that they have not been given detailed consideration here. In my opinion, van den Branden has identified only one letter in each column correctly.¹⁵ His study is accompanied by another hand-copy of the text. F. M. Cross, a student of Albright, published his observations on this text the year after Albright did, in 1967.¹⁶ He examined it as a part of his study on the origin and early evolution of the alphabet. In this study, Cross

¹¹Ibid., p. 12. For further lines of support drawn upon for this date by Albright, see his study, "The Early Alphabetic Inscriptions from Sinai and Their Decipherment," *BASOR*, no. 110 (1948), pp. 6-22.

¹²A. H. Gardiner, "Once Again the Proto-Sinaitic Inscriptions," *JEA* 48 (1962): 42-48.

¹³Ibid., p. 46, fig. 2.

¹⁴A. van den Branden, "Les inscriptions protosinaitiques," *OA* 1 (1962): 197-214. The line drawing of Gerster No. 1 is found on p. 199.

¹⁵The four letters which van den Branden identified correctly, in my opinion, are (1) the L in column 1, (2) the B at the bottom of column 2, (3) the ³A at the top of column 3, and (4) the R at the bottom of column 4.

¹⁶F. M. Cross, "The Origin and Early Evolution of the Alphabet," *Eretz-Israel* 8 (1967): 8-24. See pp. 16-17 and fig. 2 for Gerster No. 1.

interpreted the text as consisting of a series of three names, and published still another hand-copy of it.

A. F. Rainey's study of this text, published in 1975, broke new ground because it resulted from a first-hand examination of the inscription *in situ*.¹⁷ A new photograph and hand-copy of the text were published with this study.¹⁸ Rainey held that the fourth column to the right should be included with the inscription, not deleted from it as had been done by Albright and Cross. Rainey sees the text as pronouncing blessings upon a certain ʔAdda, whose title is also given here.¹⁹

At the time of the present writing, the most recent published examination of this inscription is that of M. Dijkstra in 1983.²⁰ This study, like Rainey's, has utilized a personal examination of the inscription *in situ* in Sinai. Dijkstra concurs with Rainey that the fourth column to the right should be included as a part of the inscription, and has treated the inscription as a memorial to two individuals named ʔAdda and Heber.

Dijkstra's study brings us up to date as far as the main studies on this text are concerned. As can be seen from the literature reviewed above, this inscription is commonly interpreted as containing one or more personal names which have been set in the simple framework of a prayer (Albright), a blessing (Rainey), or a memorial (Dijkstra), or have been just left standing alone without such a setting (Cross).

The details of these studies can be summarized best by providing a table in which the readings of these scholars for the different letters in the various columns are identified. This synopsis will serve as a basis for comparison with my own analysis of these letters that follows. The columns have been numbered here from left to right because that is the way in which they are read in the interpretation of this text that I propose below.

¹⁷A. F. Rainey, "Notes on Some Proto-Sinaitic Inscriptions," *IEJ* 25 (1975): 106-116. See pp. 106-111 for Gerster No. 1.

¹⁸*Ibid.* See fig. 1 on p. 107 for the hand copy, and Pl. 11A for the new photograph (published upside-down).

¹⁹*Ibid.*, p. 111.

²⁰M. Dijkstra, "Notes on Some Proto-Sinaitic Inscriptions Including an Unrecognized Inscription of Wadi Rod el 'Air," *UF* 15 (1983): 34-38.

	<i>Leibovitch</i> ²¹ (1961)	<i>Albright</i> ²² (1966)	<i>Cross</i> ²³ (1967)	<i>Rainey</i> ²⁴ (1975)	<i>Dijkstra</i> ²⁵ (1983)
<i>Col. I:</i>	?	W	W	W	W
	L	L	Y	L	L
	c	c	c	c	c
	Ḥ	Ḥ	Q	Ḥ	Ḥ/P
			B		Ḥ
<i>Col. II:</i>	T	T	T	T	Z
	W	L	W	W	W
	D	Ḥ	Ḥ	Ḥ	Ḥ
	R	B	B	B	B
		[R]	R	R	ʿRʿ
<i>Col. III:</i>	ʔA	ʔA	ʔA	ʔA	ʔA
	S	D	D	D	D
	ʔA	ʔA	ʔA	ʔA	[ʔA]
<i>Col. IV:</i>	[B]	(not	[D]	T	Z
	ʔA	read)	K	K	K
	R		R	R	R
				[Bʔ]	N

3. Further Refinement in Identification of the Letters in the Text

Starting from the readings in the foregoing summary chart, the individual signs or letters of this inscription may be examined again in an attempt to reach further refinement in their identification. This should not be as difficult as might first appear to be the case from the general difficulty of the script. There already is considerable agreement upon the identification of most of the letters

²¹Leibovitch, pp. 464-465.

²²Albright, *Proto-Sinaitic Inscriptions*, p. 29.

²³Cross, p. 17.

²⁴Rainey, p. 111.

²⁵Dijkstra, pp. 35-36.

in this inscription among those who have treated it, and the chart which Albright worked out for the identification of the characters in this alphabet serves as a convenient point of reference.²⁶

Column I

The five investigators are in general agreement that the first three signs in Column I should be identified as the round-headed mace, the curved ox-goad, and the eye. These represent *waw*, *lamed*, and ^ʿ*ayin*, respectively. The only exception is the *yod* that Cross has proposed for the second sign. Since his reading is exceptional and does not fit well the traces present in the photographs, the *lamed* should be retained here.

The sign at the bottom of this column has generally been taken as the loop of twisted flax, which stands for *heth*, but some difficulty is encountered in making that identification from the traces that are present. In both the Egyptian (Gardiner sign V 28)²⁷ and other Protosinaitic²⁸ representations of this sign, the loops of its coil always cross in the midline. None of the indentations of this sign cross. Thus, this sign is not an example of *heth*. I take it as a variant form of the fish that is also found in Column III. It points upward as that fish does, but it is not as large nor does it have as prominent fins. The pointed nature of its fins or gills, however, has been minimized in the line drawings of this text. It is especially prominent in the left uppermost case. This letter should therefore be identified as the *dalet*, from the word *dag* for fish.

Column II

For the first four letters of Column II there is agreement among four out of five of the commentators upon their identification as a crossed *taw*, another example of the circular-headed *waw*, a fence in a vertical stance for *heth*, and a square house for *beth*. While I would still retain the possibility that the second sign in

²⁶See Albright's "Schematic Table of Proto-Sinaitic Characters," fig. 1 opposite p. 12 in his *Proto-Sinaitic Inscriptions*.

²⁷A. H. Gardiner, *Egyptian Grammar*, 3d ed. (Oxford, 1957), p. 525.

²⁸For examples of this sign in other Protosinaitic inscriptions, see inscriptions nos. 353 in fig. 5 and 365b in fig. 10, following p. 12 in Albright's *Proto-Sinaitic Inscriptions*.

this column might be the *lamed*, with which Albright identified it, these four identifications may be taken as reasonably secure.

The sign at the bottom of Column II has, however, been difficult to identify. While it has commonly been taken as a damaged head representing *resh*, it is readily apparent that it looks nothing like the head which stands out in *Column IV*. This sign is not round like the human head sign; it is square like the house sign, which stands for *beth*. It is a little smaller than the house sign above it, it angles down slightly to the left, and it has separate lines incised for its walls, as this same sign does elsewhere among the Protosinaitic inscriptions.²⁹ The square nature of this character is especially evident from Leibovitch's original hand-copy,³⁰ and this is one of the few characters which van den Branden appears to have identified correctly—as indeed a *beth*.³¹

Column III

All the investigators except Leibovitch are agreed upon the identification of the first two signs in Column III as being the ox-head for ²*aleph* and the fish-sign for *dalet*. Leibovitch took the second sign as representing a *samek*, overlooking its clearcut depiction of a fish.

The sign at the bottom of this column has been more difficult to identify. It has commonly been taken as an ox-head representing an ²*aleph*, but there is no lower line on the left to represent the jaw of the animal as there is with the ²*aleph* at the top of this column. Thus, this sign is not an ²*aleph*.

For a time I took this sign to be an ingot-shaped *zayin*, but that identification fails for lack of a stroke in the position where one is also lacking for an ²*aleph*. What we do find here is a depiction of two upper limbs that fork or extend upwards and

²⁹For examples of the variation in the *beth* or house sign in the Protosinaitic script, see inscriptions nos. 346a (fig. 6), 359 (fig. 7), and 364 (fig. 10) with doors, and no. 361 (fig. 8) with interior walls, following p. 12 in Albright's *Proto-Sinaitic Inscriptions*.

³⁰For the square nature of the sign at the bottom of Column II, compare Leibovitch's drawing of this sign from Gerster's photograph on p. 463 of "Deux nouvelles," with the first *beth* in inscription no. 360 in fig. 9, following p. 12 in Albright's *Proto-Sinaitic Inscriptions*.

³¹Van den Branden, p. 202. His drawing of this inscription is found on p. 199.

outwards. They are connected to a tail that angles down to the right. This character thus takes on the shape of a "Y" which angles down towards the right. While it is somewhat exceptional in form (as are some of the other alphabetic characters in this inscription), the character to which this letter comes closest is the *yod*, as one might expect from a Y-shaped letter.

Column IV

The letter at the top of Column IV has been very difficult to identify. Four commentators have suggested a value for it, and in each case the value suggested has been different: a questionable B for Leibovitch, a questionable D for Cross, a T for Rainey, and a Z for Dijkstra. Thus, while it is clear that there are some incisions here which originally represented a letter, it is not clear which letter that was.

Gerster's photograph, which has been republished with several of the studies of this inscription, shows this particular part of the inscription better than does Rainey's more recent photograph. What appears here first in Gerster's photograph is a double line which extends horizontally across the bottom of the character. On the left-hand side this double line turns upwards, and as it extends upwards it also bends to the right in the upper half of its course. To the right of this double line, opposite the juncture between its middle and lower thirds, a small three-sided angular incision appears, with its open side pointed towards the double line. This incision parallels in shape the nose with the head that follows below in this column.

To the left of the upper stroke of this nose is a circular eye, which has a small stroke cut across it that extends from the upper right to the lower left. The strokes make up the nose, the eye, the back of the head, and the bottom of the neck of another human-headed shape, thus standing for a *resh*. Although this letter is smaller than the *resh* below and is damaged in part of its outline, enough is preserved to recognize it as representing a *resh*.

Cross was the first to identify the next letter in this column as a hand, representing a *kaph*. That identification has been supported clearly by later observers. The thumb is on the right, the little finger is on the left, a curved line extends downward between them, and some vertical strokes for fingers extend upwards.

Another human head for *resh* follows below the *kaph*. Although it is unusual in its shape and detail, it is one of the clearest representations of a character from the alphabet in the inscription. Since Leibovitch's first interpretation of this text, this letter has been recognized as a *resh*.

Below the second head in this column, and clearly separated from it, one horizontal stroke appears. No other incisions can be seen connected to it, and no other strokes or signs are visible below it. Rainey has reconstructed a *beth* in this space, and Dijkstra has suggested that a *nun* was originally present here. I cannot find any other strokes to make up either of these characters, or any other character. Thus, this solitary horizontal stroke appears to be the last stroke of the inscription. The problem is that one horizontal stroke does not make up any letter of the alphabet. For that reason I would suggest that this is not a letter. It appears rather to be simply a line which indicates that one has at this point read to the end of the inscription. This horizontal stroke thus appears to serve as a kind of ancient *soph pasuq* or period.

4. *Determination of the Wording of the Text*

With each of the individual letters in this inscription analyzed and identified above, the inscription as a whole can now be read and interpreted on the basis of the following text:

<i>Column I</i>	<i>Column II</i>	<i>Column III</i>	<i>Column IV</i>
W	T	ʔA	R
L	W	D	K
ʕA	H	Y	R
D	B		
	B		

To enable us to read this text more easily, its columns need to be rotated 90° so that its lines read horizontally. In order to make this rotation two further decisions need to be made. First, since no word dividers were written with this text, its words have to be

divided off on the basis of the best sense which successive groups of letters make as words. Second, the order in which its columns are to be read needs to be established. These two decisions are inter-related, for dividing up its words helps to establish the direction in which the columns are to be read, and deciding upon the best direction in which to read the columns provides a key whereby the words can be divided most logically.

Throughout this study this text has been approached by reading its columns from left to right and each column from top to bottom. Up to this point this has been done arbitrarily, but now the rationale for this approach should be provided. No particular sense has been made out of reading the columns from right to left, but good sense can be made by reading in the opposite direction. Reading the text in this direction provides some explanations for letter positions: the *taw* at the top of Column II looks like an ending on the word in Column I, and the *resh* at the top of Column IV looks like the last consonant of the word present in Column III. Finally, the horizontal bar at the bottom of Column IV looks more like a marker which demarcates the end of the inscription than it does like another letter. There appear to be good reasons, therefore, why each column of this text should be read from top to bottom and as a group they should be read from left to right.

The columns of this text can now be turned, and its letters can be divided up into words. This has been done in two steps here: first, the text has been turned; and second, its words have been divided up. Since the latter step requires that a few letters be transposed to conclude the word of the preceding line, the letter distribution by line does not always follow that of the columns in the inscription. The letters by columns and by word division may be outlined as follows:

<i>Column</i>	<i>Word Division</i>
<i>Col. I:</i> W L ᶜA D	<i>Line 1:</i> W-L-ᶜADT
<i>Col. II:</i> T W Ḥ B B	<i>Line 2:</i> W-ḤBB
<i>Col. III:</i> ᶖA D Y	<i>Line 3:</i> ᶖADYR
<i>Col. IV:</i> R K R /	<i>Line 4:</i> KR /

5. *Translation of the Text*

The letters of this text have now been analyzed and identified, those letters have been divided into their best sense units or words, and the direction in which the columns of the text should be read has been proposed. This completes the initial steps necessary to provide a text for translation, and the translation derived from them reads as follows:

Line 1 - "And for the congregation
 Line 2 - and Ḥobab,
 Line 3 - a mighty
 Line 4 - furnace."

Reading all of this in one statement, we thus have: "And for the congregation and for Ḥobab, a mighty furnace." For a smoother reading and in order to provide a basis for the interpretation discussed below, this statement can be turned around and some of the ideas understood in connection with these words can be filled in with parentheses: "A mighty furnace (i.e., a smelter) (was supplied) for the congregation (of Israel) and Ḥobab (the Kenite from Midian)."

Each of the four lines or columns of this text contains one main word, and each of these four words can now be analyzed and discussed in the order in which they occur:

Line 1: ʿADT, "Congregation"

A *waw* and a *lamed* appear first in this column prefixed to this noun. The *waw* fits well as a conjunction with which this statement begins. Parallels for such usage are common in Biblical Hebrew and other West Semitic languages. In this text, it might convey the somewhat severative sense of "now" in initiating this statement. The *lamed* which follows fits well as the common preposition "to, for." That a person or persons, individual or corporate, would follow this preposition could be anticipated from normal usage.

There are several words which the letters ʿADT could compose. They could be a form of the rare verb "to walk" (*ʿadh* I), or could be an uncommon feminine form of the word for "witness" (Gen 21:30; 31:52). Neither fits well with the rest of the inscriptions

and the context. Somewhat more frequent in Biblical Hebrew, but not providing any better sense here, is the noun for "ornament" or the related verb "to adorn" (*ʿadh* II). More common still is the word *ʿedût* for "witness, testimony," commonly referring to the Ten Commandments in the OT. If this were the word used here, this statement still would have originated from Israelite circles in all likelihood, but this word fits neither the syntax of the statement nor the personal parallel that follows.

This process of elimination leaves us with the word *ʿedah/ʿadat*, which is used 145 times in the OT with the meaning of "assembly, gathering, congregation, company, band." More than half of its biblical occurrences appear in the book of Numbers (80 times), referring to the congregation of Israel during its period of existence in the wilderness after the Exodus from Egypt. Exodus adds 15 further occurrences of this word during this time, and Leviticus adds 11 more. Thus, there are over 100 biblical references to the "congregation of Israel" during the wilderness period.

As a personal reference of a corporate nature, this expression also fits well as a parallel to the personal name which follows in Column II. To find this word in a Semitic inscription from the Late Bronze Age or Egyptian New-Kingdom period, a time during which Israel spent its wilderness sojourn in Sinai, already points in the presumptive direction of identifying the "congregation" mentioned in this inscription as Israel. The connection is made even more specific by the use of the personal name in Column II.

By form—with a final *taw*—the word under consideration is either an early form of the noun in the absolute state, before the final *taw* was dropped, or is the noun in the construct state. The use of a construct form here—to my mind, the more likely possibility—would imply that some other word or name was understood as joined to the word "congregation," but not written out. In biblical usage, *ʿadat*, not *ʿedah*, is the common form in which this word is used with Israel, so that *ʿadat yiśrael* is the standard form for the phrase "the congregation of Israel." Hence, the use of *ʿadat* in this inscription can reasonably be taken as pointing towards "the congregation (of Israel)."

Line 2: ḤBB, "Ḥobab"

The *waw* which precedes *ḥbb* fits well as a conjunction which links *ḥbb* to the "congregation" that has just been mentioned. If

this is a *lamed* instead, which is also possible, it would parallel the preposition used in the first column, and in this case the conjunction would be understood.

Hbb is the direct consonantal equivalent of the personal name Ḥobab. This name occurs twice in the Bible as a reference to Moses' brother-in-law. Num 10:29 refers to the time when Israel was preparing to depart from their year-long encampment at Mount Sinai. On this occasion Moses urged Hobab to accompany them because he knew the terrain and would be able to serve as a guide for them: "You know how we are to encamp in the wilderness, and you will serve as eyes for us." A reference to Hobab in Judg 4:11 comes from the time of the judges Deborah and Barak when Heber and Jael, Kenites who were descendants of Hobab, lived in northern Israel separated from their tribe and clan.

Some confusion exists in understanding the relations between Hobab (Num 10:29; Judg 4:11), Jethro (Exod 3:1; 4:18; 18:1ff.), and Reuel (Exod 2:18; Num 10:29). For our present purposes the distinction between or identification of Reuel and Jethro is unimportant. It is very important historically, however, to distinguish between Hobab and Jethro. The reason why confusion has arisen has to do with the vocalization of the word *h̄tn*. In Judg 4:11 and Num 10:29, the word has been vocalized as *hoten*, "father-in-law," when it should have been vocalized *h̄atan*, "brother-in-law."

The latter vocalization is preferred because it makes better sense out of these references. Jethro, Moses' father-in-law, met Moses in the wilderness (Exod 18:1). He delivered to him his wife and sons (vss. 2-7). He then gave Moses some wise advice about how to manage tribal affairs (vss. 13-26). After what appears to have been a relatively brief stay, he departed for his homeland (vs. 27). Hobab, on the other hand, we find still encamped with the Israelites a year later, at the time when they were getting ready to break camp (Num 10:29). Thus Moses' father-in-law Jethro visited the Israelite camp only briefly and then returned to his homeland, while Moses' brother-in-law Hobab remained encamped with the Israelites through the year that they spent at Mount Sinai.

This distinction is important for the significance of the personal name *h̄bb* that is found in the Protosinaitic inscription we are considering. It was Hobab, who stayed on with the Israelites for a year at Sinai, who is mentioned by name in this inscription; it is not Jethro, who only visited them there briefly. The year that

Hobab spent in residence with the Israelites provided him with the opportunity to engage in the same type of activity in which they were engaged, and that type of activity is described in the remainder of the inscription. Its nature can be anticipated from the fact that Hobab is identified in Judg 4:11 as a Kenite. The name for this tribe means "metalsmith." That Hobab would engage in some type of activity relating to metalworking during his stay with the Israelites is to be anticipated as a normal outworking of his probable trade.

According to the decipherment of this inscription proposed here, the personal name of Hobab appears in southern Sinai in a Semitic inscription which dates to the New-Kingdom period of Egyptian history, the same general period in which the biblical Exodus took place. It is also the only period in which the personal name of Hobab is attested in the biblical onomasticon. When it does appear there, it is linked with this same general geographical region.

These unique features strongly suggest that we are dealing here with that very same biblical personage, Moses' brother-in-law. That link between this inscription and the biblical text is reinforced by the connection here of this name with the word for "congregation," the very same word commonly used in the Pentateuch for the congregation of Israel in this same place and time. A reciprocal relationship is involved here: Hobab makes the word for "congregation" specific for that of the "congregation of Israel"; and that particular congregation, in turn, makes this personal name of Hobab specific for that of the biblical personage by the same name.

In short, both of these references to persons—corporate and individual—are found, as we have seen, in the geographical context of Sinai and in the chronological context of the New-Kingdom period of Egyptian history, and these contexts link these two words or names in this inscription with the place and time of the biblical Exodus. We have here in this inscription, then, a contemporary text inscribed by someone from among the biblical people of Israel not long after they had left Egypt, while they were encamped in Sinai.

Line 3: ʔADYR, "A Mighty . . ."

The word ʔ*addîr* is used in Biblical Hebrew as either a noun or adjective meaning "mighty, splendid, glorious." It is derived from

the verb ²*adar*, which means “to be glorious, to make glorious,” and it is related to the nouns ²*eder* and ²*ederet*, “splendor.” ²*Addîr* has three main uses in Hebrew: (1) as an occasional epithet for God as “the Mighty One”; (2) as a noun referring to leaders or chieftains as “nobles” (cf. Judg 5:12), generally in the plural; and (3) as a modifying adjective meaning “mighty, splendid, glorious.” The last use is the most common (18 times), and it is the one that makes the best sense here. It is best connected with the word which follows it, *kr*, rather than with the preceding word *Hobab*. Its position in relation to *kr* suggests a possible predicate use of the adjective, but in the translation given above it has been utilized as a simply attributive adjective.

Line 4: KR, “Furnace”

The word *kûr* occurs nine times in the OT, always with the meaning of a “furnace” that was connected with the smelting of metals. The metals connected with the furnace vary. In three instances, that metal is iron (Deut 4:20, 1 Kgs 8:51, and Jer 11:4). Two parallel passages in Proverbs refer to both silver and gold (17:3 and 27:21), while a passage in Isaiah (48:10) refers to silver only. One passage in Ezekiel uses this word three times (22:18-22), twice in connection with a fivefold list of metals consisting of silver, bronze, tin, iron, and lead. These occurrences of this word *kûr* are in a figurative sense, referring to the “furnace of affliction”—past (Deut 4:10, 1 Kgs 8:51, Isa 48:10, and Jer 11:4), present (Prov 17:3 and 27:21), or future (Ezek 22:18, 20, 22). The furnace of affliction in the past was Egypt and the experience endured there. The present furnace of affliction is the way in which the Lord tries the hearts of men (Prov 17:3), and the future furnace was to be the way in which the Lord would melt down Judah and Jerusalem when his judgment would come upon them (Ezek 22:18, 20, 22).

However, whereas the past-time references to the furnace apply the term in the figurative sense only, the present and future applications of the term draw their figures out of descriptions of the function of the actual object. This is true of the passages in Proverbs, but it is especially vivid in the case of the passage in Ezekiel: “As men gather silver and bronze and iron and lead and tin into a furnace, to blow the fire upon it in order to melt it, so I will gather you in anger and in my wrath, and I will put you in and melt you” (22:20).

It should be noted, further, that the furnace mentioned in the Protosinaitic inscription here under review refers to a furnace that was used in smelting metals. It does not refer to any activities directly connected with the turquoise mining that the Egyptians carried on in this area. Thus, this metal smelting by Hobab and the congregation contrasts with that other type of industrial activity which was carried on in this region of Sinai—an activity that did not make use of the *kûr* or “furnace.”

6. *Interpretation of the Text*

Two different parties were involved in the activity referred to by this Protosinaitic inscription. The first of these two parties was a congregation, and we have identified that congregation as the congregation of Israel after it took up residence in Sinai following the Exodus from Egypt. The other party involved in this activity was a man named Hobab, and that person we have identified as the brother-in-law of Moses who is mentioned twice in the Bible. The particular type of activity in which these two parties engaged had to do with the smelting of metal, for a furnace for metal (i.e., a smelter) is mentioned in the last two columns of this inscription in connection with these two parties mentioned in the first two columns of the text.

According to this interpretation, there should have been some sort of metal working activity carried on by these two parties in the vicinity of this inscription. An evident reason for the participation of Hobab in this type of work probably stems from his background and experience. Coming from the tribe of Kenites or “smiths,” he undoubtedly was experienced in working with metals. That background would have been valuable to the Israelites in their need for refined metals and metal-working as they encamped at Mount Sinai. The scale upon which these two parties participated in that metal-working activity appears to have been extensive, according to the evidence of the inscription, for the inscription in its third line refers to that installation or operation as “mighty” (*ʔaddîr*).

Since there is an inscription here in the Wadi Naṣb which refers to the smelter for metals that was worked by the congregation (of Israel) in cooperation with Hobab, that naturally raises the question of whether or not there is any archaeological evidence present in the area which would indicate that smelting activity was carried out here. Archaeological evidence for just exactly that kind

of activity is present here in abundance. Petrie has referred to this evidence in his description of the massive pile of slag present in the Wadi Naşb, and he has also demarcated the location of this deposit on his map of the region.³² It is located at about the midpoint between the southern end of the valley and its northern juncture with the Wadi Suwiq. Because of its importance for the interpretation of this inscription and for the history of Israelite activity in this area, Petrie's description of this feature is quoted here at length:

In the Wady Nasb is an enormous mass of slag from copper smelting, about 6 or 8 ft. high, and extending apparently over about 500 ft. along the valley, and 300 ft. wide, but Bauerman puts it at 250 yds. by 200 yds. It has been dug about in recent times, and the man here stated that there had been found four bars like gold, the size of his arm; he agreed, however, that they were copper. These were probably the leakings from one of the furnaces, of which the remains of several are to be seen amid the slag. Besides this mass of slag, which may amount to about 100,000 tons, I saw much scattered slag all the way up the path to the tablet, though it is as difficult to account for its being thus moved, as for the piling up of the slag on the hill at the mouth of the Wady Baba.³³

It is possible, therefore, to correlate the interpretation of this Protosinaitic inscription advanced above with archaeological findings in the same area in which the inscription was found. Those findings occur on an extensive scale. A direct relationship can be proposed here—that the evidence for the metal smelting carried on by Hobab the smith and the congregation of Israel in the “mighty furnace,” and *ʿaddîr kûr*, is directly represented by the mighty pile of slag found on the floor of the valley near this inscription. While I would not insist that all of the slag present here was deposited only during the one year that the Israelites were resident in the area, I would suggest that a sizable portion of it was, according to the evidence of the phrase used for it in this inscription. Thus, in at least a part of this pile we have the residue of the metal smelting carried out here by the Israelites in the time of Moses.

³²For a discussion of this slag heap, see Petrie, p. 27, and for its location on his map of the area see the bottom section of Map 1 following p. 34. This finding is also discussed by Gardiner, Peet, and Černý, *The Inscriptions*, pp. 30-31.

³³Petrie, p. 27.

7. *Implications of the Text*

The interpretation of this Protosinaitic inscription and its archaeological connections in the vicinity have implications that extend in several directions. They include the following:

1. *The Route of the Exodus.* The route that the Israelites followed after they left Egypt has been a matter of considerable debate over the last century. To simplify a complex matter, it can be said that there are three main theories about that route. One view holds that the Israelites left Egypt by way of the northern coastal road. Another view has seen the Israelites leaving Egypt by a route that went essentially due east or northeast from either Lake Timsah or from the vicinity of Suez. A third view has proposed that they traveled south from the vicinity of Suez into southern Sinai. These three views can be identified respectively as those of the northern route, the central route, and the southern route. If this inscription and the related archaeological evidence discussed thus far in this study have been dealt with accurately, this evidence is decisively in favor of a southern route after the crossing of the *yam suph* or Sea of Reeds, wherever that may have been.

2. *The Location of Mount Sinai.* While this evidence favors the southern route through Sinai for the route of the Exodus, it does not necessarily lend support to the traditional identifications of Rephidim in the Wadi Feiran or Mount Sinai at one of the traditional locations like Jebel Serbal, Jebel Musa, or Ras Safsaf. What this new evidence now indicates is that when the Israelites left the coastal plain of El Markha, they probably did so through the Wadi Baba, not the Wadi Feiran (which is two valley systems to the south of the Wadi Baba). That makes much better sense out of the story in Exod 17:1-7, which tells of the lack of water in the vicinity of Rephidim. Such an occurrence would have been much more likely in a valley like the Wadi Baba than in a relatively well-watered valley like the Wadi Feiran.

Since the Israelites appear to have turned into the interior of Sinai north of the Wadi Feiran, it is unlikely that Mount Sinai should be located among the major mountains at the eastern end of the Wadi Feiran. It should rather be located somewhere to the north, along the arc of the Wadi Baba and the Wadi Suwiq. This arc would appear to encompass the geographical range of sites from the entrance to the Wadi Baba at the El Markha plain in the west to Serabiṭ el-Khadem in the east. The great mountain massifs

of southern Sinai are magnificent, beautiful, and impressive, but they do not appear to have provided the location where the Israelites camped while they spent their year in this region.

3. *The Date of the Exodus.* For those who consider the biblical Exodus to have been a historical event there has been a long-standing discussion over the date when it was thought to have occurred. Two main dates have been proposed: one in the thirteenth century B.C., under the Nineteenth Egyptian Dynasty of the Ramesides, and the other in the fifteenth century, under the Eighteenth Dynasty of the Thutmosides. If the interpretation of this Protosinaitic inscription proposed above is correct, it is decisively in favor of the earlier date.

4. *The Time of Origination of the Protosinaitic Inscriptions.* There has also been a debate over the time in which the Protosinaitic inscriptions originated. This discussion has revolved around whether this script was developed in the nineteenth century B.C., in the time of the Twelfth Dynasty, or under the early Eighteenth Dynasty, in the sixteenth or fifteenth century B.C. The weight of evidence has favored the later date, and this interpretation of this inscription has lent further support to it. No one has proposed, however, that this script was still in use in Sinai as late as the thirteenth century B.C. As it has synchronized the date of the Protosinaitic inscriptions with the date of the biblical Exodus, this interpretation of this text has provided evidence against both the early date for the Protosinaitic inscriptions and the late date for the Exodus.

5. *Construction of the Tabernacle.* An important question here is what were the Israelites doing during the year that they encamped at Mount Sinai? The answer to this question is provided by the last half of the book of Exodus. The major task in which they engaged during that period was the building of the tabernacle. The first half of this section of the book gives the instructions for carrying out that construction, and the second half of the section tells how those instructions were carried out. This half of the book of Exodus also provides the largest single concentration of OT references to bronze. There are 130 references to bronze in the entire OT, and 35 of them occur here—more than in any other OT book. The references to bronze are so abundant here because it was one of the major elements which went into the construction of the tabernacle and its contents.

The pieces of evidence that we have considered fit together like three corners of a triangular puzzle. These three pieces are (1) the abundant literary references to bronze in the Exodus passages that deal with the construction of the tabernacle, (2) the extra-biblical literary reference in the Protosinaitic inscription to the mighty smelter that was worked by the congregation (of Israel) and Hobab, and (3) the massive slag heap found on the floor of the valley at the foot of the mountain ridge where the inscription is located. The bronze that came out of the ore represented by its residue in the slag heap can readily be seen as coming out of the smelter referred to in this extra-biblical text. In turn, this bronze provided one of the metals that was used in the construction project described in the biblical text. One estimate is that those biblical references to bronze would have required two and one-half tons of metal.³⁴ The size of the slag heap is such that the ore represented would appear adequate to have produced that amount of bronze, if indeed that much was necessary for the completion of the sanctuary.

Historical and literary critics have expressed considerable skepticism about the accuracy of the description of the tabernacle and its construction given in Exod 25-40.³⁵ They have attributed these narratives to a late (exilic or post-exilic) literary source (P) that developed a very inaccurate historical picture of the tabernacle by projecting a view of the Solomonic temple back into that pre-monarchic period. In view of the fact that we now appear to have in hand an extra-biblical literary source and artifactual evidence which relate to the bronze that was worked by the Israelites during the time they spent in Sinai, this skepticism about the wilderness tabernacle—or at least the presence of the bronze in that tabernacle—seems unwarranted.

8. Summary

A new interpretation of Gerster's Protosinaitic inscription No. I has been advanced here by combining most of the readings for its

³⁴This estimate is given by N. Sarna in his discussion of the tabernacle in his *Exploring Exodus* (New York, 1986), p. 196.

³⁵For references to the sources containing a discussion of these literary critical matters, see F. M. Cross, "The Priestly Tabernacle in the Light of Recent Research," in *Temples and High Places in Biblical Times*, ed. A. Biran (Jerusalem, 1981), pp. 169-170; J. P. Hyatt, *Exodus*, New Century Bible Commentary (Grand Rapids, MI, 1980), p. 260; and B. Childs, *The Book of Exodus: A Critical Theological Commentary* (Philadelphia, 1974), pp. 529-538.

letters developed in the course of previous studies with new identifications proposed for four remaining letters at the bottom of the first three columns and the top of the fourth column. These four new proposals involve substituting a D for the H̄ at the bottom of Column I, a B for the R at the bottom of Column II, a Y for the previous ²A at the bottom of Column III, and an R for the previously unrecognizable letter at the top of Column IV.

When these substitutions and additions are made, the text that emerges from the resulting transcription can be translated, "And for the congregation and for Hobab, a mighty furnace." The congregation referred to here has been taken in this study as being the congregation of Israel at the time of the Exodus, and the Hobab named here has been identified as Moses' brother-in-law. With his experience as a Kenite metalworker, Hobab was able to lead the Israelite workers in smelting the ore necessary as a part of the tabernacle construction. The smelter involved in this process is referred to in the last two columns of this text. Archaeological evidence for the operation of that smelter has been found in the extensive slag heap found in the Wadi Naşb, not far from the location where this text was inscribed.

Implications from this conclusion about the contents of this inscription affect biblical history of the Exodus period at several points. The location of this inscription lends strong support to the idea that the Israelites passed through this part of southern Sinai as a part of their route of travel from Egypt to Canaan. Since this inscription and the activity associated with it are located some distance north of the traditional southern locations for Mount Sinai, that important mountain should probably be sought north of those more traditional locations.

In terms of chronological effects, this interpretation of this inscription supports the lower date for the development of the Protosinaïtic script, in the sixteenth or fifteenth century B.C., and it supports a higher date for the Exodus, in the fifteenth century as opposed to the thirteenth century. Since the contents of this inscription and the associated nearby archaeological evidence are connected to the production of bronze in this area at that time, and since the construction of the tabernacle was the prime reason why the Israelites needed bronze here, this inscription and the nearby slag heap provide evidence for the construction of that structure by the Israelites, with Kenite assistance. Historical and literary reconstructions which have denied such a course of events should now be reevaluated by taking these new data into account.

Finally, a word should be said about the relationship of this inscription to the rest of the corpus of Protosinaitic inscriptions. Most of those other inscriptions cluster around Mines M and L and the temple of Hathor at Serabiṭ el-Khadem. They come in two basic categories: (1) short votive statements dedicated to Hathor, the goddess of the turquoise mining region; and (2) short statements about the personnel, procedures, or product of the turquoise mining process. In these respects the Protosinaitic inscriptions parallel the Egyptian hieroglyphic inscriptions which are also found in the area.

This particular Protosinaitic inscription is unique, however. It stands apart from those other inscriptions in terms of geographic location, the variant type of script utilized for it, the nature of its contents, and the group from which the person who incised it came. These unique features of this inscription can be explained by relating the inscribing of it to someone from the congregation of Israel or to Hobab himself. It was not incised by someone from the group of Semitic miners who worked the turquoise mines to the east, where they inscribed their own Protosinaitic inscriptions of a different nature.