the early stages of Gerasa's history than Père Vincent's suggestion of the erection of a first sanctuary in 73/74 A. D. on the site of Temple C, and of the rebuilding of this shrine and the erection of a second on the site of the Cathedral by the Nabataeans about the middle of the second century. For a Nabataean "renaissance" of required proportions at this late date there is no evidence, to my knowledge. Under the circumstances I am inclined still to adhere to the position taken in Gerasa with regard to Temple C and the site of the Nabataean sanctuary at Gerasa.

## NEW LIGHT ON THE EARLY HISTORY OF PHOENICIAN COLONIZATION

## W. F. Albright

Two generations ago scholars were accustomed to exaggerate the part which the Phoenicians had played in Mediterranean history. They were believed to have colonized most of the islands and many of the coasts of the Mediterranean as far back as the twelfth century or earlier. In the tenth century, the age of Hiram and Solomon, they were thought to have had flourishing colonies and trading stations in North Africa and Spain. Phoenician mariners were believed to have navigated the Atlantic coasts as far north as Britain and perhaps as far south as the mouth of the Niger. Phoenician place-names were identified in the most unlikely parts of the Mediterranean basin—by the use of daring etymologies devised ad hoc. Phoenician civilization was considered to be the source of almost everything in Greek culture, both material and intellectual. Since classical historians from Herodotus and Thucydides down to the Roman age emphasized the greatness of the early Phoenicians, the extent of their colonization, and the indebtedness to them of the Greeks, this tendency was only natural, and nineteenth-century scholarship speedily proceeded to build a vast hypothetical structure of its own on classical foundations.

Then came the discoveries of Schliemann at Troy and Mycenae; after a period during which the new finds were uncritically attributed to the Phoenicians came the inevitable reaction and it was pointed out that they were not Oriental in character but were distinctly autochthonous. In 1893 the late Salomon Reinach published his famous booklet, Le mirage oriental, in which he denied the Phoenician claims and set up just as sweeping counter-claims for the antiquity and originality of Aegean culture. The following year Julius Beloch, who was to become one of the leading historians of ancient Greece, published a discussion of the subject in which he denied the truth of virtually all classical traditions about early Phoenician activity in the Mediterranean.¹ Even Thucydides was judged to have possessed no real knowledge on this subject. According to Beloch the colonizing activity of the Phoenicians in the Western

<sup>&</sup>lt;sup>1</sup> For the most authoritative statement of Beloch's views see the second edition of his *Griechische Geschichte* (1913), Vol. I, chapters VII and XXII.

Mediterranean never had been important and it did not antedate the seventh century B. C. (or the eighth at the earliest). In fact, he thought that the earliest Greek colonies in this region probably antedated the beginning of Phoenician penetration. He was skeptical about the official Punic date of the founding of Carthage, pointing out the lack of valid archaeological or literary evidence which would carry the existence of Carthage back before the seventh century.

During the past twenty years classical archaeologists have added their voices to the chorus, insisting that there are no archaeological traces of the Phoenicians in the Western Mediterranean before the seventh century, or the eighth at the earliest.<sup>2</sup> Only Eduard Meyer refused to accept this point of view, which he denounced as hyper-criticism.<sup>3</sup> Since

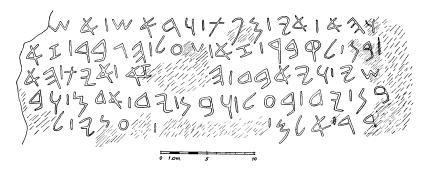


Fig. 1. Archaic Phoenician Inscription from Cyprus.

the writer expects to deal with this subject in detail elsewhere in the near future, he will abstain from further discussion here, and will proceed at once to the subject of this paper.

Two years ago Professor A. M. Honeyman <sup>4</sup> of the University of St. Andrews published a damaged inscription from the Cyprus Museum which had been completely overlooked until it was discovered by his colleague, Mr. Mitford.<sup>5</sup> The writer had previously examined the squeezes which the latter had made, and thanks to the courtesy of Dr. Honeyman, was able to keep them for a considerable time and to make a careful tracing, reproduced as Fig. 1. Dr. Honeyman has given an excellent discussion of the inscription, to which we are much indebted. Our reading and translation are tentative; they differ comparatively little from the results of the first editor.

<sup>&</sup>lt;sup>2</sup> See especially P. Bosch-Gimpera, *Klio*, XXII (1928), pp. 345-368. Bosch-Gimpera, as the foremost Spanish archaeologist of our time, carries great weight; his views have been accepted by Rhys Carpenter and by the latest writer on early Spain, Pierson Dixon, *The Iberians of Spain*, Oxford, 1940, pp. 23-27.

<sup>&</sup>lt;sup>3</sup> Sitz. Preuss. Akad. Wiss., 1929, pp. 204-6; Geschichte des Altertums, second ed., Vol. II, Part II, pp. 77 ff.

<sup>&</sup>lt;sup>4</sup> Student at the American School in Jerusalem, 1934-35.

<sup>&</sup>lt;sup>5</sup> Iraq, VI (1939), pp. 106-8.

And behold <sup>6</sup>(?) there is no dignitary 7 or noble 8 who [hath been buried(?)]

among us 9 (?) in (?) this 10 tomb, for (?) over this man . . .

that m[an]

whether 11 (by) the hand of Baal or the hand of man or [the hand of] the shades  $^{12}(?)$ l his feet (?) for . . .

The beginning of the inscription is broken away and the end is illegible. What we have reminds one in several respects of the inscription on the sarcophagus of Eshmunazar king of Sidon about the beginning of the third century B. C.13 The injunction against opening the tomb is fortified by the assurance that the person buried there is only a commoner, from whom no rich burial gifts are to be expected. The man mentioned in line 3 must be the potential violator of the tomb, who is eloquently cursed.

Of first-class importance is the script in which this epigraph is written, since it points to the first half of the ninth century B. C. and cannot be later under any circumstances than the end of that century. How much more archaic it is than the next oldest Phoenician inscription from Cyprus, the Baal-Lebanon dedication, which dates from about the middle of the eighth century, may be measured roughly by the differences between the forms of mem, nun, and qoph. The Honeyman inscription is older in script than any other datable documents from the ninth century, including the Mesha Stone (cir. 840 B. C.—note the mem, nun, pe, and qoph), the Hazael epigraph from Arslan Tash (between 845 and 810 B. C.—note the mem and nun), the Kilamuwa stela

 $<sup>^7</sup>$  As Honeyman has stated, I proposed the reading mpt and its combination with Arab. muffi, "magistrate," pointing out that the cognate Hebrew verb pattê was sometimes used in connection with court activities. However, I have been unable to explain away the evidence pointing to a specifically Arabic development of this meaning, so I should now read  $m\hat{o}pet$  and identify the word with Heb.  $m\hat{o}f\bar{e}t$ , "sign, miracle"; cf. Rabbinic Hebrew môfēt had-dôr for a man of exceptional note in his day. The reading of the consonants is, I think, quite certain.

<sup>&</sup>lt;sup>8</sup> Properly "head," used in Hebrew especially of the head of a family or clan. <sup>9</sup> Honeyman suggests  $[\pm i]m$ , but this reading seems to be philologically as well as graphically unlikely. The nun appears practically certain to me.

<sup>16</sup> It would appear that the pronoun z' was used for both masculine and feminine in the ninth century. The problem of the exact form and chronology of the Phoenician demonstratives is still obscure.

 $<sup>^{11}</sup>$  Heb  $b\hat{e}n,$  "between." For the same usage in Hebrew cf. Lev. 27:12, where  $b\hat{e}n$ .. ūbên is so employed in the sentence "And the priest shall value it, whether it be good or bad" (AV).

<sup>12</sup> The word ' $er^{e}l\hat{\imath}m$  (my vocalization) appears in Hebrew in antithesis to  $mal^{\imath}ak\hat{e}$  \* $\tilde{\imath}al\hat{o}m$ , "messengers (angels) of peace" (Isa. 33:7); the context requires this meaning, which is fortified by a considerable body of biblical and extra-biblical data which I hope to treat in detail before long. Honeyman's suggestion, bbr.'lm, "assembly of the gods," may be correct, but is somewhat difficult to square with the preceding alternative, "whether (by) the hand of Baal," since one would hardly expect the two to be set in opposition.

<sup>&</sup>lt;sup>13</sup> On the date of this inscription see especially H. L. Ginsberg, Am. Jour. Sem. Lang., 1940, pp. 71-74.

from Sham'al (cir. 825 B.C.), etc.<sup>14</sup> It differs least from the last named document in script, but its *mem* is appreciably more archaic than the *mem* of the latter.<sup>15</sup> On the other hand, it is definitely later in script than the Byblian inscriptions of the second half of the tenth century, as may be seen by comparing the *aleph*,<sup>20</sup> *daleth*, *waw*, and especially *mem*. In many respects its closest epigraphical relations are with the Gezer Calendar, where we must not be misled by the awkwardness of a school-boy's hand. The Gezer tablet may be dated in the late tenth century; it probably reflects the script of the generation after the death of Solomon.

In 1773 a slab of stone bearing a Phoenician inscription was discovered near Pula (ancient Nora) in Sardinia and subsequently it was placed in the museum at Cagliari. An improved hand-copy was published in 1835 by G. Arri of Turin, who read b-Tršš ngrš h-b Šrdn šlm h' š-l-sp b, šl ktb b-Nr š-bn ngd Lqsy and translated: "In Tarshish the pious father Sardon (Latin Sardus Pater, chief god of the island) set sail; finally reaching the end of his life he ordered (the stone) to be written in Nora, which he had perceived (to be) over against Lixus (in Mauretania)." When Gesenius published his definitive decipherment of Phoenician two years later he had no trouble in showing that this interpretation was absurd. However, to be quite candid, his own translation was in some respects, as we shall see, a distinct regression. He read bt rš š-nqd š-h-'b Šrdn. šlm h' šlm yb' mlktn. Bn-rš bn Ngd Lpmy and translated: "The house of the head of the prince who (was) the father of the Sardinians. He being a peace-lover, let peace come to our kingdom. Ben-Rosh, son of Nagid, the man of Lpm." Today it is easy for us to make fun of Gesenius's rendering. However, it is well to remember that in spite of the efforts of men like Renan, Clermont-Ganneau and Lidzbarski, practically no progress was made in interpreting this inscription until 1924. The data were lacking and no amount of acumen could replace missing facts. The most recent serious scholar to attack the problem before 1924, the late Canon G. A. Cooke, translated (1903): "[Pil]lar of Rosh, (son) of Nagid, who (dwelt) in Sardinia; Milk-(ya) thon, son of Rosh, son of Nagid, (the) Liphsite, completed it (?), (even that) which (was required) for setting it up." 18

In 1924 Dussaud attacked the problem and saw at once that the script was much more archaic than had been previously supposed.<sup>19</sup> Lidzbarski's date "not later than the sixth century" he changed to the end of the

<sup>&</sup>lt;sup>14</sup> For convenient recent tabulations of all significant ninth-century alphabets hitherto known see Barrois, *Arslan Tash*, p. 137, and Sukenik in Crowfoot, *Early Ivories from Samaria*, p. 7.

<sup>&</sup>lt;sup>15</sup> The Zenjirli mem has a longer shaft in proportion to the length of the upper, zigzag part of the letter; it also slopes more to the left and the angle which the shaft forms with the top is appreciably smaller.

<sup>&</sup>lt;sup>16</sup> It must, however, be borne in mind that the Byblian *aleph* of the eleventh and tenth centuries represents a deviation from the normal evolution of the letter and is perhaps a relatively ephemeral cursive peculiarity of the script of that time. For the *aleph* of the thirteenth century B. C. see the Lachish Ewer and for still earlier forms cf. the Beth-shemesh ostracon and the "enigmatic" inscription from Byblus.

<sup>&</sup>lt;sup>17</sup> For the data in this paragraph see especially W. Gesenius, Scripturae linguaeque Phoeniciae monumenta quotquot supersunt (1837), pp. 154-57.

<sup>18</sup> A Text-book of North-Semitic Inscriptions, pp. 110 f.

<sup>&</sup>lt;sup>19</sup> Syria, V (1924), pp. 147, 151 f., 156. I wish to thank Dr. G. Ernest Wright for furnishing me copies of Dussaud's statements, since the volume is not accessible to me.

ninth, comparing the script of the Nora stone with that of Kilamuwa. However, few scholars took Dussaud's dating seriously, since Dussaud did not translate it at all and since Lidzbarski's copy of the stone and table of its characters showed a number of late forms side by side with undeniably early ones. After many abortive experiments, the writer attacked the question seriously several months ago, using the photo-

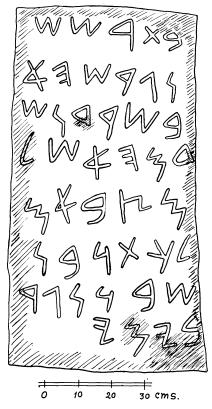


Fig. 2. Phoenician Inscription from Nora in Sardinia.

graphic reproductions in the *Corpus Inscriptionum Semiticarum*, the copy used by Arri and Gesenius, and a careful facsimile made by Euting and published in 1871.<sup>20</sup> The copy published herewith as Fig. 2 has been traced from the photograph of the squeeze in the *Corpus*, with constant use of the photograph of the stone itself in the *Corpus* and of the copies of Arri and Euting. It has been checked and rechecked until it may be considered as an accurate facsimile of the original inscription. The writer saw almost immediately that the Nora stone is only the lower right-hand

<sup>&</sup>lt;sup>20</sup> Punische Steine, Plate XXXIV (Mémoires de l'Académie Imperiale des Sciences de St.-Pétersbourg, VII<sup>e</sup> Sér., Tome XVII: 3.

part of a much larger original inscription, which may have occupied several stones. It is possible to supply the missing letters in several lines—in one with virtual certainty—and thus to reconstruct the width of the original text as about a metre and a quarter. The present height of the stone is about 105 cm., and the inscription itself was presumably about two metres in height. Since the characters, though irregular, average from 8 to 12 cm. in length, the inscription was probably a decree, with which its contents agree. Our reading and translation follow:

1.	בתרשש [וֹ]	in (from?) Tarshish [ and]
2.	נגרש הא[דם הא לשת(?)]	that m[an] shall be banished [for a year(?)]
3,	בשרדן ש[הא]	from 21 Sardinia [that]
4.	דם האש ל [א בן]	man who hath n[ot whether]
5.	מצבא מ[חנת ובן ממ]	(he be) commander of a h[ost 22 or (he be) ki]ng 23
6.	לכת ובן [סכן (?) ואם י]	or (he be) [governor (?).24 And if he shall]
7.	שב ונגר[ש האדם הא]	return, then [that man] shall be banish[ed]
8.	בֿימי	for his life-time (?).26

It will be seen that each of the reconstructed lines 2 and 5-7 has thirteen letters and that the reconstruction of line 5 is practically certain. What the crime was against which the decree warned, one can only conjecture, but apparently no exceptions were made, either for high Phoenician officials or for local princes. Several expressions could not have been explained until recent finds made them clear; e.g., the Ahiram and Honeyman inscriptions furnish excellent parallels for lines 5-6 with the sequence "king-governor-commander of a host (tm' mhnt)" in the former and the use of bn - wbn - wbn for "whether - or - or" in the latter.

<sup>&</sup>lt;sup>21</sup> The preposition b(a) has this meaning regularly in Ugaritic and it seems to have it also in a number of passages in Job, as pointed out by Fr. Delitzsch (cf. Gesenius-Buhl, *Handwörterbuch*, 15th ed., col. 80b); it must be remembered that Job is now known to have been strongly influenced by Phoenician literature.

<sup>&</sup>lt;sup>22</sup> Vocalize: maşbî maḥnit (Heb. maḥnê, "camp, host"); for the expression cf. II Kings 25: 19 and the Aḥiram inscription, with my remarks, Jour. Pal. Or. Soc., 1926, p. 81.

 $<sup>^{23}</sup>$  From this time on down to the end of Phoenician inscriptions mmlkt is the regular word for "king," though it originally meant "kingdom"; for biblical occurrences of the word see my remarks, Jour. Am. Or. Soc., 1940, p. 422.

 <sup>&</sup>lt;sup>24</sup> Cf. the Ahiram inscription.
 <sup>25</sup> The expression can mean "he will again be banished," but this scarcely suits

<sup>&</sup>lt;sup>26</sup> The first two letters are uncertain; we may have to read l or even d for b and g (hardly p!) for y. However, the rendering "during (lit. in) his days" makes excellent sense here; cf. Heb. miy-yāmêka, "during thy life-time" (I. Sam. 25: 28). An alternative lymy would be equally satisfactory. It may be added that this is the oldest occurrence of final y to denote the pronominal suffix of the third person singular, which is regular in inscriptions of the eighth and seventh centuries (Baal-Lebanon, Ur, Arslan Tash magical tablet).

In view of the virtual identity of the script of the Nora stone and of the Cyprus inscription there can be no doubt that they belong to approximately the same age. Since both are monuments of the Phoenician colonial empire in the Mediterranean, it is not possible to explain the practical identity in script as due to a persistence of a given scribal tradition in one place or the other. The only character that does differ—tau—does not indicate anything about the relative age of the scripts, since the Nora tau goes back just as directly to the tau in Yeḥimilk and the alternative tau in Aḥiram as the Cyprus tau to the normal tau in Aḥiram. Moreover, the Nora inscription is on characteristic local sandstone and was undoubtedly set up originally near the spot where it was found.<sup>27</sup> If there were any doubt it would be dispelled by the discovery of two other fragments of Phoenician inscriptions of this general age, one at Nora, the other at Bosa in northwestern Sardinia, about a hundred miles away by sea (Fig. 3). The former (Fig. 3: a = CIS I, No. 145) has been

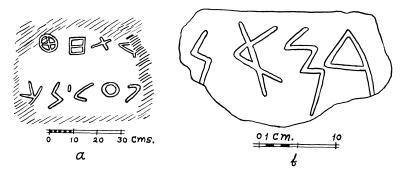


Fig. 3. Fragments of Inscriptions from Nora (a) and Bosa (b) in Sardinia.

traced from the photograph in the Corpus, but the editors of the latter misread the last character in line 1 as 'ayin, whereas it is an unmistakable teth; we must read []'tht [] p'l.nk []. Unfortunately, scarcely enough is preserved to suggest the nature of the text, since the one apparently complete word, p'l, may be rendered "he made," "she made," or "they made," and it may be incomplete at the beginning. The Bosa fragment has letters of the same size as Nora 1 and may also be a decree. The latter (Fig. 3: b = CIS I, No. 162) has been traced from the photograph of a squeeze given in the Corpus; no interpretation of the extant letters can be proposed with safety. The mem in the latter is more archaic than any mem in the two large inscriptions reproduced and translated here; it is comparable in archaism to the heth in Fig. 3: a. The nun in Fig. 3: a is also very archaic. We cannot safely draw any conclusions from the form of aleph, as pointed out above (n. 16); it is nearly the same in all these ninth-century inscriptions. The kaph appears clearly in Nora 1 as well as in Fig. 3: b; it belongs neatly in the period between Abibaal-Elibaal (cir. 940-920 B.C.) and the datable inscriptions already described from the second half of the ninth century.

No doubt is, accordingly, possible: the four documents which we have discussed come from about the first half of the ninth century B. C., with extreme dates cir. 925-825 B. C. They prove conclusively that the Phoenicians were erecting monumental stone inscriptions at Nora and Bosa in Sardinia not later than the third quarter of the ninth century B. C. and probably half a century earlier. It stands to reason that the first settlements in Sardinia must go back several generations, to the middle of the tenth century or even somewhat earlier. Elsewhere the writer will

<sup>&</sup>lt;sup>27</sup> Gesenius, op. cit., p. 154.

show that we cannot well go back beyond the middle of the eleventh century for the earliest Phoenician colonization in Mediterranean islands and that the traditional classical dates for the foundation of Utica near Carthage and Gades (Cadiz) in Spain (cir. 1100 B.C.) are probably over a century too high. Nor can we return to the position of classical historians and archaeologists of the past generation and deny any serious Phoenician colonial or mercantile activity anywhere in the Mediterranean before the eighth century. The climax of Phoenician enterprise in the Western Mediterranean must be dated back to the period between cir. 950 and cir. 750 B.C. Phoenician naval activity slowed down notably after the foundation of Carthage and probably fell to almost nothing after the incorporation of the Phoenician cities into the Assyrian empire as administrative districts ruled by Assyrian governors (676-668 B.C.). To what extent the beginnings of Greek colonization in the central and western Mediterranean in the second half of the eighth century were responsible for Phoenician decline we cannot say; it is also possible that the enterprising Greeks took advantage of Phoenician weakness to push into regions previously monopolized by the latter.<sup>28</sup>

The mention of Tarshish in the Nora decree raises an interesting and obscure question. However, we may at once say that this Tarshish cannot well be Tartessus in Spain.<sup>29</sup> but must be the Phoenician name of Nora itself (or of a settlement in its vicinity). Of course, biblical and Assyrian Tarshish may have been in Sardinia instead of in Southern Spain, but the relatively early age of Gades and the tremendous mineral wealth of Southern Spain in antiquity make this alternative improbable. It is highly probable that Tarshish was a Phoenician word meaning "mine" or "smelting plant," especially since the form of the noun (tafil) was common in Semitic. Haupt in fact suggested this explanation many years ago, but with an improbable etymology.30 The writer would explain the word as ultimately a loan from Accadian (Babylonian), meaning "smelting plant, refinery." 31 What a "Tarshish" was like we can now see from the results of Glueck's brilliant researches, which have reconstituted a Phoenician copper refinery of the tenth-ninth centuries at Ezion-geber on the Gulf of 'Aqabah. 32 Readers of the Bulletin are

<sup>&</sup>lt;sup>28</sup> In this connection it may be pointed out that the Greeks must have borrowed the Phoenician alphabet after the phase of script represented by our early ninthcentury inscriptions, because of the archaic mem. I am inclined to date the borrowing early in the eighth century, but in any case between 850 and 750 B.C. For the present state of the problem and its probable solution see a forthcoming study by Mr. John V. Walsh.

<sup>&</sup>lt;sup>29</sup> There is no serious linguistic objection to the equation. The dissimilation (with accompanying assimilation is virtually identical with that shown by J. Friedrich to have taken place when Phoen. Qarthad- was borrowed by the Dorian Greeks as Kark-had-, later Attic Karchēdôn (Indogermanische Forschungen, 1921, pp. 102-4). The ending of the name has obviously been assimilated to the ending -essos which is so common in Aegean place-names.

<sup>30</sup> Verhandlungen des XIII. Internationalen Orientalistischen Kongresses (Ham-

burg, 1902), pp. 232 ff.

31 I. e., Accad. \*taršíšu, derived from rašâšu, "to melt, be smelted," and connected with Arab. ršš, "to trickle, etc., of a liquid."

<sup>&</sup>lt;sup>32</sup> See Nelson Glueck, The Other Side of the Jordan (New Haven, A. S. O. R., 1940), pp. 93 ff., Bulletin, No. 79, pp. 3 ff.

familiar with his work, so we need not go into detail, except to remind them that Solomon's naval expeditions on the Red Sea were undertaken in cooperation with Hiram I of Tyre, whose naval officers directed the enterprise (I Kings 9: 27, 10: 22). Glueck has pointed out that the workmen must have been slaves or prisoners, and we may safely assume the same state of affairs in Sardinia and Spain. The expression 'onî taršîš, "tarshish-fleet," is very interesting and may now be explained as meaning "refinery fleet," i. e., a fleet of ships which brought the smelted metal home from the colonial mines. It is not even necessary to suppose that the city of Tartessus had yet been founded. However, the Phoenicians had somewhere learned how to build special installations like the refinery complex at Tell el-Kheleifeh, so in view of the elaborate development of Phoenician activity in Sardinia within the century which began with Solomon's accession, it would be hyper-critical to lower the date of Phoenician penetration into Southern Spain to a period after the reign of Hiram I (cir. 969-936 B. C.).33

Once more we find that the radical criticism of the past half century must be corrected drastically. With all the recognized weaknesses of Herodotus he still knew more about the Phoenicians than Beloch and his followers, and the authority of Thucydides remains unimpaired. Incidentally the biblical account of Solomon's reign is again proved to be historically reasonable.

## A MONOTHEISTIC HIMYARITE INSCRIPTION

## F. V. WINNETT

Through the courtesy of Dr. Glanville Downey, former curator of the Princeton Epigraphical Museum, photographs and squeezes of the following Himyarite inscription were sent to me for decipherment. The inscription is engraved on a slab of limestone 0.49 m. wide and 0.185 m. high. "The stone is now about 9 cm. thick; but its back is very rough, and it looks as if it had been roughly hewn from a much larger block to facilitate transportation and sale to a dealer in antiquities. The face is carved in two flat moldings, returned perpendicularly at each side and framing what appears to be the top of a small sunken plate or panel. This panel is 21 cm. wide. About 6½ cm. of its length remain, from the bottom of the inner fascia of the frame to the bottom of the stone: the panel was perhaps continued on another stone below the present one, built into a wall or a rectangular pillar. All five lines of the inscription run entirely across the face of the stone. The first line is on the outer fascia of the frame. The beginning and ending of the second and third lines are on the outer border, but the rest of these lines is on the inner

<sup>&</sup>lt;sup>33</sup> The question of the date of the Carmona ivories, discovered over forty years ago in the valley of the Guadalquivir, north of the Tartessus region, will be dealt with in some detail elsewhere. Suffice it to say that they are certainly earlier than the usual date given for them (seventh century) and probably belong to the early eighth century B. C. A date in the ninth century for some of them is entirely possible, but since they appear to be homogeneous, is rather unlikely.