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Andrews University
Seventh-day Adventist Theological Seminary

THE ORIGIN AND TRANSMISSION OF THE ALPHABET

A Thesis
Presented in Partial Fulfillment
of the Requirements for the Degree
Master of Arts

by
Joaquim Azevedo

June 1994

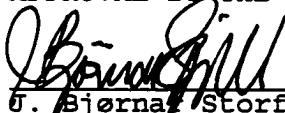
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Joaquim Azevedo


APPROVAL BY THE COMMITTEE:




U. Bjørnå, Ph.D., Chair



Jacques B. Doukhan, Th.D.



Randall W. Younker, M.A.



Date approved

TABLE OF CONTENTS

LIST OF TABLES	vi
LIST OF ABBREVIATIONS.	vii
Chapter	
I. INTRODUCTION	1
Statement of the Problem.	1
Practical Importance of the Problem	2
Literature Review	3
Ancient Writers.	3
Modern Writers Concerning the Origin of the Alphabet	4
The Egyptian Theory	5
The Cuneiform Theory.	5
The Cretan Theory	6
The Cyprus-Minoan Theory.	7
The Hittite Theory.	7
The Sinaitic Theory	7
The Twelfth Dynasty Way of Writing Foreign Names Theory	9
The Pseudo-Hieroglyph (PH) Theory	10
Modern Writers Concerning the Transmission of the Alphabet.	12
1400 B.C.	12
1200 B.C.	13
1100 B.C.	14
900 B.C.	15
800 B.C.	16
Ca. Eighth Century B.C.	17
Hypothesis.	18
Assumption.	18
Limitation.	18
Research Methodology.	20
Instrumentation.	20
Sampling	20
II. THE ORIGIN OF THE PROTO-CANAANITE ALPHABET	22
The Pseudo-Hieroglyphic Script.	23
Cretan Script	26
Cypriot Script.	28
Proto-Sinaitic Script	29

Implications of These Writing Systems	32
Origin of the Alphabet	34
Conclusion.	48
III. ANALYSIS OF THE PALEOGRAPHIC MATERIAL.	52
Basic Rules for Dating Paleographic Materials.	52
Chronological Analysis.	54
Catalogue of Paleographic Material.	57
The First Group: Pseudo-Hieroglyph (PH) (ca. 2000-1800 B.C.)	57
The Second Group: Proto-Canaanite (ca. 1700-1600)	59
The Third Group: Undefined Semitic Script (ca. 1500 B.C.)	60
The Fourth Group: Cuneiform (ca. 1400 B.C.)	61
The Fifth Group: Proto-Canaanite (ca. 1400-1300 B.C.)	62
The Sixth Group: Proto-Canaanite (ca. 1300 B.C.)	62
The Seventh Group: Proto-Canaanite (ca. 1200-1100 B.C.)	63
The Eighth Group: Phoenician (ca. 1000 B.C.)	65
The Ninth Group: Phoenician (ca. Eleventh-Ninth Centuries B.C.)	66
The Tenth Group: Phoenician's Neighbors (ca. 9th-8th Centuries B.C.)	67
The Eleventh Group: Phoenician (ca. 800-700 B.C.)	67
The Twelfth Group: Archaic Greek, Anatolian, and Latin Alphabets (ca. 800-400 B.C.)	68
Paleographic Study.	69
Conclusion.	77
IV. TRANSMISSION OF THE ALPHABET	80
Historical Situation of the Mediterranean in the Bronze Age	82
The End of the Late Bronze Age.	86
Stages of Transmission.	89
First Stage.	90
Second Stage	91
The Last Stage	95
Conclusion.	97

V. CONCLUSION	98
APPENDIX	101
BIBLIOGRAPHY	114

LIST OF TABLES

1.	A Comparison Between the Egyptian Hieroglyph, Cretan Script, and Byblos 6593	25
2.	Comparison Between Cretan Scripts and The Egyptian, Cuneiform, and Old Phoenician Signs.	27
3.	Comparison Between the Cretan and Cyprus-Minoan Scripts.	30
4.	Vowel Signs in the Cretan and Cyprus-Minoan Scripts.	33
5.	Comparison of the PH Script with the Egyptian Hieroglyph, Proto-Canaanite, and Proto-Sinaitic Alphabets	37
6.	Comparison Between the First and Second Steps of Simplification of the PH Script . .	41
7.	Comparison of the Two Scripts From the Iberian Peninsula.	94

LIST OF ABBREVIATIONS

A	Aramaic
<u>AJA</u>	<u>American Journal of Archaeology</u>
<u>BASOR</u>	<u>Bulletin of the American Schools of Oriental Research</u>
<u>BA</u>	<u>Biblical Archaeologist</u>
<u>BG</u>	<u>Biblia Grammata</u>
<u>CBO</u>	<u>Catholic Biblical Quarterly</u>
C	Crete
<u>CAH</u>	<u>Cambridge Ancient History</u>
<u>EI</u>	<u>Eretz Israel</u>
E	Egyptian
EH	Egyptian Hieroglyph
<u>HTS</u>	<u>Harvard Theological Studies</u>
<u>IEJ</u>	<u>Israel Exploration Journal</u>
<u>JES</u>	<u>Journal of Egyptian Archaeology</u>
<u>JNES</u>	<u>Journal of Near East Studies</u>
<u>JBL</u>	<u>Journal of Biblical Literature</u>
<u>JPOS</u>	<u>Journal of Palestine Oriental Society</u>
<u>JAOS</u>	<u>Journal of the American Oriental Society</u>
<u>JEA</u>	<u>Journal of Egyptian Archaeology</u>
PC	Proto-Canaanite
PS	Proto-Sinaitic

Ph Phoenician
PH Pseudo-Hieroglyph
P Pictographic
PEQ Palestine Exploration Quarterly
RB Revue Biblique

ABSTRACT

THE ORIGIN AND TRANSMISSION OF THE ALPHABET

by

Joaquim Azevedo

Adviser: J. Bjørnar Storfjell

ABSTRACT OF GRADUATE STUDENT RESEARCH

Thesis

Andrews University

Seventh-day Adventist Theological Seminary

Title: THE ORIGIN AND TRANSMISSION OF THE ALPHABET

Name of researcher: Joaquim Azevedo

Name of faculty adviser: J. Bjørnar Storfjell, Ph.D.

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Problem

The origin of the alphabet has been a puzzle for scholars since Herodotus. Although there are today many theories concerning the origin and transmission of the alphabet to the Greeks, this subject is still debated. New archeological findings are brought to light every year, and the increase of knowledge of the script used in the Mediterranean world may support or oppose the current hypotheses. Therefore this subject should be reviewed anew in the light of these facts.

Methodology

A review of selected literature was made to determine the actual state of this subject. A paleographic study was

done, based on paleographic materials found in the area under study.

Conclusions

The Pseudo-Hieroglyph script was the mediator between the Egyptian Hieroglyphs and the Proto-Canaanite alphabet, and the transmission of the alphabet to the Greeks took place in three progressive stages.

CHAPTER I

INTRODUCTION

The starting point of history is the introduction of a writing system. Written material found from the ancient world can be studied and understood. All writing systems depend on signs which express the writer's ideas. These signs can be of pictographic, ideographic, syllabic, or alphabetic expressions.

Language changes through time; likewise, the written system which expresses this language also changes. This process of change stops when the language is no longer spoken (e.g., Latin). It is noteworthy that our modern Latin alphabet can be traced back to the Proto-Canaanite alphabet of about 1700 B.C. The alphabet, from the Proto-Canaanite to the Latin, underwent many changes and transformations but still kept its main characteristics: the sequence of the letters and the number, name, and value of these letters, with slight variations.

Statement of the Problem

The goal of this study was to investigate the origin of the Proto-Canaanite alphabet and to suggest a hypothetical solution to the transmission of the Phoenician

alphabet from its Semitic origins to the Greeks. The questions to be answered are twofold: Which writing system inspired the invention of the alphabet? Was the transmission a process over time or a single event in history?

The starting point of this investigation was the origin of the alphabet with special attention to M. Dunand's theory which is discussed below. Although his theory is not accepted by scholars today, it deserves a new evaluation. Recent works about the translation of the Pseudo-Hieroglyph (PH) bring new light to this hypothesis. The date of some epigraphic material has been revised since M. Dunand's work was published in 1945, and the knowledge of the scripts used in that geographical area has increased in the last five decades.

Practical Importance of the Problem

Based on the literature review, many hypotheses are found concerning the origin and transmission of the alphabet. Therefore, a need for reviewing this subject, with suggestions for new solutions, is appropriate. Although these hypotheses are based on common archaeological data, they are not united in the analysis of the data.

A connection seems to be present between hypotheses concerning the transmission of the alphabet. It is expected that through this investigation this correlation will be confirmed.

Literature Review

Before reviewing modern literature, it may be appropriate to start with the ancient writers, with regard to what they believed about the origin of the alphabet.

Ancient Writers

Herodotus stated that the Phoenicians introduced to the Greeks, among other arts, the Kadmeia or Phoenikeia grammata.¹

Diodorus Siculus maintained that the letters of the alphabet were brought from Phoenicia to Greece.² He further stated:

And in reply to those who say that the Syrians are the discoverers of the letters, the Phoenicians having learned them from the Syrians and then passed them on to the Greeks, and that these Phoenicians are those who sailed to Europe together with Cadmus and this is the reason why the Greeks call the letters "Phoenician."³

Pliny the Elder remarked:

I am of the opinion that the Assyrians have always had writing, but others, e.g. Gellius, hold that it was invented in Egypt by Mercury, while others think it was discovered in Syria; both schools of thought believe that Cadmus imported an alphabet of 16 letters into Greece from Phoenicia and that to these Palamedes at the time of Trojan war added the four characters Z Ψ Φ X, and after him Simonides the lyric poet added another

¹Herodotus History (trans. A. D. Godley, Loeb Classical Library, 3: 63-65).

²Diodorus Siculus The Library of History (trans. C. H. Oldfather, Loeb Classical Library, 3: 257).

³Ibid., 3: 297.

four Y Ξ Ω Θ, all representing sounds recognized in the Roman alphabet.¹

Plato, on the other hand, attributed the invention of the alphabet to the Egyptians, believing that the Egyptian god Theuth was the inventor.

The name of the god himself was Theuth. He it was who invented numbers and arithmetic and geometry and astronomy, also draughts and dice, and most important of all the letters.²

This evidence indicates that no archeological or linguistic data were used by the ancient writers to support their views. However, one thing is clear, they were closer to the past than we are, and thus far the archeological evidence suggests that these ancient writers were not completely wrong. Presently, it is accepted that the origin of the alphabet is related to the Egyptians; at least it was inspired by them.

Modern Writers Concerning the Origin of the Alphabet

There are several theories regarding the origin of the alphabet. Eight theories are discussed, each of which might have one or several supporters.

¹Pliny Natural History (trans. H. Rackham, Loeb Classical Library, 2: 635); see also 2: 270. He says, "The Phoenician race itself has the great distinction of having invented the alphabet and the sciences of astronomy, navigation and strategy," *ibid.*

²Plato Phaedrus (trans. H. N. Fowler, Loeb Classical Library, 1: 561-562); Tacitus supports this idea in Annals (trans. John Jackson, Loeb Classical Library, 3: 269), that the Egyptians were the inventors of the alphabet but the Phoenicians took it and carried it to Greece.

The Egyptian Theory

The Egyptian theory, not currently accepted, holds that the alphabet was invented in Egypt. It can be divided into three categories: (1) the Hieroglyph derivation of the alphabet suggested by Champollion and Lenormand, (2) the Hieratic theory supported by De Rouge and Ullman, (3) and the Demotic theory claimed by Bauer.¹ New light from the ancient world has changed these theories.

The Cuneiform Theory

H. Jensen states that Deecke suggested in 1877 the Cuneiform theory for the origin of the alphabet. Deecke tried to compare the cuneiform sign of the Assyrian script with the Phoenician linear alphabet. According to H. Jensen, this theory was developed in an unmethodical way. Deecke's theory was a complete failure.²

Although there exists a considerable amount of cuneiform alphabet inscriptions, there is no current theory suggesting that the Proto-Canaanite linear alphabet came from the cuneiform alphabet. On the contrary, all evidence indicates that the cuneiform alphabet was based on a alphabet already in existence in Syro-Palestine.

¹Hans Jensen, Sign, Symbol and Script: An Account of Man's Efforts to Write, trans. George Unwin, 3d ed. (London: George Allen and Unwin, 1970), 257-258; David Diringer, The Alphabet: A Key to the History of Mankind (New York: Philosophical Library, 1948), 195.

²Jensen, 258.

The cuneiform alphabet goes back to ca. 1400 B.C. and the sequence of letters is the same as the Phoenician alphabet. The former had twenty-nine to thirty letters while the latter had twenty-two.¹

The cuneiform alphabet is strong proof that the alphabet was in existence before 1400 B.C. and at that time the order of the letters was already stabilized.

The Cretan Theory

The Cretan theory arose with the discovery by Sir Arthur J. Evans in 1894 of the old Cretan inscriptions.² Evans believed that the Semitic alphabet was imported from Crete. H. Schneider adhered to this theory.³ Recently, Jan Best and Fred Woudhuize have demonstrated that Crete, on the contrary, imported its script from the Phoenicia coast.⁴

¹Hans Bauer, Das Alphabet von Ras Schamra: Seine Entzifferung und Seine Gestalt (Halle/Saale: Max Niemeyer Verlag, 1932), 49-56.

²Sir Arthur J. Evans, Script Minoan I (Oxford: Clarendon Press, 1909).

³H. Schneider, Der Kretische Ursprung des "Phoenischen" Alphabets: Die Wanderungen und Wandlungen der Sundlutsage (Leipzig: J. C. Hinrichs, 1913), 213.

⁴Jan Best, "The Oldest Scripts in Crete: Derivation, Development, Decipherment," chap. in Ancient Scripts from Crete and Cyprus, ed. Jan Best and Fred Woudhuize (Leiden: E. J. Brill, 1988), 1-29.

The Cyprus-Minoan Theory

F. Praetorius suggested a comparison between the Cyprus-Minoan script with the Old Phoenician alphabet.¹ This theory has not withstood the archaeological evidence. The Cypriot inscriptions are all from a later period than the Phoenician epigraphical material. Moreover, the Cypriot script is a Cretan descendant as shown by Best and Woudhuize.²

The Hittite Theory

A. H. Archibald Henry Sayce claimed that the Old Semitic script is an independent invention of persons familiar with the Hittite Hieroglyph.³ This theory lacks the support of archaeological and epigraphical evidence.

The Sinaitic Theory

It is traditionally accepted that the Egyptian Hieroglyphics motivated the invention of the alphabet somewhere in Syro-Palestine.⁴ This theory was based mainly

¹Franz Praetorius, Über den Ursprung des Kanaanaischen Alphabets (Berlin: Reuther and Richard, 1906) 21, cited in Jensen, 260.

²Best and Woudhuize, 55-98.

³Jensen, 260.

⁴Currently this is the most acceptable idea of the origin of the alphabet. This theory was supported at first by Sir Alan Gardiner, "The Egyptian Origin of the Semitic Alphabet," JEA 3 (1916): 1-17; J. Leibovich, "The Date of the Proto-Sinaitic Inscriptions," Le Museon 76 (1963): 201-205; W. F. Albright, "The Proto-Sinaitic Inscriptions and Their Decipherment," HTS 22 (1966): 1-45.

on (1) the Proto-Sinaitic (PS) script found in Serabit el-Khadem by A. M. Flinders Petrie¹ and (2) that the signs were acrophonically devised.² Those who invented it were Semites, who were working in the Egyptian mines in the Sinai Peninsula. The inscriptions are dated around 1500 B.C., based on the Egyptian artifacts found at the same site.³

This hypothesis may be questioned today. The point to be questioned is not the fact that the miners were Semites, but that this event marks the starting point of the origin of the alphabet. Inscriptions, affined to the PS script, have been found outside the Sinai Peninsula, at Gezer, Shechem, and Lachich,⁴ dating between 1700-1550 B.C.

The invention of the alphabet was inspired by the Egyptian script, but what is not known is its mediator and when this script was first used in Palestine.

¹W. F. Albright, "The Early Alphabetic Inscriptions from Sinai and Their Decipherment," BASOR 110 (1948): 6; Kirsopp Lake and Robert B. Blake, "The Serabit Inscriptions; I. The Rediscovery of the Inscriptions," HTR 21 (1928): 1-67; R. F. Butin, "The Proto-Sinaitic Inscriptions," HTR 25 (1932): 130-203.

²Gardiner, 1-17.

³Leibovitch, 201-205.

⁴Joseph Naveh, Early History of the Alphabet: An Introduction to the West Semitic Epigraphy and Paleography (Jerusalem: Magnes Press, Hebrew University, 1982), 26; Albright, "Early Alphabetic Inscriptions From Sinai and Their Decipherment," BASOR 110 (1948): 12. Albright states: "The three archaic inscriptions from Gezer, Lachich and Shechem belong unquestionably to the period between 1800 and 1550, to judge from texture of the Gezer ware and context of the two; it is likely that all three date between 1700-1550 BC," *ibid.*

As mentioned above, there are more Proto-Canaanite (PC) inscriptions dated before Serabit el-Khadem and these are located toward the central and southern part of Palestine, closer to the coastal cities than is Serabit el-Khadem. The coastal cities of Palestine had a strong relationship with Egypt and the Aegean Islands during or even before Serabit el-Khadem.

The Twelfth Dynasty Way of Writing
Foreign Names Theory

The Twelfth Dynasty way of writing foreign names hypothesis was recently proposed by B. Sass. He states that the dating of the inscriptions of Serabit el Khadem are too late and should be placed during the twelfth Dynasty and not during the Eighteenth Dynasty as established by W. F. Albright and J. Leibovitch. Sass believes that the alphabet was based upon the Twelfth Dynasty way of writing foreign personal names,¹ which used a kind of alphabetic script to write these foreign names. However, this system was abandoned. Moreover, acrophony was nothing new, for the

¹B. Sass, Studia Alphabetica: On the Origin and Early History of the Northwest Semitic, South Semitic and Greek Alphabets (Freiburg, Schweiz: Vandenhoeck und Ruprecht, 1991), 25. Sass said "It is now clear that influence in this direction could only have been exerted during the middle Kingdom, when foreign names were being written in an almost completely alphabetic system." Talking about the Egyptian alphabetic system, he says "It could transliterate 24 northwest Semitic consonants," *ibid.* 26.

Middle Kingdom Egyptians employed it in cryptographic writing.¹

This theory may be summarized as follow: The inventors were Semites living in close contact with Egypt during the Twelfth Dynasty, who saw the possibility of using just the alphabetic signs to form an independent alphabetic system which could stand on its own.

B. Sass's view concerning the relationship to the Egyptian Hieroglyph during the Twelfth Dynasty is worthy of consideration, but his date of Serabit el-Khadem inscriptions is questionable. There is enough evidence from the site that this place was used around 1500 B.C. and not during the Twelfth Dynasty, ca. 1800 B.C.

The Pseudo-Hieroglyph (PH) Theory

The Pseudo-Hieroglyph theory, designed by M. Dunand,² is intentionally left till last. Dunand's view is that the PH contains a Semitic language. E. Dhorme published a translation³ of all PH material then available. Dhorme

¹Ibid., 26.

²M. Dunand, Byblia Grammata, vol. 2 (Beirut, Lebanon: Ministere de L'Education Nationale et des Beaux-Arts, 1945).

³E. Dhorme, "Déchiffrement des inscriptions Pseudo-hiéroglyphiques de Byblos," Syria 25 (1946-48): 1-35. A more recent translation was made by George E. Mendenhall, The Syllabic Inscriptions from Byblos (Beirut: American University of Beirut, 1985), 1-129; G. Janssen, "Contribution au Déchiffrement des inscriptions Pseudo-Hiéroglyphiques de Byblos," La Nouvelle Cléo 7-9 (1955-7): 361-377.

arrived at the same conclusion that the PH was written in a Semitic language.

For Dunand, the PH, derived from an Egyptian influence, later guided the development of the Phoenician alphabet by the simplification of its syllabic script to a linear alphabet.

According to Dunand's theory, the main paleographic evidences for the gap between the PH script and the Phoenician alphabet are the Abdo inscription, the Shafatba'al royal inscription, and the Asdrubal spatula.

The main problem with this theory is that Dunand suggested that the Phoenician linear alphabet had as its predecessor the PH script. According to F. M. Cross¹ this is impossible because the Phoenician script can be fully traced from the Proto-Canaanite script of the Late Bronze Age. In addition, the dates used by Dunand for the Abdo, Shafatba'al, and the Asdrubal spatula inscriptions are too early. He dated these inscriptions to the seventeenth century B.C.

Although Dunand's thesis has not found adherents,² there is no reason to neglect this theory because the Proto-Sinaitic theory has never been satisfactorily demonstrated.

¹F. M. Cross, "The Origin and Early Evolution of the Alphabet," *EI* 8 (1967): 13, n. 30.

²Diringer, 206.

Modern Writers Concerning the
Transmission of the Alphabet

Another controversial issue, in the study of the development of the alphabet, is the date when the Greeks received or adopted the alphabet from the Phoenicians. The following theories are classified by the chronological order in which they were proposed.

1400 B.C.

The following thesis was presented by M. Bernal,¹ who provides an overall view of almost all implications, covering many alphabetic systems and a large geographic area. He maintains that the Phoenician or Levantine alphabet was transmitted westward around the middle of the second millennium B.C.

Bernal based this conclusion on two things: (1) the principle that a script is as old as its oldest letter, and (2) the new letters which existed in the alphabet of primary transition. These new letters had been dropped from the alphabet of the Levantine coast since the middle of the second millennium B.C. Therefore, this would explain why the Greeks had these letters whereas the Semites did not. According to him, these new letters were derived from the

¹Martin Bernal, Cadmean Letters: The Transmission of the Alphabet to the Aegean and Further West before 1400 B.C. (Winona Lake, IL: Eisenbrauns, 1990).

South Semitic, Thamudic, Sabaeen and Ethiopic alphabet.¹

His Paleographic conclusions about the date of the transmission of the letters are:

1. B Φ X Ψ Ω, before 1400 B.C.
2. A E I O Π Σ, before 1300 B.C.
3. K M, after 1000 B.C.

The weak link of this view is that Bernal based his assumptions on the ostraca found in Kamid el-Loz in Lebanon.² These are too badly damaged to use as a basis for definitive conclusions. Also, if the alphabet, according to Bernal, was transmitted by pieces or groups of letters, how could an alphabet be used without being complete?

1200 B.C.

The date 1200 B.C. is suggested by Émile Puech for the transmission of the alphabet. This is supported by the bowl of bronze found in Tekke, Knossos, dated about 1100 B.C. and by the evidence of the Phoenician presence in the Aegean Islands about the end of the second millennium B.C., (e.g. the Hala Sultan Tekke of Cyprus ca. twelfth century B.C.). Puech says, "Suivant l'intuition de J. Naveh que propose une date ca. 1100, on ose même suggérer plus précisément le date

¹Martin Bernal, "On the Transmission of the Alphabet to the Aegean before 1400 B.C." BASOR 267 (1987): 14.

²Sass, Studia Alphabetica, 97, n. 35.

ca. XII siècle,"¹ for the transmission to the Greeks. If the alphabet was adopted by the Greeks ca. 1200 B.C., how can we explain the similarities between the eighth-seventh century Archaic Greek with the ninth century Phoenician alphabets?

1100 B.C.

Joseph Naveh holds that the transmission of the Phoenician alphabet took place about 1100 B.C. According to Naveh the Greeks adopted the Semitic alphabet in a bilingual environment where Semites and Greeks lived as neighbors. This is based on some archeological evidence of a Greek settlement at Tell Sukas in Phoenicia (South Lebanon) ca. 900 B.C. He also bases his thesis on Phoenician inscriptions found in Cyprus and Sardinia dating to 900 B.C.² Further, Naveh stated that most of the features of the archaic Greek alphabet resemble those of the west Semitic script of ca. 1100 B.C. Based in this assumption he suggested an early adoption of the alphabet by the Greeks.

This theory is supported by F. M. Cross in the conclusion of his paper published in BASOR 238 (1980). He states:

¹E. Puech, "Présence Phénicienne dans les Iles à la Fin du II Millénaire," Revue Biblique 90 (1993): 395.

²Naveh, 184-185; idem, "Some Semitic Epigraphical Considerations on the Antiquity of the Greek Alphabet," AJA 77 (1973): 1-8.

These new data must be said to give added support to the thesis of J. Naveh for the high antiquity of the earlier use by the Greeks of the alphabet, and remove obstacles of dating their borrowing to the time of transition from old Canaanite to the linear Phoenician toward 1100 BC.¹

This theory has some weaknesses. Naveh did not explain the similarities of the eighth century B.C. archaic Greek alphabet with the Proto-Canaanite from the fourteenth-thirteenth century B.C. and the relationship of the ninth century B.C. Phoenician alphabet with the eighth century B.C. archaic Greek alphabet.

900 B.C.

The 900 B.C. hypothesis was presented by B. Sass, who, through Semitic epigraphical considerations, concluded that the borrowing could have taken place between 1000-900 B.C. He states, "The eleventh century is not, from a Semitist's view point, preferable to the tenth or ninth; the eighth century is impossible."² The evidence from the paleographic study in chapter three shows that the ninth century B.C. could only be the starting point for the independence of the Greeks alphabet from the Phoenician script, but not its adoption by the Greeks.

¹F. M. Cross, "Newly Found Inscriptions in Old Canaanite and Early Phoenician Scripts," BASOR 238 (1980): 17.

²Sass, Studia Alphabetica, 3.

800 B.C.

The date 800 B.C. was proposed by P. K. McCarter,¹ who believes that the Greeks started to experiment with the Phoenician alphabet ca. 1100 B.C., but did not develop an independent tradition until the beginning of the eighth century B.C. He agrees on certain points with both R. Carpenter and J. Naveh. In fact, this theory seems close to the reality that the borrowing was a process in time and not a punctiliar event in history. The only weakness of this theory is the lack of explanation for the relationship between twelfth century B.C. Phoenician inscriptions and those Syro-Palestinian and Aegean inscriptions found before this date and the implications of this relationship to the phases of borrowing.

¹P. Kyle McCarter, The Antiquity of the Greek Alphabet and the Early Phoenician Scripts, Harvard Semitic Monographs no. 9 (Missoula, MT: Scholars Press, 1975); idem, "The Early Diffusion of the Alphabet," BA 37 (1974): 54-78. This point of view is also supported by Javier De Hoz, "Algunas Consideraciones Sobre los Origenes del Alfabeto Griego," in Estudios Metodologicos Sobre la Lengua Griega, ed. J. A. Fernandez Delgado (Caceres, Spain: Instituto de Ciencias de la Educacion de la Universidad de Extremadura, 1983), 1-48; Allan Millard, "The Canaanite Linear Alphabet and Its Passage to the Greeks," Kadmos 15 (1976): 131-144.

Ca. Eighth Century B.C.

R. Carpenter states in his hypothesis that the date for the transmission was ca. 825-725 B.C.¹ He stands upon the comparison of three Semitic signs A, K, and M with their Greek counterparts. Although these letters may have close similarities, this is still not enough to make a solid statement about the date of transmission. Carpenter was the first to suggest that the borrowing took place in a bilingual environment.² Accordingly, this date was proposed because: (1) the earliest Greek letters resembled those of the Phoenicians from 800 B.C. and (2) Greek inscriptions were not found before this date.³

This does not mean that the process of borrowing could have started earlier. Moreover, the Greeks could have used perishable material which has not survived through the ages. In addition, this theory does not explain the Phoenician

¹R. Carpenter, "The Greek Alphabet Again," AJA 42 (1938): 65; idem, "The Antiquity of the Greek Alphabet," AJA 37 (1933): 8-29. The following writers support or come close to Carpenter's theory: L. H. Jeffery, The Local Scripts of Archaic Greece (Oxford: Clarendon Press, 1961), 1-416; R. M. Cook and A. G. Woodhead, "Archaeology Notes: The Diffusion of the Greek Alphabet," AJA 63 (1959): 175-178; John Day, "The Date of the Adoption by the Greeks of the Phoenician Alphabet," The Classical Weekly 28, no. 10 (1934): 73-80.

²R. Carpenter, "The Alphabet in Italy," AJA 49 (1945): 456.

³Carpenter, "The Antiquity of the Greek Alphabet," 8-29.

inscriptions found in the Aegean Islands dating earlier than the eighth century B.C.

Hypothesis

The expectation for this investigation about the origin and transmission of the alphabet can be summarized as follows:

1. The alphabet was not devised in a single day at a specific place; neither was its transmission. On the contrary, many elements, such as trade, warfare, and political and religious relationships, influenced both processes.

2. These processes also seem to have gone through several stages until the alphabet's complete adoption by the people in the Aegean Islands, Anatolia, and Italy.

Assumption

I have assumed that the dates of the epigraphic material commonly accepted by the scholars are correct, and that the archeological evidence for trade in the Mediterranean during that time is reliable.

Limitation

We are looking for a particular alphabet, the one which served as the foundation for the diverse scripts used in Palestine, and later on in Greece and Italy. The hint we have about the origin of the alphabet is that it most probably came from the Egyptian influence.

The period of time covered by this paper is between 2000-800 B.C. The geographic area is the Middle East, Aegean Islands, Greece, Italy, and Spain, or the shores of the "Great Sea."

One should take into account that in paleography we deal with a delicate and difficult matter, which can be summarized as follows: (1) There is no absolute certainty regarding epigraphic material found by archaeology; (2) new discoveries change the old hypotheses; (3) we are basically standing upon ideas and not facts about the transmission and origin of the alphabet. So far not enough material exists to have the last word on this subject. Therefore this paper does not pretend to bring a definitive solution.

The materials used in this research are those written by scholars on Semitic epigraphy and paleography. I have given priority to the more recent material, since much of the older contributions are out of date.¹

¹For a summary of the literature concerning the origin and transmission of the alphabet written between the 17th and 19th centuries see Mathias Delcor, "L'Alphabet Phénicien: Son Origine et sa Diffusion de Samuel Bochart à Emmanuel De Rouge: Trois Siècles de Recherches: XVII-XIX s," in Phoenikeia Grammata: Lire et Écrire en Méditerranée, ed. Cl. Baurain, C. Bonnet, V. Krings (Namur, Belgium: Société des Études Classiques, 1991), 21-33; B. S. J. Isserlin, "The Transfer of the Alphabet to the Greeks: The State of Documentation," in Phoenikeia Grammata, 282-291.

Research Methodology

This paper consists of three sections. First of all, the origin and evolution of the Proto-Canaanite alphabet is discussed and a new hypothesis is suggested.

The second part, the classification and analysis of the epigraphic material, is a paleographic study in order to see the variations among the stages of development and borrowing of the letters.

The last part concerns the hypothetical solution for the transmission of the alphabet to the Greeks. A new thesis as a tentative explanation for this process also is presented.

At the end of this paper, diagrams of Greek, Latin, and Anatolian alphabets are displayed to illustrate the widespread use of the alphabet.

Instrumentation

A paleographic study of the alphabet is necessary to understand the variations suffered by it. The material analysed in this study are those mentioned in the catalogue of inscriptions in chapter three.

Sampling

The documents used as a source for this research are grouped in twelve categories integrating the Pseudo-Hieroglyph, Proto-Sinaitic, Proto-Canaanite, Phoenician, and the Archaic Greek inscriptions. Further, other less

important scripts were taken into consideration with the aim of clarifying the background of the problem.

The epigraphic material upon which this paper stands has been selected from those found in the geographical area under study. Only those which may be read were used. In Addition, several alphabets used in the Mediterranean region, with their variations from the seventh and second centuries B.C., have been collected and compared.

CHAPTER II

THE ORIGIN OF THE PROTO-CANAANITE ALPHABET

The archeological and paleographic evidences are still too sparse to make a conclusive statement about the origin of the alphabet. Some understanding, however, may be derived from the material at hand.

The Phoenician alphabet from 1000 B.C. is well known through the epigraphic material from the Kings of Byblos. It is accepted that about the eleventh century B.C., the Proto-Canaanite (PC) alphabet became standardized, having all the characteristics of the Phoenician alphabet.

Earlier than the tenth century B.C., epigraphical materials are found scattered in many places of Syro-Palestine demonstrating that the people of this area knew the alphabet before its standardization. Sometimes the use of the alphabet is minimized in this region during the second millennium B.C.

This chapter presents answers to the issue raised by F. M. Cross concerning the origin of the alphabet, as he has stated, "It is proper to raise the question of influence of

the old Pseudo-Hieroglyphic system on the invention of the Proto-Canaanite alphabet."¹

Several scripts used in the Aegean and Levantine areas between 2000-1200 B.C. are examined, in order to clarify the background of the origin of the alphabet.

The Pseudo-Hieroglyphic Script

Byblos, a Phoenician city, seems the most probable place where the process of inventing the alphabet started. Byblos was a great commercial harbor, which had contact with Egypt, the Aegean Islands, and, in particular, Crete during the second millennium B.C.

It is confirmed that during the twelfth Dynasty, Byblos was Egyptianized.² The archeological reports of P. Montet and M. Dunand concerning their excavation at Byblos show that this city was influenced by Egyptian culture in almost all activities of daily life, such as commodities, religion, politics, and their system of writing.³

¹Cross, "The Origin and Early Evolution of the Alphabet," 12, n. 30.

²Jan Best, "The Intrusive Languages in the Proto-Linear Byblos, Linear B and C Scripts," chap. in Lost Languages from the Mediterranean, ed. Jan Best and Fred Vauhuizen (Leiden: E. J. Brill, 1989), 35.

³Pierre Montet, Byblos et L'Egypte: Quatre campagnes de Fouilles a Gebal, 1921, 1922, 1923, 1924, 11 vols. (Paris: Librairie Orientaliste Paul Geuthner, 1929); M. Dunand, Fouilles de Byblos 1933-1938, 2-3 vols. (Paris: Librairie D'Amérique, 1950).

This system of writing was labelled as "Pseudo-Hieroglyphic" (PH) because of its similarities with the Egyptian Hieroglyphs. M. Dunand dated this script between the end of the third and the first part of the second millennium B.C.¹ during the Egyptian Middle Kingdom (2040-1991 B.C.). However, this date is still debated.

A crystalline example of Egyptian influence upon the writing system of Byblos is the stamp seal known as Byblos 6593.² (See table 1.)

This seal also suggests a connection of the PH script with the Cretan pictographic script, which already existed in a parallel development with the PH script since 2000 B.C.³

¹Dunand, 193.

²Victor E. G. Kenna, "The Stamp Seal Byblos 6593," Kadmos 9 (1970): 95. According to Kenna, this seal was made out of steatite. Its size is 35 mm square. There are 15 characters written on this seal which represent letters. This stamp was found associated with the temple complex of Byblos, and the layer where it was found was dated to LM I (Late Minoan I) around 1500-1450 B.C.

³Jan Best, "The Oldest Scripts in Crete," 3. "Suffice is to say that the sudden appearance of affined pictographic scripts in Byblos and Crete around 2000 BC would be best explained as a major result from the trade between the production centers of tin in Cornwall and Bohemia and the main consumers Mesopotamia and Egypt, a trade from which . . . the sea-faring towns in Crete and Phoenicia must have profited most in their capacity of the most important intermediaries on the trade line," *ibid.*

TABLE 1

A COMPARISON BETWEEN THE EGYPTIAN HIEROGLYPH,
CRETAN SCRIPT, AND BYBLOS 6593

Byblos 6593	Egyptian Hieroglyph	Cretan script	Byblos 6593	Egyptian Hieroglyph	Cretan script

Source: Victor E. G. Kenna, "Stamp Seal Byblos 6593," *Kadmos* 9 (1970); 95; Sir Arthur Evans, *Scripta Minoa I*, Oxford: Clarendon Press, 1909, 232-233.

Cretan Script

The evidence indicates that the Cretan script was based on the Byblian pictographic script and the Egyptian Hieroglyphs.¹ Table 1 shows a comparison between the Egyptian Hieroglyphs and the Cretan script based on the seal Byblos 6593.²

The Cretan pictographic script was the source of two linear descendants which show traces of the Egyptian Hieroglyph and Akkadian cuneiform and also relate to the old Phoenician script (see table 2).

In table 2 the first column holds the transliteration of the signs. In the second column the first five signs are Egyptian, the next seven signs are cuneiform, and the last, an old Phoenician sign. The third column contains the Cretan pictographic script (P). The next two columns present the Linear A and B (A, B) scripts. The last column is the translation of Linear A and B.

Sir Arthur Evans distinguished the three kinds of scripts used in Crete during the Bronze Age:³ (1) the
















































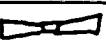



¹Best and Woudhuizen, Ancient Scripts, 111. Best and Woudhuizen said: "It has been stated that two related different pictographic scripts had been imported in the island from Phoenicia around 2000 B.C. and that the one linear successor of them, linear A, was used in Crete henceforward, whilst the linear successor of the other originally Phoenician pictographic script was continued in Ugarit, but not in Crete," *ibid.*

²Kenna, 95; Evans, 1: 232-233.

³Evans, 1: 1-291.

TABLE 2

COMPARISON BETWEEN CRETAN SCRIPTS AND THE EGYPTIAN,
CUNEIFORM, AND OLD PHOENICIAN SIGNS

Transliteration of sign	Signs	Cretan pictograph	Linear A	Linear B	Translation of A & B
1 írþ	<u>Egyptian:</u> 				wa
2 bnt					bu
3 thnt					ti
4 šs					sa
5 rh(y)t	 <u>Cuneiform:</u>				ra
6 pa					pa
7 na					na
8 taš					te
9 ni					ni
10 dī					di
11 pēš					pe
12 i 16					i
13 aššara	<u>Old Phoenician:</u> 				a

Source: Jan Best, "The Oldest Script from Crete: Derivation, Development, Decipherment," chap. in *Ancient Script from Crete and Cyprus*, ed. Jan Best and Fred Woudhuizen, Leiden: E. J. Brill, 1988, 13.

pictographic script used in seals and in the Phaistos Disc (2000 B.C.); (2) the Linear A script (2000-1500 B.C.) which was a reduced form of the former, both existed as parallel scripts for several centuries; and (3) the Linear B script (1500-1150 B.C.) which supplanted the former (See table 2). The first two scripts were used by the Minoan civilization in Crete, whereas Linear B was employed by the Mycenaean civilization in Crete and on the mainland of Greece. The Linear B script was written in a Greek dialect whereas Linear A was written in a Semitic language.

Crete was populated in the Bronze Age, first by the Minoan civilization (2000-1450 B.C.),¹ then by the Mycenaean people (1450-1200 B.C.),² and lastly by the Greek and Phoenician colonies. The Minoan civilization could have been a mixture of native Cretans and Semites, as can be seen by the language of the Linear A script.

Cypriot Script

A script also has been found in Cyprus called Cyprus-Minoan, dated around 1500 B.C. (see table 3). It is related to Linear A from Crete and is, possibly a descendent of it.

¹It is the period of the Palatial Age in Crete. The exact date for the Minoan civilization is still debated.

²P. M. Warre, "3000-1400 BC Immigration and the Archaeological Evidence," in Bronze Age Migrations in the Aegean, ed. R. A. Crossland and Ann Birchall (London: Duckworth, 1973), 41-49.

The most interesting paleographic finding relating to the Cretan script was unearthed not on an island but on the Levantine coast at Ugarit. It is a clay tablet with a script closely resembling the Cyprus-Minoan script; however it is older than the Cyprus-Minoan script.¹ This might indicate that the Cypriot syllabary came from Crete through Ugarit, an emerging cultural center ca. 1500-1400 B.C.

Proto-Sinaitic Script (PS)

Although the current idea that the alphabet was invented at Serabit el-Khadem can be questioned at present, the Sinaitic inscriptions are still of tremendous value. They are one of the few examples of that stage of the alphabet in that area.

A clear relationship between the PS script and Byblos is found in the translation of one word of the Sinaitic inscriptions. Many scholars agree with its translation. This word is 𐤀𐤁𐤁, who was the main goddess of Byblos, called in other inscriptions as 𐤁𐤁𐤀𐤁𐤁, the goddess of Gebal, or the Lady of Byblos.²

¹Johr. Chadwick, Reading the Past: Linear B and Related Scripts (Los Angeles: University of California Press, 1987), 52.

²Sabatini Moscati, The World of the Phoenicians (London: Weidenfeld & Nicolson, 1968), 31-32. Moscati said "At Byblos the principal deities were El, Baalat, whose name means 'Lady' and who reappears as the dominant deity of the city (Baalat Gebal, Baalat of Byblos). . . . Baalat . . . corresponds basically to the Earth mother who symbolizes fertility, regarded as the genetrix of the gods and men as well as the plants," Nina Jidejian, Byblos Through the Ages,

TABLE 3

COMPARISON BETWEEN THE CRETAN AND CYPRUS-MINOAN SCRIPTS

Cyprus-Minoan	Translation of Cyprus Minoan	Linear A	Linear B	Translation of A & B
+	lo	+	+	ro/lo
⌊	na	⌊	⌊	na
≠	pa	≠	≠	pa
⌋	po	⌋	⌋	po
γ	sa	γ	γ	sa
μ	se	μ	μ	se
⌈	ta	γ	⌈	da
F	to	F	F	to

Source: John Chadwick, Linear B and Related Scripts (Los Angeles: University of California Press, 1987), 53.

This indicates that the miners were acquainted with the cult of this goddess. Probably they were not a mere group of slaves, but hired persons brought by the Egyptians from Byblos, who knew the geographic area as well as the language of the inhabitants of this region.

Therefore a religious connection exists between Serabit el-Khadem and Byblos. In addition, there are many related signs in these two systems--the PH and PS scripts--confirming their mutual connection.

The explanation for the differences between the signs of the PS script and the PH and PC scripts, would be perhaps because they were writing in a different Semite dialect. The Canaanite tribes may have used different signs which could express their own language such as the Linear A in Crete which had two different descendant scripts: the Linear B and the Cyprus-Minoan scripts. In fact, the descendants of the Cretan script have variations when compared with their common ancestor.

At first, Serabit el-Khadem may have had contact with Byblos, but later on, due to geographic and political barriers, each developed a separate tradition of writing. After branching off, each one had a stronger relationship

(Beirut: Dar El-Machreq, 1968), 17-18. According to her, the temple of Baalat-Gabal at Byblos was built around 2800 B.C. This temple underwent several stages of construction. The first one is dated from the time of the reign of Djoser (3rd dynasty). Baalat-Gabal was represented in art in a manner similar to the Egyptian Hathor-Isis.

with Egypt than to the other. The PS script did not prosper. On the contrary, it died out with the mines or gave origin to the South Semitic scripts.

Implications of These Writing Systems

The relation among these scripts indicates that the nations of that area--Crete, Byblos, Ugarit, Cyprus and other cities of the Levantine coast and the Sinai Peninsula--had an interrelationship not just in trade, but also in culture, religion, and language during the second millennium B.C.

This was a geographic area employing different and complicated kinds of scripts with hundreds of signs: cuneiform, Egyptian and Hittite Hieroglyph, and the PH from Byblos. On the one hand, the PH script was influenced by all of these scripts; on the other hand, the PH script influenced the Cretan script. The PH script had a repertoire of about one hundred and fourteen signs, according to Dunand. However, Mendenhall suggested sixty-three signs.¹ It was less complicated but still had its problems.

For Phoenicians, writing was not something new. Although there were many types of writing systems, none were suitable and practical enough to be learned and used by

¹Mendenhall, 14. "Many signs listed in BG as distinct signs, and which were treated as such in the initial stages of decipherment, were in fact merely graphic variants," *ibid.*



seafarers in trading or for recording merchandise aboard ships. The market was growing and the Phoenician towns were increasing in commercial power. Therefore, the need increased for an innovative system.

The scripts from Crete, Cyprus, and Byblos were all syllabic (ca. 2000-1500 B.C); However, only the first two, Cretan and the Cypriot scripts, had isolated the five vowel sounds, A, E, I, O, U, (see table 4). The syllabic script from Byblos (PH), however, had some indication of the use of the vowel letters "Matres Lectionis,"¹ but did not have isolated vowel sounds. When the Greeks received the alphabet from the Levant, they may have adopted the Cretan system for their vowel sounds.

TABLE 4

VOWEL SIGNS IN THE CRETAN AND CYPRUS-MINOAN SCRIPTS

Scripts	A	E	I	O	U
Linear A					
Linear B					
Cy-Minoa					

¹Dhorme, 13. "Dans ma communication du 27 septembre 1946 j'ai déjà insisté sur le fait que le scribe de la tablette d marquait une certaine propension à l'alphabet pur, en recourant aux matres lectionis," *ibid.* Also, the Egyptians had some use of the "Matres Lectionis" in their Pseudo-Alphabet. The Egyptian sign w () and the reed sign () a, i were used to represent a vowel sound; see Sass, *Studia Alphabetica*, 1991, 21.

The Cretan syllabary may have branched off from the PH of Byblos. After having separated from Byblos, both of them had an independent yet parallel development.

Moreover, if the PH script was based on the Egyptian Hieroglyph, the Byblian scribes must have been aware of the Egyptian "Pseudo-Alphabet" which was used to facilitate the writing of foreign names.¹

Origin of the Alphabet

The problem in determining the origin of the alphabet is the lack of documentation which can prove conclusively the impact suffered by the alphabet from one stage of development to another more complex.² It does not seem that the alphabet originated *ex nihilo*. It was based on a script already in existence.

The paleographic material which can be an intermediate connection between the two stages of development is the so-called "enigmatic inscription" from Byblos. Written on stone, and having three lines of inscription, its left side

¹The Byblian scribes knew the Egyptian alphabet and how it was employed. The Pseudo-Alphabet was used especially during the 12th and 18th Dynasties to write foreign names. However, it was used to write the names of the Pharaoh on cartouche throughout the Dynasties.

²This concerns all stages. It seems that the alphabet jumped from one stage to another without leaving any trace of transition. Also, this indicates that the alphabet was not transmitted in its beginning, but only after having a definite value for its use.

Some of the signs of the PH script resemble those from the PS and the PC signs (see table 5).

The scribes of Byblos were acquainted with the Egyptian Hieroglyphs. Therefore, for purposes of inventing their syllabary, they used the achrophonical principle to devise the syllables of this script.

The scribes of Byblos were familiar with the acrophonical principle. It may be seen in the seal Byblos 6593 that the scribe who wrote it knew enough of the Egyptian language to devise new syllables by using this principle. Further, in Crete, which had commercial relationships with Byblos at that time, this principle was used to conceive some signs of their syllabary. An example in Crete is the syllable wa,¹ which came from the first syllable of the Semitic word wainu. The sign for this syllable was taken from the Hieroglyph sign for vine. (See table 2.)

The scribes at Byblos used what they had at hand. By acrophony they assigned new values to the Egyptian or Old Phoenician pictographic signs, but they were still syllables. This can be seen in the PH syllabary from Byblos. The real innovation came later as a second step toward the simplification of the script. A new scribal school influenced by the PH script, somewhere in the

¹Best and Woudhuize, "The Oldest Scripts," 15.

TABLE 5

COMPARISON OF THE PH SCRIPT WITH THE EGYPTIAN HIEROGLYPH,
PROTO-CANAANITE, AND PROTO-SINAITIC ALPHABETS

Aramaic Alphabet	Egyptian Hieroglyph	PH script	Proto-Canaanite	Proto-Sinaitic
א		א ל א	א א א	א
ב				
ג		1		ל
ד		ד א	ד	
ה		א א א	א	א א
ו	ו	ו	ו?	ו
ז		ז	ז	=
ח		ח	ח ח ח	ח ח ח
ט		ט	ט ח ט	ט ט
י		א א א	א א	א
כ		כ	כ ר כ	כ
ל		ל	ל ר ל	ל ר ל
מ		מ	מ מ	מ מ
נ		נ	נ נ	נ נ
ס		ס		
ע		ע	ע ע ע	ע ע
פ		פ ע		

Table 5--Continued.

3		54	Y	
r		00	9	8
-	0	4	P	909
3		w	{w}	w x
.		+	+	+

hinterland of Palestine,¹ undertook this second step. They applied the acrophonical principle in the syllable of the PH syllabary already obtained by this same rule devising in this way new isolated consonants. An example of this is the PH sign (𐤁) meaning "house" as an ideogram, or *ba-yi-tu* spelled out. In the first step (Pseudo-Hieroglyph) they devised the syllable *ba* by achrophony, and in the second step the consonant *b* was devised through this same principle. This was a second step toward the simplification of the script.

1. Ideogram (𐤁) *ba-yi-tu*
2. First step (𐤁) *ba* = syllable
3. Second step (𐤁) *b* = consonant.

I doubt that, having these signs in the PH syllabary as a syllable, they would return to the cumbersome Egyptian Hieroglyph.² (See table 6.)

Another factor which contributed for the development of the alphabet was that all languages are in continual transformation throughout their lifespan. These

¹This is supported by the alphabetic epigraphical evidence found in Palestine from 1700 to 1500 B.C.

²M. Martin, "Revision and Reclassification of the Proto Byblian Signs," *Orientalia* 31 (1962): 351. Martin wrote regarding the signs for water, house, eye, head, hill country and door that "these signs were in use in Phoenicia during the Evolutionary period of the Phoenician consonantal alphabet. It is geographically and palaeographically improbable that no connection existed between them and the later Phoenician counterparts as between parent-sign and subsequent development," *ibid.*

transformations may be due to some loanwords from another language, differences in spelling or pronunciation of a word, etc. Changes are more acceptable in spoken language than written. Written record becomes standard for literate people. This is clearly indicated by the spoken language of the common people. The Tell el-Amarna tablets are a good example of this social linguistic phenomenon (ca. 1500-1400 B.C.). They have preserved the case endings in the Canaanite nouns in the absolute state and before pronominal suffixes, e.g., *ba-di-u* "in his hand." This was due to archaism, according to J. Blau, whereas in the spoken language they had already disappeared.¹

The intellectual level of the society strove to keep the language as pure from modification as they could. The power was in the hand of those who knew the complicated system of writing. Therefore, they would be better served by keeping it as difficult as they could. However, the

¹Joshua Blau, "Some Difficulties in the Reconstruction of 'Proto-Hebrew' and Proto-Canaanite," in In Memoriam Paul Kahle, ed. Mathew Black and George Fohrer (Berlin: Verlag Alfred Töpelmann, 1968), 35. Blau says: "This assumption is supported by the fact that in *el Amarna* the case endings, though often used in accordance with Classical usage, are frequently misused," *ibid.* Idem, A Grammar of Biblical Hebrew, *Porta Linguarum Orientalium*, Series 12 (Wiesbaden: Otto Harrassowitz, 1976), 30. Blau states: "As for the dropping of the final vowels, it took place apparently in three stages. At first, nouns in *status constructus* dropped their final vowels, then verbs and at last nouns in *status absolutus*," *ibid.*

TABLE 6

COMPARISON BETWEEN THE FIRST AND SECOND STEPS OF
SIMPLIFICATION OF THE PH SCRIPT





























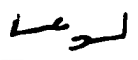

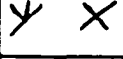
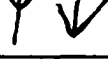










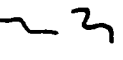
Aramaic Alphabet	Egyptian Hieroglyph	PH	Syllable 1st. step	PC	PS	Letter 2nd step
ʾ			'a			'
			'i			
			'u			
ב			ba			b
ג			ga			g
ד			da			d
			du			
			du			
ה			hu			h
ה			ha			h
			hi			
י			yu			y
כ			ki-ku			k
			ma			
מ			mu			m
			mu			
נ			na			n

Table 6--Continued.

		𐌲	nu			
𐌺		F	sa			s
𐌻	𐌺	𐌺	'a	𐌺𐌺	𐌺𐌺	'
		𐌷	'u			
𐌼	𐌺𐌺	𐌺	pu			p
		𐌶	si			
𐌽		𐌺	qa	𐌺	𐌺	q
'	𐌺	𐌺	ra	𐌺	𐌺𐌺	r
		𐌺	ru			
𐌾		𐌺	sa	𐌺𐌺	𐌺	s
𐌿		+	tu	+	+	t

spoken language changed despite this effort.²

The Egyptian Hieroglyph is associated with the priests and nobles of Egypt. The Cuneiform script was used by the bureaucratic and diplomatic systems of the Mesopotamian empires. The Pseudo-Hieroglyph was employed by a well-trained school of scribes.² The Cretan syllabary is strictly related to the palaces, and the Linear B is related to the high class of the Mycenaean civilization in Greece and Crete.³

These scripts would be in existence only with the social class which supported them. With the breaking down of the LB Age culture, these social classes disappeared or at least decreased in influence. Then, small scribal schools of Palestine, which had acquired their literary independence from the PH script, had their opportunity. They had been in existence since 1700 B.C. or before as

¹Blau, "Some Difficulties in the Reconstruction of 'Proto-Hebrew' and Proto-Canaanite," 35. Talking about the case endings of the el-Amarna tablets, Blau said, "*Had the Canaanite case endings, which exactly paralleled the Accadian one, still been in living usage, the Canaanite scribes would not have encountered any difficulty in learning the Accadian ones,*" *ibid.*

²This may be observed by the type of material used by them, e.g., plaque of bronze.

³Sterling Dow, "The Linear Scripts and the Tablets as Historical Documents of Literacy in Minoan and Mycenaean Lands," chap. in The Cambridge Ancient History, 3d ed., vol. 2, part 1 (Cambridge: Cambridge University Press, 1988), 2: 589. "In Minoan and Mycenaean lands writing eventually became one principal and distinctive feature of the palaces," *ibid.*

demonstrated by the evidence.¹ They had developed a system of writing which could denote the common dialects spoken in the hinterland of Palestine.² This is seen at Ugarit where they developed a cuneiform alphabet based on an alphabetic script, which was used in Palestine to express their Semitic dialect.³

In Palestine, the spoken language developed in such a way that it would have been difficult to write with the existing complicated scripts. Two things possibly happened: (1) the high class of Palestine, primarily the coastal cities, was influenced by the Akkadian language used in bureaucratic and diplomatic affairs, while (2) the dialects of the commoners began to distinguish in spoken language some isolated consonants, mainly at the end of a word which ended with an open syllable with a short vowel, e.g., to eat: *akâlu* = אָכַל, to go down: (w)arâdu = יָרַד, to sit down:

¹As mentioned above there is enough evidence indicating literary skills in Palestine concerning the use of an alphabetic system since 1700 B.C.

²The language of the peasant could be the local dialects of Palestine.

³J. Blau, "Some Difficulties in the Reconstruction of 'Proto-Hebrew and 'Proto-Canaanite,'" 36. For instance the well-known Canaanite sound *a > ô* did not reach Ugarit; Ziony Zevit, Matres Lectionis in Ancient Hebrew Epigraphs, ed. D. N. Freedman (Cambridge: American Schools of Oriental Research, Monograph Series no. 2, 1980), 3. However, they had vowel letters in their alphabet *matre lectionis*. Several places adopted this cuneiform alphabet. The scribes who used this alphabet were acquainted with the way in which the standard Ugaritic orthography used the *matres lectionis*, and this might have influenced them when they switched to the linear alphabet.

(w)asābu = 𐎗𐎠𐎢𐎣 , brother: ahu = 𐎠𐎫. This phenomenon also happened with the colloquial late Akkadian dialects.¹

Therefore, the Canaanite scribes realized that they could have isolated consonants by dropping the final case ending of the word. This already had happened with the spoken language; now it should be applied to the writing system. In this way, the scribes were able to devise isolated consonants from the syllabary with which they were acquainted. These two innovations gave rise to the Proto-Canaanite alphabet: (1) the application of the achrophonical principle on the syllables which they had; and (2) the dropping of the case endings in words with a final short vowel. This process could have started very early in the formation of the Proto-Canaanite alphabet, ca. 1700-1550 B.C.

Consequently, the invention of the alphabet was a process progressing from the North coast toward the South. When it reached the Sinai Peninsula, the alphabet was already well known in Palestine. This is evident from the

¹Stephen A. Kaufman, "The Akkadian Influences on Aramaic," Assyriological Studies 19 (1974): 148. Kaufman said: "If the final short-vowel case endings had still been in use in the late Akkadian, one might expect at least some clue to their existence in the Aramaic forms of the loanwords; but not Aramaic forms of Akkadian loanwords whose absolute forms end in a consonant give any indication of any case ending. Thus the evidence supports the generally accepted belief that the case endings had disappeared in the colloquial late Akkadian dialects," *ibid.*

epigraphical material found in Central and South Palestine and closely related to the PS script.

The Canaanites of the Levantine coast had all the tools necessary for the development of an alphabet:

1. The Pseudo-Hieroglyph script as their basic source for their signs
2. The acrophonical principle used in Egypt during the twelfth Dynasty and in Crete
3. The example of writing foreign names in Egyptian "Pseudo-alphabet"
4. Isolated consonants originating from the dropping of the final case ending
5. Most importantly, the need for a more practical script to express their dialects.

The extent of the use of this alphabet is not completely known, due to a lack of sufficient archeological evidence.² In South and Central Palestine, on the contrary, several witnesses to one old alphabet were found.

²George E. Mendenhall, "A New Chapter in the History of the Alphabet," BMB 24 (1971): 13-18. An inscription was found in Tell Jisr in the Southern Biq' of Lebanon in the winter of 1965-66 by Mr. Tom McClelland. According to Mendenhall, this inscription is either identical to or closely resembles the signary of the Byblos PH and is related to the Linear A and B, *ibid*; G. Horsefield and L. H. Vicent, "Chronique: Une Stele Egypto-Moabite au Balou'a," RB 41 (1932): 416-444, suggest that this stela should be dated between Thutmose III (1490-1436 B.C.) and Merneptah (1225-1215 B.C.). Its writing resembles the South-Semitic, the Pseudo-Hieroglyph as well as the Cypro-Minoan scripts. I would place it in the beginning of the reign of Thutmose III.

These are: The Lachish dagger (1700 B.C.), the pot sherd from Gezer (ca. 1650 B.C.); the Nagila sherd (1650 B.C.); and the plaque from Shechem (1550-1400 B.C.).¹ These four witnesses were written in a clear linear alphabetic script.

Another later witness relating to this time is the cuneiform alphabet used at Ugarit and occasionally elsewhere, e.g., Tell Nebi Mend, Tell Sukas, Sarephath in Phoenicia, Kamid el-Loz, Beth Shemesh, and Ta'nach.² These inscriptions are from the fourteenth century B.C., and according to Isserlin they may have been invented earlier.³

These cuneiform inscriptions are the evidence that the sequence of the letters of the alphabet goes back to the fourteenth century B.C. The cuneiform alphabet was based on a linear alphabet in use in that area.⁴ Therefore, there

¹For the date of this material, see Benjamin Sass, The Genesis of the Alphabet and Its Development in the Second Millennium B.C., in Agypten und Altes Testament, no. 13, Wiesbaden: Otto Harrassowitz, 1988, 155.

²W. F. Albright, "The Beth Shemesh Tablet in Alphabetic Cuneiform," BASOR 173 (1964): 51-53; Elihu Grant, "Beth Shemesh in 1933," BASOR 52 (1933): 3-5; F. M. Cross, "The Canaanite Cuneiform Tablet from Taanach," BASOR 190 (1968): 41-47; D. R. Hillers, "An 'Alphabetic Cuneiform Tablet from Taanach (TT 433)," BASOR 173 (1964): 45-50; E. A. Speiser, "A Note on Alphabetic Origin," BASOR 121 (1951): 17-21; E. Puech, "Origine de L'Alphabet: Documents en Alphabet lineaire et Cunéiforme du II Millénaire," RB 93 (1986): 201-205; Cross, "The Origin and Early Evolution of the Alphabet," 9.

³B. S. Isserlin, "The Earliest Alphabet Writing," in CAH 2d ed., part 1 (Cambridge: Cambridge University Press, 1982), 3: 802.

⁴Robert R. Stieglitz, "The Ugaritic Cuneiform and Canaanite Linear Alphabets," JNES 30 (1971): 135.

was a stabilized alphabet before 1400 B.C. in Central, North, and Syro-Palestine.

Conclusion

If the PS inscriptions are dated to the twelfth Dynasty around 1800 B.C., the miners of Serabit el-Khadem were using a script currently in the process of development throughout southern, central, and north Palestine. We may say that this process began close to Byblos or North Palestine and moved toward the South. However, if the date of PS inscriptions is around 1500 B.C., the Semites of the Sinai mines were using an alphabet which had been in use for several centuries in Palestine. Consequently, Serabit el-Khadem is automatically discarded as the original birthplace of the alphabet.

Concluding this analysis, it can be said that the alphabet idea arose in the coastal cities of the Levant, especially Byblos. A new scribal school branched off from the Byblos syllabary (PH), developing a linear script in the hinterland. Both scripts were used at the same time,¹ until the former completely replaced the latter. This was the origin of the Proto-Canaanite alphabet.

¹G. R. Driver, Semitic Writing: From Pictographic to Alphabetic, rev. ed. (London: Oxford University Press, 1976), 93. "There are also from the same place a spatula of bronze with traces of pseudo-hieroglyphic signs on one side and a Phoenician inscription on the other side," Dunand, Byblia Grammata, 85, 135.

Thus, the PC alphabet was not an instantaneous invention but a development based upon a script which was in use at that time. There was no single date for this development, but a span of time in which the process took place. Through the evidences we conclude that this span of time was between 1700-1550 B.C. Although the evidence is minimal, it adds support to this hypothesis.

In fact, parallel developments, after branching off from a common source, was very normal at that time and also later on. For example, the epigraphic material from Lachish dated around 1300 B.C. has some similarities and differences with the PS and the PC scripts from other sites. These areas may have spoken different Semitic dialects.

In addition, this phenomenon can be seen among the Hebrews, Ammonites, Moabites, and Edomites. When they adopted the Phoenician alphabet, they kept this script for a period of time. However, when they acquired their own scribal tradition, they branched off from their common ancestors developing several variant alphabets with their own peculiarities.¹

¹Larry G. Herr, "The Formal Scripts of Iron Age Transjordan," BASOR 238 (1980): 31-32. Herr stated: "By the 9th century there were three scripts in use by the northwest Semitic peoples of the Levant: Phoenicians (the Phoenician city states and the colonies), Aramaic (the Aramaic kingdoms and Ammon), and South Palestine (Israel, Judah, Moab, and Edom). By the 7th century, however, there were separate individual scripts in use by each of the national groups of Transjordan: Ammon, Moab, and Edom," *ibid.*

Also, it is well known that the Greek dialects had variations in their scripts as well as in the Italic and Anatolian alphabets. However, all of these seem to have had the same source for their scripts, either through a direct or an indirect borrowing.

In some ways, this also could have happened with the PH script. Several schools of scribes branched off, having a parallel development, some of them converging later on, whereas others remained in isolation.

Another point is the term 𐤀𐤁𐤃𐤁 found in the PS inscriptions. According to Obermann, these words are found in an ostrakon from Lachish ewer,¹ and Puech suggests that the name of this goddess is written in the Lachish fragment from 1400 B.C.² Also, in the inscriptions of the Kings of Byblos (e.g., *Yehimilk* royal inscription), these words appear.

The people who wrote these inscriptions had an affined religion, culture, and language that may be the source for their similar scripts.

The problem with Dunand's theory was the high dates for the Phoenician inscriptions.³ Consequently, his

¹Julian Obermann, "The Archaic Inscriptions from Lachish," supplement to JAOS 2 (1938): 15.

²Puech, "Origine de L'Alphabet: 185.

³Cross, "The Origin and Evolution of the Alphabet," EI 8 (1967): 10. "In his *Biblya Grammata* (1945), Dunand actually dated the 'Abda' sherd to the 17th century, the Shiptiba'l inscription to the 17th-16th century, more than a

statement that the Phoenician alphabet was related to the Pseudo-Hieroglyph (PH) script is not correct.

Also, I disagree with him concerning the Proto-Sinaitic (PS) script. For Dunand, it was a parallel development having nothing to do with the PH script. The only relationship is that both existed at the same time and were based upon a common source. On the contrary, I suggest that the PS script was a parallel development which had branched off from a linear alphabet devised or inspired by the PH from Byblos ca. 1700-1550 B.C. This confirms what Cross said:

While it is clear that the Proto-Canaanite Pictographic script arose under direct or indirect influence of Egyptian Hieroglyphic, this inspiration may have been mediated by the Pseudo-Hieroglyphic syllabary.¹

half millennium early!", *ibid.*

¹*Ibid.*, 13.

CHAPTER III

ANALYSIS OF THE PALEOGRAPHIC MATERIAL

For a better comprehension of this investigation, some important technicalities for dating epigraphic material are presented. These features are basic for the analysis, classification, and dating of the evidence and should be carefully observed in each individual epigraphic material.

Basic Rules for Dating Paleographic Materials

These technicalities are related to small details found in an inscription, like a stroke, the direction of the writing, or the form of the letters. If due attention is not given, an incorrect date may be conferred on the material under study. The details to be observed include:

1. Word-divider:¹ The earliest word-divider is a vertical stroke (|). Examples are found on the Tell el Nagila sherd (ca. 1600 B.C.) and Lachish bowl (ca. 1300 B.C.). Later it became several strokes or dots, usually three (/ / /). Examples are found on the Lachish ewer (1300 B.C.), some Archaic Greek (700 B.C.) inscriptions kept this feature. The latest word divider is represented just as a

¹J. Naveh, "Word Division in the West Semitic Writing," IEJ 23 (1973): 206-208.

single dot (.). Examples are the Mesha stone (850 B.C.), and the Siloam inscription ca. eight century B.C. Some inscriptions may have blank spaces between words, for example, the Karatepe stela and the Saqqarah papyrus. Only the Phoenicians preserved the continuous writing, as that found in Punic and Neo-Punic inscriptions.¹

2. The direction of writing: Vertical writing disappeared ca. 1100 B.C. Writing from right to left was standardized around the eleventh century B.C.² The right-to-left direction caused a rotation of ninety degrees in the signs. The *βανστροφεδον* way of writing, which is the act of writing the first line in the usual way, while the second line is written in an opposite direction, was used in old Canaanite, but disappeared before 1100 B.C., is found in the Archaic Greek inscriptions from the seventh century B.C.

3. Paleographic study of each letter: This consists of a thorough analysis of variations found in the inscription under study in relationship to other paleographic materials already known. Examples of this are:

- a. The five strokes *mem* emerged ca. 1100 B.C. and was rotated ninety degrees in comparison with its PH and PS counterparts.

¹Ibid.

²F. M. Cross, "The Evolution of the Proto-Canaanite Alphabet," BASOR 134 (1954): 18-19.

b. During the twelfth and eleventh centuries B.C., two forms of 'ayin coexisted. One was designed as a circle with a dot and the other one as an empty circle. The latter form prevailed and was used from 1000 B.C. on.¹ Although the dotted 'ayin disappeared from the Phoenician script, it is found in the Archaic Greek inscription.

4. Be aware of misinterpreting the variations of form with the variations of calligraphy.²

5. Relate the translation, when possible, to a historical fact already known (e.g. personal names).

6. The material on which the inscription was written may be of great help for dating it (e.g. stone, bronze, iron).

7. Another important factor for dating is the environment where the inscription was found. Pottery reading from the site in which the inscription was found, if not contaminated, can determine, with a good degree of certainty, the date of the material.

Chronological Analysis

An overall view of the material, in a chronological approach, will help to clarify the development of the

¹F. M. Cross, "Newly Found Inscriptions in Old Canaanite and Early Phoenician Scripts," 3.

²Peter T. Daniels, "A Calligraphic Approach to the Aramaic Paleography," JNES 43 (1984): 55-68.

alphabet. It is difficult to picture the development of the alphabet through a single piece of epigraphical evidence.² Even if we take into consideration a whole group of inscriptions from a specific period, it will still be in a unilateral point of view. However, when a good representative sample of the inscriptions is taken into consideration, the process of development becomes easier to understand.

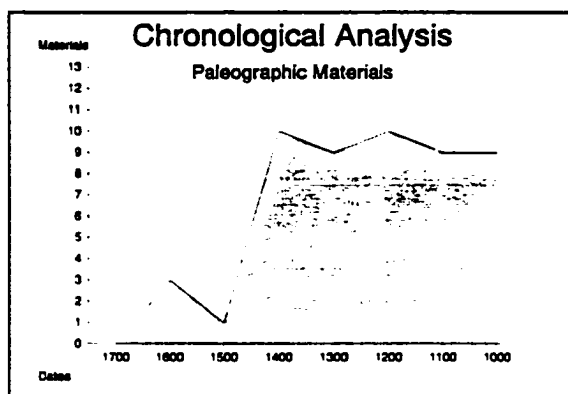


Fig. 1. Chronological analysis of the paleographic materials found in the area under study.

Figure 1 illustrates the amount of individual finds in relation to the chronological years. Written materials are scanty during the process of formation of the

²In this investigation, epigraphical material can be anything, namely a pot sherd, ostrakon, papyri, parchment, stone, plaque of bronze, or any other material, which holds an alphabetic inscription from Syro-Palestine and Aegean Islands.

alphabet (1700-1550 B.C.) since the script was not stabilized yet. The variations among them are cumbersome. The amount of written materials evolved rapidly after the stabilization of the sequence of the letters (ca. 1400 B.C.).

One must be aware that this is relative. This data depicts a hypothetical reality of what has been found and what has survived from the area under study. During the time under study (2000-800 B.C.), there were many types of perishable materials in use in Palestine. Only those written on stone, iron, copper, or baked clay, and withstood the action of time, and which have been discovered, are displayed in this figure.¹ The future will bring many other epigraphical materials which may change or support this view.

The period of transition from Proto-Canaanite to the Phoenician alphabet (1400-1100 B.C.) brought more epigraphical material than the preceding three hundred years. About 1100 B.C. the direction of writing and the number of letters were stabilized. From this point on, the alphabet is called the Phoenician alphabet. Every year some new materials come to light from this period (later than

¹These materials are those mentioned in the catalogue of materials used in this investigation. The Proto-Sinaitic inscriptions are considered in this investigation as only one, because they come from the same site and time and have the same characteristics.

1100 B.C.), not just from Palestine but from all along the Mediterranean coast.

The reading of figure 1 shows two important points: (1) the alphabet existed before Serabit el-Khadem and (2) the alphabet was very well known in Syro-Palestine after 1400 B.C.

Catalogue of Paleographic Material

The documents to be analyzed are better appreciated when divided into groups, each one with its particular characteristics or representing a certain period of time. The groups are mentioned in chronological order. A group may overlap the time boundary of another group.

The First Group: Pseudo-Hieroglyph (PH) (ca. 2000-1800 B.C.)

Although the PH is a syllabary, it was the source for the Proto-Canaanite alphabet as was demonstrated in chapter 2. Thirteen different inscriptions are gathered in this group.¹

The first one is a tablet of bronze with fifteen lines, thirteen on the front and two on the reverse, containing fifty-three distinct signs. The second is a rectangular tablet of bronze with forty-one lines, twenty-two lines on the front face and nineteen on the back side, containing sixty-four distinct signs. The third inscription

¹Dhorme, 1-35; Dunand, Byblia Grammata, 71-139.

is the so-called "Premiere Stela" by E. Dhorme, with ten lines of text, of which the left side and bottom are seriously damaged. It contains seventeen different signs.

The fourth inscription is a fragment of a "stela," with five lines of text written in a vertical direction from top to bottom. The fifth inscription is a fragment of stone badly damaged with four lines of text.

The sixth is also another decayed piece of stone with three legible lines. The seventh is a spatula of bronze holding three lines of inscription containing eleven different signs.

The eighth inscription is on a spatula of bronze with nine lines, five on the front and four lines on the back side. Here the words are separated by vertical strokes.

The ninth inscription was written on both sides of a bronze spatula, containing three lines on the front face and four on the back side, with fifteen distinct signs.

The tenth inscription is a spatula of bronze with three lines on one side and four on the other. The eleventh, a spatula containing PH signs on one side and Proto-Canaanite signs on the other side, has been found at Byblos.¹

The twelfth inscription which contains the PH script was unearthed at the Tell Jisr in the southern Biqa' of

¹Driver, 93.

Lebanon by McClelland in the winter of 1955.¹ It holds sixteen characters, assuming that the four vertical strokes are word dividers. The date for this inscription is still debated, but it was certainly written in the early second millennium B.C.² The thirteenth and last document is a stone with three lines carved on it, surrounded by a frame.³ It is usually called the "Enigmatic Inscription." The first line was damaged on the left side. It has a few signs which are repeated several times, suggesting that this inscription was written in an alphabetic script.

The Second Group: Proto-Canaanite
(ca. 1700-1600 B.C.)

The second group is from Middle Bronze Palestine. It consists of several pieces of material.

The first document is the dagger from Lachish which was found in a tomb. The excavators dated it ca. 1700-1600 B.C.⁴ There are four letters on the blade which look like the PS script. The next is a sherd from Tell el Nagila (1600 B.C.)⁵ with five or six signs and a word divider

¹Mendenhall, "A New Chapter in the History of the Alphabet," 15.

²It is dated by some scholars to the 18th century B.C., see Isserlin, "The Earliest Alphabetic Writing," 796.

³Dunand, Byblia Grammata, 136.

⁴J. L. Starkey, "Excavation at Tell Ed Duweir," PEO (1937): 239.

⁵J. Leibovitch, "Le Tesson de Tell Nagila," Le Museon 78 (1965): 229-230.

represented by a short stroke. The third is the Gezer sherd (ca. 1800-1600 B.C.)¹ which contains three letters that also resemble the form of the PS script. Another is a fragment of limestone plaque from Shechem (LB Age).² It holds an incomplete inscription with eight signs. All of these materials are dated before Serabit el Khadem, ca. 1700-1600 B.C.

The Third Group: Undefined Semitic Script
(ca. 1500 B.C.)

The third group comes from a later period and is represented by the Sinai inscriptions. Its repertoire contains over thirty inscriptions.³ All of these inscriptions are dated ca. 1500 B.C., and were found at the same archeological site. They were partially deciphered by

¹W. R. Taylor, "Some New Palestinian Inscriptions," BASOR 41 (1931): 27-29; W. F. Albright, "The Inscription from Gezer at the School in Jerusalem," BASOR 58 (1935): 28-29; T. H. Gaster, "The Chronology of Palestinian Epigraphy," PEF (1935-36): 128-140, plates 1, 2, 3; W. R. Taylor, "Recent Epigraphic Discoveries in Palestine," JPOS 10 (1930): 16-22.

²Julian Obermann, "Wind, Water, and Light in an Archaic Inscription from Shechem," JBL 57 (1938): 239-253; a tentative translation of all materials mentioned above is found in Julian Obermann, "The Archaic Inscriptions from Lachish," 1-48.

³Lake and Blake, 1-67; Butin, 132-203, plates 1-22; Sir Alan Gardiner, "Once Again the Proto-Sinaitic Inscriptions," JEA 48 (1961): 45-48; A. F. Rainey, "Notes on Some Proto-Sinaitic Inscriptions," IEJ 25 (1975): 106-116; A. F. Rainey, "Some Minor Points in Two Proto-Sinaitic Inscriptions," IEJ 31 (1981): 92-94; Benjamin Sass, "Two Previously Unknown Proto-Sinaitic Inscriptions," Tel Aviv 5 (1978): 183-187.

Albright.¹ Serabit el-Khadem receives the support of many scholars as the primary place where the PC alphabet was developed, see chapter 1. These inscriptions are written in vertical and horizontal directions. There is no word divider, and they are devised through the acrophonical principle, according to Sir Alan Gardiner.

We also have from this time a number of ostraca with incised signs which have been regarded as an early writing found at Kamid el-Loz. These date to the fifteenth or fourteenth centuries B.C. This may have an analogy with the PH or the Cypro-Minoan scripts.²

The Fourth Group: Cuneiform (ca. 1400 B.C.)

I am adding to this list the alphabetic cuneiform inscriptions found in the geographical area under study.³ This will help to clarify the background in which the development of the alphabet took place. The inscriptions were already mentioned in chapter 1. The cuneiform alphabet began to be used at Ugarit around 1400 B.C. or even earlier, and there is evidence of its use until 1200 B.C. (Ta'anach

¹Albright, "The Proto-Sinaitic Inscriptions and Their Decipherment," 1-45.

²G. Mansfeld, "Deux Ostracons Incisés a Écriture Paléo-Canaanéenne du Tell de Kamid el-Loz," BMB 22 (1969): 65-75.

³Puech, "Présence Phénicienne dans les Iles a la Fin du II Millénaire," 364-374.

inscription). It was based on a linear alphabet currently in use in Syro-Palestine.

The Fifth Group: Proto-Canaanite
(ca. 1400-1300 B.C.)

The first document of the fifth group is the Saint Louis or Goetze seal dated to 1400 B.C.¹ The next inscription from this time is the Tell el-Ḥesi sherd with three signs and the Tell el-Şaren sherd (Reḥov sherd) with six recognizable letters, both dating to 1400 B.C.² The Lachish sherd n. 7 has four signs and its translation can be 𐤀𐤁𐤂𐤃 (1400 B.C.).³ The last is a jar handle from Khirbet Raddana (ca. 1300 B.C.),⁴ near modern Bireh, with three signs.

The Sixth Group: Proto-Canaanite
(ca. 1300 B.C.)

Almost all material from the sixth group came from Lachish.⁵ It represents a new stage of the alphabet. These documents show a slight difference in writing compared

¹Albrecht Goetze, "A Seal Cylinder with an Early Alphabetic Inscription," BASOR 129 (1953): 8-11; F. M. Cross, "An Old Canaanite Inscription Recently Found at Lachish," Tel Aviv 11 (1984): 71-75.

²Puech, "Origine de L'Alphabet," 184.

³Ibid, 182-186.

⁴Y. Aharoni, "Khirbet Raddana and Its Inscription," IEJ 21 (1971): 131-135.

⁵Émile Puech, "The Canaanite Inscriptions of Lachish and Their Religious Background," Tel Aviv 13 (1986): 23.

with the PS script. They are written in a horizontal way, and are more developed toward a linear alphabet than the PS script. However, some traces of the Pseudo-Hieroglyph still remain. The first representative of this group is the Lachish ewer dated ca. thirteenth century B.C. It holds twelve signs. The second inscription is the Lachish bowl fragment. It contains up to fifteen signs, on a vessel from the thirteenth century B.C.¹ The third is the Lachish bowl (ca. first half of the twelfth century B.C.)² with six signs. The next is the Beth Shemesh ostrakon from Ain Shemesh.³ It has the most extensive text from the Late Bronze Age, it holds about sixteen signs (ca. thirteenth-twelfth century B.C.).⁴

The Seventh Group: Proto-Canaanite
(ca. 1200-1100 B.C.)

The seventh group includes an ostrakon which was found close to Aphek, the 'Izbet Sarta ostrakon (1200 B.C.).⁵ It

¹Sass, The Genesis of the Alphabet and Its Development in the Second Millenium B.C., 60-63.

²Cross, "An Old Canaanite Inscription Recently Found at Lachish," 74.

³R. Dussaud, "L'Ostrakon de Bet Shemesh," Syria 11 (1930): 392-394.

⁴Sass, The Genesis of the Alphabet and Its Development in the Second Millennium B.C., 61.

⁵Aaron Demsky, "A Proto-Canaanite Abecedary Dating from the Period of the Judges and Its Implications for the History of the Alphabet," TA 4 (1976): 14-27; Moshe Kochavi, "An Ostrakon of the Period of the Judges from Izbet Sarta," TA 3 (1976): 1-14; Joseph Naveh, "Some

has five inscribed lines, the fifth line of which holds a complete alphabet in a similar order to the Hebrew standard alphabet. In addition, two cones from this period were found at Byblos. They are called cone A (Early eleventh century B.C.) and cone B (middle of the eleventh century B.C.).¹ Cone A contains seven signs and cone B contains eight signs; both are written in a sinistroke direction. In the village of Revadin in the Northern Shephelah, a steatite seal inscribed with the name of its owner was found. It contains four letters.² It was dated to the twelfth century B.C. The Zarephath sherd belongs to this group. It was dated to the thirteenth-twelfth century BC. This sherd holds four letters.³ Also, the Qubur el Walaida inscription, dated around 1200 B.C., with eleven signs and two strokes as word dividers, belongs to this group.⁴

Considerations on the Ostrakon from Izbet Şartah," IEJ 28 (1978): 31-35.

¹F. M. Cross and P. K. McCarter Jr., "Two Archaic Inscriptions on Clay Objects from Byblos," Rivista di Studi Fenici 1 (1973): 3-8.

²F. M. Cross, "An Archaic Inscribed Seal from the Valley of Aijalon," BASOR 168 (1962): 12-18; Raphael Geveon, "Two New Hebrew Seals and Their Iconographic Background," PEQ 93 (1961): 38-42, plate 3.

³Sass, The Genesis of the Alphabet and Its Development in the Second Millennium B.C., 176.

⁴Cross, "Newly Found Inscriptions in Old Canaanite and Early Phoenician Scripts," 2.

Moreover, a pot sherd from the village of Manahat holding four signs (1200-1100 B.C.) belongs to this group.¹

The most representative collection of inscriptions from this time are the arrowheads inscribed with nine signs "the arrow of *pn*," marking the beginning of the standard Phoenician script. Five dated to the end of the twelfth century B.C. from the village of el-Khaḍr.² Five others date from the eleventh century B.C.: (1) the Ruweise arrowhead, (2) the Beqa' arrowhead, (3) the Arrowhead from Gerba'l, (4) the arrowhead of Azarba'al, and (5) the arrowhead of Rapa'.³ These arrowheads are a clear indication of the dominance of the right-to-left direction of writing in Palestine ca. 1100 B.C.

The Eighth Group: Phoenician (ca. 1000 B.C.)

The eighth group yields the most extensive corpus of Archaic Phoenician inscriptions: The Royal inscriptions of the Kings of Byblos,⁴ and an inscribed spatula.⁵ The first

¹Lawrence E. Stager, "An Inscribed Potsherd from the Eleventh Century BC," BASOR 194 (1969): 45-52; John Landgraf, "The Manahat Inscription: *lsdh*," Lavant 3 (1971): 92-95, plates 30a and b. He dates this sherd around 1025 B.C.

²J. T. Milik and F. M. Cross, "Inscribed Javelin-Heads from the Period of the Judges: A Recent Discovery in Palestine," BASOR 134 (1954): 5-13.

³Puech, "Origine de L'Alphabet," 163-167.

⁴W. F. Albright, "The Phoenician Inscriptions from the Tenth Century B.C. from Byblos," JAOS 67 (1947): 153-160.

royal inscription is the Ahiram sarcophagus 1000 B.C., followed by Yehimilk (960 B.C.), Abiba'al (940 B.C.), Eliba'al (920 B.C.), Sipitba'al (900 B.C.), and Abdo Sherd from the late tenth century B.C.

The Ninth Group: Phoenician (ca. Eleventh-Ninth Centuries B.C.)

The ninth group represents the Phoenician expansion to the West. This group contains the Nora fragment (1100 B.C.),¹ Hala Sultan Tekke (1100 B.C.),² inscribed with the short cuneiform alphabet, the vessel from Tekke (Knossos) with a Phoenician inscription (1100 B.C.),³ the Nora stone and Bosa fragment from Sardinia (925-825 B.C.), and the Honeyman inscription from Cyprus (900 B.C.).⁴

¹P. K. McCarter and Robert B. Coote, "The Spatula Inscription from Byblos," BASOR 212 (1973): 16-22.

²Corpus Inscriptionum Semiticarum, vol. 1, tabulae (Paris, E. Reipublicae Typographeo, 1881). no. 145; W. F. Albright, "Leaves from an Epigraphist's Note Book," CBO 36 (1974): 490-493.

³Puech, "Presence Phenicienne dans les Iles a la Fin du II Millenaire," 365-374.

⁴Cross, "Newly Found Inscriptions in Old Canaanite and Early Phoenician Scripts," 15.

⁵W. F. Albright, "New Light on the Early Phoenician Colonization," BASOR 83 (1941): 14-22; F. M. Cross, "The Oldest Phoenician Inscriptions from Sardinia: The Fragmentary Stele from Nora," in Working with no Date: Semitic and Egyptian Studies Presented to Thomas O'Lambdin, ed. David M. Galomb (Winona Lake: Eisenbrauns, 1987), 65-74; Albright, "Leaves from an Epigraphist's Notebook," 490-492. See CIS n: 162 for the Bosa fragment and CIS 144 for the Nora stone.

The Tenth Group: Phoenician's Neighbors
(ca. Ninth-Eighth Century B.C.)

The tenth group holds the inscription from the neighboring countries of Phoenicia proper. The Gezer calendar¹ (925 B.C.) and the Siloam inscription (Eight century B.C.) are good examples of the old Hebrew script. The House of David inscription from Dan represents the Aramean script ca. 900 B.C.² The Mesha stone³ (850 B.C.) comes from the Moabite kingdom. The Amman Citadel inscription⁴ (ca. 8th century B.C.) represents the Ammonite script from this period.

The Eleventh Group: Phoenician (ca. 800-700 B.C.)

The eleventh group contains the colonial Phoenician inscription from 800 B.C. These documents include the inscription of a bowl from Kition (800 B.C.); a jug from Cyprus (first half of the eighth century B.C.); the Ba'al Lebanon inscription from Cyprus (third quarter of the eighth century B.C.); the Seville statuette inscription from Spain (second half of the eighth century B.C.); the Karatepe inscription (725 B.C.); a Gold Pendant inscribed from

¹W. F. Albright, "The Gezer Calendar," BASOR 92 (1943): 16-26.

²Avraham Biran and Joseph Naveh, "An Aramaic Stele Fragment from Tel Dan," IEJ 43 (1993): 81-98.

³Naveh, Early History of the Alphabet, 65-66.

⁴Siegfried H. Horn, "The Amman Citadel Inscription," BASOR 193 (1969): 2-19.

Carthage (700 B.C.); and the Malta Stele (late eighth century B.C.).¹

The Twelfth Group: Archaic Greek, Anatolian,
and Latin Alphabets (ca. 800-400 B.C.)





The twelfth and last group of texts are the Archaic Greek inscriptions, the Anatolian and Latin alphabets, and the Spanish syllabary, which had traces of the Phoenician alphabet.² Individual documents from this group are not examined, with the exception of some archaic Greek inscriptions. However, a comparative analysis of these scripts seems necessary to recognize which direction the dissemination of the alphabet took throughout the whole mediterranean area.

¹McCarter, The Antiquity of the Greek Alphabet and the Early Phoenician Scripts, 132-133.

²Anatolian inscriptions: Hans Jensen, 450-477; Greek inscriptions: Margharita Guarducci, Epigrafia Greca, vol. 1 (Roma: Instituto Poligraphica Dello Stato, 1967), 580; Jeffery, The Local Scripts of the Archaic Greek, 416; Italic inscriptions: R. S. Conway, J. Whatmough, and S. E. Johnson, The Prae-Italic Dialects of Italy, part 3 (Cambridge, MA: Harvard University, British Academy, 1933), 505-543; Spanish: J. Maluquer de Motes, Epigraphia Prelatina de la Peninsula Iberica, Publicaciones Eventuales no. 12 (Barcelona: Instituto de Arqueologia y Prehistoria, Universidad de Barcelona, 1968), 13-46; Javier de Hoz, "On Some Problems of Iberian Script and Phonetics," in Actas del Segundo Coloquio Sobre Lenguas y Culturas Prerromanas de la Peninsula Iberica, 17-19 Junio, 1976, Acta Salmanticensia, Filosofia y Letras n: 113 (Salamanca, Spain: Ediciones Universidad de Salamanca, 1979), 257-271.

Paleographic Study

The main purpose of this analysis is to verify in which period of history the Greeks became acquainted with the Semitic Alphabet, and when they established their independent scribal tradition with regard to this alphabet.

1. $\alpha\lambda\phi\alpha$. This is the first letter of the alphabet. The first hint for this letter is found in the Egyptian Hieroglyph. It was depicted in the form of an ox head (). It might be the sign used to devise the PH *alef* (, , ): by the acrophonical principle.

An example of the PC *alef* is probably found in the "Enigmatic Inscription from Byblos." In the second line of this inscription appears a letter very similar to the PC aleph but in an inverted direction, facing to the right side.

The PS script still preserves the Egyptian sign almost intact. The Shechem plaque, which is from the same period or even earlier than the PS script, holds two more developed *alefs*. If the Shechem plaque was written in a sinistrotrograde or dextrotrograde direction, these *alefs* are close to the Greek alpha. However, if this inscription runs vertically, these *alef* are similar to the traditional sign of the PC script.

During the process of the stabilization of the alphabet, the *alef* took many forms, for example the Raddana

¹It is interesting to see that the Ugaritic cuneiform script had three different *alefs* corresponding to a, i and u sound.

handle (𐤃) and the Lachish bowl fragment (𐤃). However, after the stabilization of the alphabet, it was written in a uniform way. This uniformity ends when the Greeks took it over and wrote it from left to right. As it can be seen in the Archaic Greek inscriptions, the aleph was written facing to the right (𐤃).

At the end of the seventh century, the Greeks had their own peculiar script. The alef was written on its two legs, or we might say upside down (𐤃, 𐤃, 𐤃, 𐤃, 𐤃) in relation to its Egyptian counterpart (𐤃). Regarding the Phoenician script, the Greek aleph suffered one quarter turn clockwise.

The alef kept its Greek form in the Latin alphabets with a small degree of variation (A, A, A, A, A, A). This letter preserved its shape almost intact from the beginning. The most visible change in form was in the passage to the Greeks. In conclusion, the Greek alpha very much resembles the archaic Proto-Canaanite alef from the sixteenth to the twelfth centuries B.C. (Shechem Plaque 1600 B.C., and Qubur el Walaida 1200 B.C.).

2. $\beta\eta\tau\alpha$. This was derived from the Egyptian sign for "house" (𐤃, 𐤃). The PH holds a sign (𐤃) which probably was the source for the PC sign (𐤃) found in the Lachish bowl.

The Archaic Greek bet (𐤃) looks like some prototypes of the PC script (𐤃). It took the traditional Greek form

at the end of the seventh century B.C. This letter is very rare in the most archaic Greek inscriptions found thus far. Therefore, strong conclusions cannot be made from this letter for this investigation.

3. $\gamma\mu\mu\alpha$. Apparently this was devised from the Egyptian sign (𐀓) "staff, rod." The PS sign is (𐀔) whereas the PC and Ph counterpart are very similar without any special difference (𐀕, 𐀖, 𐀗, 𐀘). In the Archaic Greek, this letter is drawn as (𐀙, 𐀚, 𐀛). This sign is not of much help to this study.

4. $\delta\epsilon\lambda\tau\alpha$. The PH sign (𐀜) may have originated from the Egyptian counterpart (𐀝) "door." The PS script took a different way to express this letter (𐀞). The first instance close to the Greek is seen in the 'Isbet Şartah ostrakon (𐀟) from the end of the twelfth century B.C. after the eighth century B.C., the Phoenician *dalet* developed "tails," (𐀠, 𐀡).

5. $\epsilon\psi\iota\lambda\omicron\nu$. This letter corresponds to the Hebrew *he*. The correlative Egyptian signs are (𐀛', 𐀜), and in the PH script (𐀝). The first instance in the Canaanite script is found in the Tell el-Nagila sherd ca. 1550 B.C. (𐀞) and in the PS script (𐀟). Also the Lachish bowl (1300 B.C.) presents the same sign but in a more linear shape (𐀠). The Proto-Canaanite scribes leaned toward the Egyptian sign instead of the PH sign. The reason for this is still unknown.

It is worth noticing that a form similar to the archaic Greek sign (𐀓) appears at the end of the twelfth century B.C. for example, 'Izbet Šartah (𐤂) without the small tail and facing to the right. The most probable source for the Greek sign comes from the inscriptions of the Kings of Byblos, ca. 1000 B.C. (𐤓, 𐤔, 𐤕).

6. *Fau*. This letter came to the Greeks from the Phoenician sign *waw* (𐤕, 𐤖) via Anatolia, either from Lycian, Lydian, or Carian scripts (𐌃, 𐌄, 𐌅).

7. *ζητα*. The sibilants of the Semitic alphabet are the most difficult to understand. It seems that among dialects, even Semitic dialects, the mispronunciation of these signs was common. There is an example of this in Judge 12:6 with the *Sibbolet-Šibbolet* incident. The Beth Shemesh ostracodon holds the earliest instance of this sign (𐤆). Around the eleventh and tenth centuries B.C., the PC *zayin* suffered a turn of ninety degrees clockwise. The archaic Greek (𐀓) is close to the tenth century B.C. Phoenician sign (𐤆).

8. *ητα*. This letter seems to have been derived from the Egyptian sign (𐀓). However, a further step was taken in the PH script (𐀓). The PS script kept the Egyptian sign intact (𐀓).

The Archaic Greek displays a *het* with a crossbar and with the top and bottom closed by a stroke (𐀓). It is

parallel to the twelfth century B.C. *het* of the 'Isbet Şartah (1200 B.C.) or the Nora fragment from 1050 B.C.

9. $\theta\eta\tau\alpha$. The first case of this letter as a circle with a cross bar inside (\otimes) came from the 'Isbet Sartah ostrakon (1200 B.C.) and the Nora fragment (1050 B.C.). This shape endured until the Greek and Latin alphabets. Sometimes it appears as (θ, Θ, θ).

10. $\omega\tau\alpha$. The PH script presents the sign (ω) which was devised first from the Egyptian sign (ω) and served as a model for the Proto-Canaanite (ω, γ, κ) and PS signs (ω). The Archaic Greek (ω, ζ, ι) could have been devised from the Phoenician sign (ω) from the eleventh century B.C. It is still difficult to make a clear statement concerning this letter.

11. $\kappa\alpha\pi\pi\alpha$. The PC signs (ω, ψ) seem to have had the PH signs (χ, ψ) as their prototype. This letter is very rare in paleographic materials. The 'Isbet Şartah ostrakon is the earliest evidence of this sign with three arms and a tail going down.

Around the eleventh century B.C., the tail disappeared (ψ). However in the Aegean Islands (900 B.C., e.g. Honeyman, Ba'l Lebanon, Seville statuete, etc.), and among the Hebrew (Gezer Calendar 925 B.C.) and Moabite tribes (Mesha stone 850 B.C.) the *kaf* with the tail was revived.

The Greek sign for this letter has the tail like the PC (1200 B.C.) or the Phoenician from the Aegean colonies

(900-800 B.C.). The Dipilon Oinochoe (700 B.C.) holds the first instance of the *καππα* (λ) of the Archaic Greek.

12. *λαμβδα*. The PC linear alphabet devised this letter probably based on the PH script sign (λ). The PS is similar (λ). About 1300 B.C. it took the shape of (λ, λ, λ). However, around 1100 B.C. the most common forms of this sign in the PC script were (λ, λ) and in the Aegean Islands (λ, λ) ca. 900-800 B.C. Consequently, it is difficult to establish a date for the borrowing of this Archaic Greek sign (λ, λ). Most probably, the Archaic Greek form is close to the 900 B.C. shape from the Aegean Islands.

13. *μυ*. This letter was conceived through the acrophonical principle from the Semitic word *water*. The Egyptian counterpart is (𓆎). The horizontal form (𓆎) was exchangeable with the vertical form (𓆏) during the period of stabilization of the PC alphabet. About 1100 B.C. the five stroke *mem* was devised and around 900 B.C. it began to be written with a long arm (μ, μ) by the Phoenicians, Hebrew and Moabites. The Greeks kept the long arm, but one of the strokes was eliminated (μ, μ, μ).

The affinity of the Archaic Greek is with the Aegean concerning this sign. It is worthy to note that the Etruscan and the Latin tribes developed a sign close to the Phoenician sign from 900-800 B.C. with five strokes (μ, μ).

14. *νυ*. The Archaic Greek nu (Υ) is the same as the Phoenician nun, dated ca. 1000 B.C. (Kings of Byblos).

15. *ξει*. The Greek signs (Ξ , Ξ , Ξ) took as a model the Phoenician (Ξ) of 1000 B.C. Nevertheless, its pronunciation was different than the Phoenician counterpart. As stated above, the sibilants are the most difficult part of the Semitic alphabet to analyze for this type of study.

16. *ομικρον*. This came from the letter 'ayin. Before the eleventh century B.C. there were two kinds of 'ayin, the dotted one and another without a dot. However, after this date the dot was eliminated from this letter. The Greek dotted 'ayin (omicron) can be explained by the contact between the Levantine coast and Greece before 1100 B.C.

17. *πει*. The archaic Greek letter pi is slightly different from the Phoenician sign. The Greek tribes developed their sign (Π , Π , Π , Π , Π) and then transmitted it to the Etruscan and Latin tribes (Π , Π , Π).

18. *σαν*. This letter can be related in pronunciation to the šade (\aleph), or to the šin (\aleph) in shape. However, there is insufficient evidence to draw any definitive conclusion.

19. *κοππα*. The earliest instance of this letter is located in the 'Isbet Šartah ostrakon (Φ) ca. 1200 B.C. Later on, the qof was written with a stroke (Φ) dividing the circle (e.g. House of David inscription 900 B.C.). The

archaic Greek sign has a *qcf* without being divided by a stroke like that from the twelfth century B.C.

20. *ρo*. There is a *resh* in the PH script (𐤀) similar to the PC and Phoenician counterpart (𐤁) with a straight tail. The Beth Shemesh ostrakon has a *resh* resembling that of the PH script (𐤀). The closest Phoenician *resh* to the Greek is that from the eleventh century B.C. (King Amurru and Beqa' arrowhead).

21. *σιγμα*. The Lachish ewer and bowl (1300 B.C.) yielded the first instances of a *shin* (𐤃) close to the Archaic Greek form (Ϻ, ϻ, Ϻ) and at the same angle. However, the strongest evidence comes from the eleventh century B.C. This letter suffered a rotation of a quarter turn counterclockwise in the eleventh century B.C. Therefore, this letter was written horizontally (Ϻ). Consequently the Greek sign is related to the Proto-Canaanite sign earlier than 1100 B.C.

22. *ταυ*. Although this letter is related to the simple cross, it has a different type of crossbar. It is not a cross but a real "T". The Phoenicians never developed a *taw* with this shape. The most probable place from where the Greeks obtained this sign is from the Anatolian scripts. The Greek "T" resembles the Phrygian (T), Carian (T), and the Lycian (T).

23. *υψιλον, φει, χει, ψει*. I suggest that these letters were taken from the Anatolian alphabets. I think

that the Anatolian people received the alphabet at the same time or even before the Greeks. The Anatolian scripts developed new letters or they employed letters already known to them from their native script to express their languages.

24. $\omega\mu\epsilon\gamma\alpha$. This was the latest innovation in the Greek alphabet. There is no answer for it. However, this sign was already in use in the Carian script as the syllable "Ko" = Ω . It is rare in the Archaic Greek alphabet. Consequently, it is difficult to make any conclusion. The only suggestion is that it was adopted from a source other than the Phoenician alphabet.

Conclusion

Concluding, the paleographic analysis indicates that around the eighth to seventh centuries B.C. the Greek script emerged as an independent script with its multiform traditions. In addition, the evidence shows a prehistory for the Greek alphabet. This means that before 800 B.C. the Greeks already had contact with the Phoenician alphabet.

This statement is supported by the epigraphical similarities between many Archaic Greek letters with the fourteenth to the eleventh centuries B.C. Proto-Canaanite and Phoenician alphabets. By the ninth-eighth centuries, these similarities had already disappeared from the Phoenician alphabet, but they are still found in the eighth-sixth centuries B.C. Archaic Greek alphabets. Examples of this are:

1. *dalet*. This sign developed tail in the Phoenician script later than the eight century B.C. However, it was written without tail in the Archaic Greek script.

2. *kaf*. The tail of this letter disappeared around the eleventh century B.C. in the Phoenician alphabet. However, the tailed *kaf* is found in the Archaic Greek alphabet from the seventh century B.C. and in the eight century alphabetic scripts of the neighboring countries of Phoenician proper, e.g. Israel, Moab.

3. *qof*, this sign was written in the Canaanite Alphabet as a circle with a vertical stroke under it until ca. 1200 B.C. However, later (in the Phoenician alphabet) the circle was divided by the vertical stroke. The Archaic Greek alphabets preserved both forms.

4. *'ayin*. This is a clear example of the antiquity of the Greek alphabet. The dotted *'ayin* disappeared around the eleventh or tenth centuries B.C in Phoenicia. However, in some Archaic Greek inscriptions the dotted *'ayin* is found.

5. The *βαστροφεδον* way of writing which disappeared from the Proto-Canaanite about the eleventh century B.C is still found in the Archaic Greek Alphabet.

In addition to this result, the Anatolian alphabets played an important role in the transmission certain new letters.

CHAPTER IV

TRANSMISSION OF THE ALPHABET

The period for the process of inventing the Proto-Canaanite alphabet was shown in chapter 1 to be ca. 1700-1550 B.C. Based on the epigraphical analysis, the stages for the transmission of the alphabet can be established. Therefore, some deductions may be made from these two points.

The three major, current hypotheses suggest the fourteenth, eleventh, and eighth centuries B.C. for the transmission of the alphabet to the Greeks.¹ Based on the investigation of chapters 2 and 3, these dates may be right, but questions may be raised concerning the events that took place at these dates.

The alphabet started its development around 1700 B.C.² or even before. The alphabet was a simplification of

¹Bernal, Cadmean Letters, 156; Naveh, Early History of the Alphabet: An Introduction to the West Semitic Epigraphy and Paleography, 1-211; Carpenter, "The Antiquity of the Greek Alphabet," 8-29; idem, "The Greek Alphabet Again," 58-69. See chapter 1 in Literature Review section.

²This date is based on evidences; see chapter 2, and J. Naveh (Early History of the Alphabet, 42) supports this date also. He says: "It was invented c. 1700 BC by Canaanites who had some knowledge of Egyptian Writing," *ibid.*

the Pseudo-Hieroglyphic script from Byblos as was presented in chapter 2. At that time there were two major scripts in the Middle East, the Egyptian Hieroglyphs and the Akkadian Cuneiform scripts. These scripts shaped the bureaucratic style of writing for many centuries. In Crete the Pictographic and the Linear A scripts were in current use ca. 2000-1450 B.C. The latter was replaced by the Linear B, ca. 1450-1100 B.C. (Late Helladic III in Greece). Both of these were syllabic with dozens of signs.

The most powerful nations employed these complicated scripts. Monuments, stelas, royal records, religious records, and political letters all were written in one of these scripts.

Almost all small nations wanted to be like the powerful empires. By imitation they tried to copy the culture, religion, lifestyle, and the scripts of these great empires.¹ Therefore, the alphabet would have had no chance to spread beyond its regional boundaries during the end of the Middle Bronze (2100-1600 B.C.) and the whole Late Bronze Age (1600-1200 B.C.) except for some historical events that were forerunners to the diffusion of the alphabet.

¹A example of this is Byblos. The Byblian kings had sarcophagi inscribed with curses against those who would steal them. This was an imitation of curses written in royal Egyptian tombs.

Historical Situation of the Mediterranean
in the Bronze Age

Some historical events occurring during the Bronze Age may be seen as forerunners to the transmission of the alphabet. One of these events was the intense commercial trade among the cities of the Levantine coast with Egypt, the Aegean Islands, and Greece.

Since the second millennium B.C. the inhabitants of the Nile Valley had a precise idea not only of the islands of the Mediterranean Sea, but also the continental coast which surrounded them.¹ It is known from The Amarna letters, that the four Phoenician harbors in the coastal plain, namely Arwada, Byblos, Tyre, and Sidon, already had a fleet of ships at their disposal, in the fourteenth century B.C.²

¹J. Vercoutter, "Essai sur les relations entre Egyptiens et Pre-hellènes," L'Orient Ancien Illustré 6 (1954): 40; Helene J. Kantor explained very well the relationship between the Orient and the Aegean in "The Aegean and the Orient in the Second Millennium B.C.," in Monographs: On Archaeology and Fine Arts, no. 1 (Bloomington, IN: Archaeological Institute of America, 1947), 1-108; M. Bernal, "Egyptian, Mesopotamian and Levantine Contacts with the Aegean: The Documentary Evidence," in Black Athena: The Afroasiatic Roots of the Classical Civilization, vol. 2 (New Brunswick, NJ: Rutgers University, 1991), 409-494.

²Robert R. Stieglitz, "The Geopolitics of the Phoenician Littoral in the Early Iron Age," BASOR 279 (1990): 9; F. Matz, "The Maturity of Minoan Civilization," in CAH, vol. 2, part 1 (Cambridge, Cambridge University Press, 1978), 163. "That Egyptian ships visited Crete is mentioned in a text of the Middle Kingdom," *ibid.* "There is evidence to show that Minoan Ships may have been about 20 meters long," *ibid.*, 160.

The methods of underwater archaeology have brought to light important contributions toward restoring the extent of Syrian maritime enterprises westward.¹ There is documentary proof that Ugarit, Cyprus, Crete, Byblos, Egypt, and Mari on the upper Euphrates had intense commercial relationships during the second millennium B.C.²

A fact that is often overlooked in this type of historical investigation is that the Semitic peoples were scattered all over the Mediterranean world. The predominant languages spoken during the MB and LB period (2000-1100 B.C.) in the Mediterranean world were probably the Egyptian and Semitic dialects blended with the languages of the local areas. Examples of this are the Linear A and the Pseudo-Hieroglyph scripts written in a Semitic language. Traces of Semitic presence in Lower Egypt, Crete, Asia Minor, and Iberian peninsula between 2000-1100 B.C. add support to this

¹George F. Bass, "The Cape Gelydonya Wreck: Preliminary Report," AJA 65 (1961): 267-286. This was a small ship loaded with copper ingots from Cyprus, stamped with Cypro-Minoan signs. The pottery sherds date the ship ca. 1200 B.C. The wood, out of which the ship was made, was Syrian wood. Scarabs, an oil lamp, and skipper's seal found in the ship are Syrian. This ship travelled as an ambulant metallurgic workshop to supply tools to the harbors it visited.

²Michael C. Astour, Hellenosemitica: An Ethnic and Cultural Study in West Semitic Impact on Mycenaean Greece (Leiden: E. J. Brill, 1967), 350. He supports the assumption that there was a Mycenaean settlement at Ugarit ca. 1400-1500 B.C. The proof is the masses of Mycenaean ceramics and Mycenaean-style sepulchral vaults in Ugarit: Matz, cites all the evidences and proof for this assumption, 162.

point.¹ The invasion of Greece at the end of the Early Bronze Age was another decisive factor in shaping a favorable environment for the diffusion of the alphabet. The invasion of Greece precipitated the escape of people settled in the Cyclades and mainland Greece.

The unification of Egypt under the eleventh Dynasty (post-conquest 2040-1991 B.C.)² brought to the historical picture two consequences; the expulsion of the Semites or "Asiatics" from Lower Egypt and the diffusion of Egyptian influence to the Levant and the Aegean.³

These peoples may have moved from Lower Egypt and Greece to Crete, taking refuge there. They brought their knowledge and resources. These migrations may have

¹J. M. Blazquez, "Tartessos y los Crigenes de la Colonizacion Fenicia en Occidente," in Acta Salmaticensia, Filosofia y Letras 58 (Salamanca: Universidad de Salamanca, 1968), 22, 25, supports the date of 1100 B.C. as the foundation of Cadiz by the Phoenicians. Also, the cylinder seal from Velez Malaga confirms the Phoenician presence in Gibraltar in the second half of the second millennium B.C.; de Motes, 14. "Los fenicios entran en contacto con el mediodia peninsular desde el siglo XI A.C.," *ibid.*

²W. W. Hallo and W. K. Simpson, The Ancient Near East: A History (San Diego: Hartcourt Brace Jovanovich, 1971), 243, stated concerning the 11th Dynasty: "In a relief from Gebelein, south of Thebes, the King is shown early in his reign smiting first an Egyptian, then a Nubian, an Asiatic and a Lybian. This is probably a general statement, but his activity in each area is independently attested. He defeated the last of the Herakleopolitan dynasty to bring Egypt again under a single government, administered this time from Thebes."

³Martin Bernal, Black Athena: The Afroasiatic Roots of Classical Civilization, vol. 2 (New Brunswick, NJ: Rutgers University Press, 1991), 185.

contributed to the astounding growth of the Minoan civilization during the Palatial Age in Crete.¹ This civilization used the Linear A, written in a Semitic language.

Moreover, the Hyksos domination of Lower Egypt (1674-1558 B.C.) occurred during the Minoan Civilization. Therefore, the east-Mediterranean world was almost completely settled by Semitic-speaking peoples or peoples acquainted with a Semitic language. Consequently, the communication and relationship were easier than ever.²

The Proto-Canaanite alphabet was already in use in Syro-Palestine during this time. Therefore, it is inconceivable that all these peoples, who were acquainted with a semitic language, did not have any contact with the Proto-Canaanite alphabet during this time (1700-1100 B.C.).

¹J. L. Caskey, "Did the Early Bronze Age End?" in The End of the Early Bronze Age in the Aegean, ed. Gerald Cadogan (Leiden: E. J. Brill, 1986), 26; Cyrus Gordon, Evidence for the Minoan Language (Ventnor, NJ: Ventnor, 1966), 43.

²Matz, 143. On the south coast of Crete at Lebena an ivory scarab of the 12th Dynasty was found associated with M.M.I (ca. 2000 B.C) and at Cnossus, an alabaster lid was found with the cartouche of the Hyksos king Khyan (1630-1625 B.C.) together with a M.M.III pottery; Best and Woudhuizen, "The Oldest Script," 111, 112. One evidence of this relationship is a clay female idol inscribed with Old Phoenician script found in a peak sanctuary on Mt. Morrone on the Adriatic side of Italy in 1948. It has been dated between 1800 and 1600 B.C., *ibid.*

The End of the Late Bronze Age

If those historical events mentioned above were the forerunners of the diffusion of the Proto-Canaanite alphabet, the end of the Late Bronze Age in the Mediterranean was the open door for the transmission of the standardized Phoenician alphabet. This was a decisive period for the transmission of the alphabet.

Many facts distinguish this critical period. In the Middle East, the Sea People were attacking Egypt and the coastal plain of Palestine. In Greece and Asia Minor, the fall of Thebes (1230-1225 B.C.) and the Trojan war (between 1220-1210 B.C.) destroyed the Greek economy.¹

In Crete, the Minoan civilization was replaced by the Mycenaean civilization ca. 1450 B.C. Mycenaean culture first appears on the mainland of Greece ca. 1600 B.C.² The Mycenaean culture remained until ca. 1200 B.C. The invasion of the Dorians and other tribes annihilated Mycenaean culture with its syllabic linear script.³ The

¹Martin Bernal, "The Heroic End to the Heroic Age: The Fall of Thebes, Troy and Mycenae 1250-1150 BC," in Black Athena, 495-521; Hallo and Simpson, 117. Hallo and Simpson stated that the fall of Troy is placed traditionally ca. 1200 B.C., and on archaeological bases, it is dated ca. 1250 B.C.

²Sp. Marinatos, "The First Mycenaeans in Greece," in Bronze Age Migrations in the Aegean, ed. R. A. Crossland (London: Duckworth, 1973), 107-114.

³Jeffery, The Local Scripts of Archaic Greece, 13. "Had its use been widespread it might well have survived an invasion; but a craft so restricted would disappear with the deaths of the wealthy and their households," *ibid.*

destruction left behind a period called, by scholars, the "Illiterate Period in Greece" or "Dark Age" (1200-900 B.C.).¹ I would call it "The Period of Archeological Silence," because the lack of archaeological evidence is not a convincing demonstration of complete illiteracy in Greece at this time. The Greeks could have used perishable materials that would be cheaper and more suitable for a nation in political and economic ruin. An example of this is found in Crete. J. Chadwick said, concerning the Linear B in Crete (1450-1375 B.C.), that the clay tablets had not been baked when they were made, but only dried in the sun. Then the only surviving tablets were those which happened to be in a building which had been burnt.² This may have happened also with the Greeks, during the so-called Dark Age.

All these incidents brought to a halt the Late Bronze Age Culture in the Mediterranean world. It is clear that with the end of this period the great empires of the Middle East, with their complicate systems of writing, had a lesser influence on the nations located along the west-Mediterranean coast. This decrease of influence may have happened because the educational level of the society

¹Ibid.; Dow, 2: 607.

²Chadwick, 8.

of the Mediterranean world was almost completely destroyed (see pp. 43-44).

It seems that the new civilizations born after the break down of the LB Age may have been unable to use those complicate systems of writing. Consequently, the Egyptian Hieroglyph, the Cuneiform script, the Cretan syllabary, and the Linear B, lost their *status quo*.

These scripts would be in existence only with the social class which supported them. With the breaking down of the LB Age culture, these social classes disappeared or at least decreased in influence.¹ Then, the Phoenician alphabet, which had acquired its independence from the PH script, had its opportunity. Consequently, the way was opened for the Phoenician alphabet to be spread beyond its regional boundaries.

All these events which marked the end of the LB Age annihilate almost all the obstacles that existed before the end of the LB Age for the diffusion of the Phoenician alphabet. Then the Phoenician alphabet was carried westward without any barrier strong enough to hinder its transmission.

The Phoenician alphabet, after the end of the LB Age, had all the favorable conditions necessary for its transmission:

¹See chapter 2, pp.43-44.

1. The Phoenician had no more a strong commercial adversary.¹
2. The highly educated level of the society of the Mediterranean world, which supported those complicate system of writing, was annihilated.²
3. The Phoenicians had a system of writing easier than any other script thus far invented.
4. The Egyptian and Mesopotamian empires had decreased their influence upon the Mediterranean world.

Stages of Transmission

Through history we see that the transmission of the alphabet was not a single event in time. On the contrary, it was a long process involving intricate political, commercial, cultural, and religious relationships, as well as warfare, among the nations. Three stages are clearly seen in the process of transmission.

¹Stieglitz, "The Geopolitics of the Phoenician Littoral in the Early Iron Age," 11. He states that "The Phoenician littoral, from about 1200 to about 1100 B.C., was in a political vacuum, free from its overlords," *ibid.*

²A. Bernard Knapp, "Bronze Age Mediterranean Island Culture and the Ancient Near East, Part 1," *BA* (June 1992): 67. He said that "when--toward the end of the Bronze Age, about 1200 B.C.E.--the international economy of the eastern Mediterranean collapsed, so too did the palatial organization that had been so closely involved with it," *ibid.*

First Stage

The paleographic study would suggest the fourteenth century B.C. as the beginning of the first stage of the transmission of the alphabet. This date marks the stabilization of the letter sequence of the alphabet.

Ugarit was one of the main places where the alphabet was used in a cuneiform style. This cuneiform alphabet was based on a linear alphabet which had been developed somewhere in Syro-Palestine. Therefore, Asia Minor may have had access to the knowledge of it before or at the same time the Greek tribes did. This is why the Archaic Greek and Anatolian alphabet exhibit some peculiarities which are not found in the Phoenician script, but only in the Proto-Canaanite alphabet from 1400-1200 B.C.¹

Through the paleographic study, we see that between 1400-1100 B.C. the transition from the PC to the Ph alphabet took place. It was the period of standardization and stabilization.

Several letters are a clear evidence of contacts among Greeks, Anatolian people, and the Canaanites during the second half of the second millennium B.C.: Α, Υ, ρ, Θ, ϑ, Ο. If the Phoenicians were in Spain by about ca. 1100 B.C., how much more probable would be their presence in

¹The βανστροφεδον style, the dotted ρ, the three dots or three small strokes as a word divider, and some similarities that can be explained only if they have had contact with the Proto-Canaanite alphabet from 1400-1100 B.C.

the Aegean and Anatolian area earlier than the eleventh century B.C.

Also, the *βανστροφεδον* and the vertical direction of writing which disappeared before 1100 B.C. are still found in the Archaic Greek alphabets. Therefore, the Greeks may have learned them from some archaic source, or through contacts with the Canaanites in the Levantine coast, or even they could have developed them independently. The dotted 'ayin is found in some Archaic Greek inscriptions. So far there is not a better explanation for this archaism in the Greek alphabet than a previous contact between these two geographical areas. It is very plausible that this contact took place during the beginning of the second half of the second millennium B.C. as we saw through the historical and paleographical data.

In this first stage the alphabet was spread throughout Syro-Palestine. However, it was not the script of the bureaucracy or of royal inscriptions. Egyptian and Akkadian cultures still had their powerful influence on the high levels of society in the entire Middle East and Aegean region.

Second Stage

Thus, at the end of the Bronze Age, Egypt, the Mycenaeans, and other¹ powerful civilizations declined, as

¹Hallo and Simpson, 123. The Hittite empire collapsed in 1200 B.C.

mentioned above (see p. 69-72). Then, the commercial power was handed over to the Phoenicians,¹ who already had a standardized alphabet. Consequently, a new stage of transmission began here (1100-800 B.C.).

After the breakdown of the LB Age the Phoenicians had no more a strong commercial opponent. Therefore this second stage is characterized by the Phoenician colonies in the Mediterranean as far as Spain.² Now the alphabet began to be used in colonies which sometimes had a bilingual environment.³

This second period brings the greatest similarities between the Archaic Greek and the Phoenician alphabets. The letters θ , Δ , γ , Λ , τ are evidently devised from the

¹Stieglitz, "The Geopolitics of the Phoenician Littoral in the Early Iron Age," 11, "The emergence of the Phoenicians, then, must be tied to the decline of Egypt and rise of the Assyrians, for after the reign of Ramesses III, Egypt could no longer perpetuate its hegemony over Canaan. The Hittite empire was destroyed shortly before 1200 BC," *ibid.* Knapp, 67, "About 1200 BCE the international economy of the eastern Mediterranean collapsed, so too did the palatial organizations that had been so closely involved with it," *ibid.*

²Brigitte Treumann-Watkins, "Phoenicians in Spain," *BA* (March 1992): 29-35; Albright, "New Light on the Early History of Phoenician Colonization," 21. The classical date for the foundation of Carthage and Cadiz is 1100 B.C., *ibid.*; Stieglitz, "The Geopolitics of the Phoenician Littoral in the Early Iron Age," 10. Stieglitz says concerning the 11th century B.C.: "The main feature of the new Phoenician maritime involvement was no longer mere mercantilism, but colonization," *ibid.*

³An example of these colonies are Cadiz, founded ca. 1100 B.C.; Kition in Cyprus; Al Mina, Nora and Bosa in Sardinia, Crete, and Carthage.

Phoenician alphabet from 1100 B.C., while *Γ, Μ, Ο* are more likely derived from the Phoenician alphabet used in their Aegean colonies of the ninth century B.C.

The Greeks knew the alphabet during the first stage, but the political and diplomatic situation of the Aegean made less convenient for them to use it. In the second stage, however, they began to recognize that it could be useful to them. Therefore, the seafarers and merchants felt the need for a practical way of writing. If there was a need, why not use the script employed by one of the most emergent economical powers at that time? --The *φοινικεῖα γράμματα*.

The tentative use of the alphabet during this stage did not spread out of the colonies or far away from them, because they were just experimenting with it in sporadic places. This period of experimentation occurred not only with the Greeks but also with the Hebrew, Aramaic, Moabite, Edomite, Amonite and Anatolian peoples who were acquainted with the Phoenician alphabet.

The Phoenician influence was of such magnitude that it was felt as far away as Spain. There are two major semi-syllabic scripts in Spain from this period: the Bastulo Turdetano and the Iberian scripts. They hold similarities with the Phoenician and Greek alphabets concerning some

TABLE 7

COMPARISON OF TWO SCRIPTS FROM THE IBERIAN PENINSULA

Translation of signs	Iberian	Bastulo-Turdetano
a	Ⓟ Ⓡ Ⓟ	Ⓐ Ⓐ
e	Ⓜ Ⓢ Ⓢ	Ⓣ Ⓣ
i	Ⓝ Ⓝ	Ⓢ Ⓢ
l	Ⓛ Ⓛ Ⓛ	Ⓣ
r	Ⓠ Ⓡ Ⓢ Ⓣ	Ⓠ Ⓡ Ⓣ
s	Ⓜ Ⓜ	Ⓜ Ⓜ
s	Ⓢ Ⓢ Ⓢ	Ⓣ Ⓣ
m	Ⓨ Ⓩ Ⓨ	Ⓢ Ⓢ
n	Ⓝ Ⓝ	Ⓢ Ⓢ

Source: Martin Bernal, Cadmean Letters: The Transmission of the alphabet to the Aegean and Further West before 1400 BC. (Winona Lake, IL: Eisenbrauns, 1990), 48, with modification.

isolated letters of their syllabary. (See table 7.)

These are a few examples of the Phoenician influence during this period. The whole Mediterranean coastal area was permeated with the knowledge of the alphabet.

The Last Stage

The last stage of the transmission took place ca. 800 B.C. This period is marked by the "independence" of the Greek alphabet from the Phoenicians. It means that the Greeks developed their own scribal tradition with its peculiarities. However, this occurred not only with the Greeks but also with all those who were experimenting with the alphabet since 1100 B.C.¹

Although this stage marks the end of the transmission, the eighth century B.C. was not the end of the process of developing the Greek alphabet. The Greeks needed some new letters which the Phoenicians did not have. These letters are found in several but not all Archaic Greek alphabets from the seventh century.² The problem was the diversification of Greece. It remained so until the Ionic tribes increased in power, bringing through their influence a more homogeneous Greek language throughout the Greek tribes. In the meantime, Athens reached a political and intellectual supremacy. Consequently, Attic became the

¹The Hebrews, Moabites, and Anatolians.

²It is not my purpose to explain the origin of the new letters in this investigation.

recognized language of the literate around the fifth century B.C.¹ Under Attic supremacy the Ionians were influenced, losing their peculiarities and blending into an Attic style.²

Therefore, the process of development of the alphabet for the Greeks ends when all the tribes, or at least the most important tribes, began to use the same alphabet, as well as the new letters including the "omega." Now the Attic *κοινη* was the standard Greek alphabet.

Conclusion

In conclusion, a relationship among these three stages of transmission of the alphabet was suggested through the paleographic study in chapter 3. Consequently, the first stage (ca. 1400 B.C.) was characterized by the contact of the Greeks with the Canaanite alphabet. The second stage (1100 B.C.) was characterized by the experimentation of the alphabet by the Greeks, and in the third stage (800 B.C.) the Greeks gained their independence--in other words, they developed their own alphabet.

¹Carl Darling Buck, The Greek Dialects (Chicago: University of Chicago, 1955), 176. "The Macedonian period, indeed, forms the principal landmark in the evolution of a standard language in Greece. For in it the Attic *κοινη* was spread over a vast territory and permanently established in places which were to become leading centers of Greek life," *ibid.*

²*Ibid.*, 15.

The evidence would suggest the eleventh or tenth-century Phoenician alphabet (second stage) as the most reasonable prototype of the Greek alphabets.

CHAPTER V

CONCLUSION

The starting point of the Proto-Canaanite alphabet was the Pseudo-Hieroglyphs from Byblos as presented in chapter 2. The PC alphabet was devised in two steps aimed at a simplification of the script:

1. The scribes of Byblos devised their Pictographic script from the Egyptian Hieroglyphs at the end of the third millennium B.C. Then with the growing necessity of a more practical script, a new linear script was devised, through the achrophonical principle, from the Pictographic script. This new script was the Pseudo-Hieroglyphs from Byblos (ca. 2000 B.C.) which was a syllabary.

2. The second step was the reapplication of the achrophonical principle on the syllables of the Pseudo-Hieroglyphs syllabary thus originating isolated consonants. Another important factor, which may have had a great influence on the origin of the alphabet in this second step, was the dropping of the final case endings in an open syllable with short vowel. The process of developing the alphabet took place between 1700-1550 B.C.

This original PC alphabet may have suffered the influence of the local dialects during the process of development. This can be seen through the variations of the signs between 1700-1400 B.C., for example at Shechem, Gezer, Lachish and at Serabit el-Khadem. (See the Paleographic analysis for details).

All these geographic places (Shechem, Gezer, Lachish, and Serabit el-Khadem) mentioned above had their own particular alphabet. However, through the paleographic analysis we see that they based their alphabet on a common source. This common source was the Proto-Hieroglyphic script.

The borrowing of the Semitic alphabet by the Greeks was also a process which took three stages:

1. About 1400 B.C. "the period of contact" between the Greeks and the Levantine coast began.
2. About 1100 B.C. "the period of experimentation" of the alphabet by the Greeks started.¹
3. About 800 B.C. "the period of independence" was reached.

Now the Greeks had their own scribal tradition. It appears that the adoption of the alphabet by the Greeks took a longer period of time than usually suggested by current hypotheses. Moreover, these stages are not independent of

¹The paleographic evidence indicates that during this period not only the Greeks experimented the alphabet but also the people of Anatolian, the Hebrews, Ammonites, and Moabites.

each other, on the contrary, they are gradual stages of adoption. They are closely related, and this is the main point where most hypotheses fail. Usually these dates are taken in isolation as a mark of a single event in history.

The Greeks and the Anatolian peoples (Phrygian, Lycian, Lydian and Carian) had contact with the Phoenician coast long before 1100 B.C. Consequently they kept some traces of the PC alphabet in their scripts. Otherwise, the archaisms could not be explained.

New modifications suffered by the Phoenician alphabet later than the tenth century B.C. were felt in Greece, Asia Minor and Spain.¹ The Greeks obtained their alphabetical independence from the Phoenician alphabet ca. 800 B.C.

The following issues should be investigated in future studies: (1) The implication of the Proto-Sinaitic inscriptions on the South-Semitic alphabet, (2) a revision of the translation of the Pseudo-Hieroglyphic inscriptions made by E. Dhorme and G. Mendenhal, (3) the Pseudo-Hieroglyphic script and its relationship with the Egyptian Hieroglyphs, and (4) the role of the Anatolian scripts in the process of the transmission of the alphabet.

¹de Motes, 15. He states that "El análisis de la forma de los signos utilizados en las inscripciones ibéricas muestra su estrecha dependencia de los alfabetos fenicios y griegos," *ibid.*

APPENDIX

The following paleographic chart was made in a diachronical way. The first column holds the earliest script while the last column contains the latest alphabet. The top heading of each column bears the name of the paleographic source. Most of this chart was based on the bibliography which is at the end of this study, while other parts were copied by the author from the Corpus Inscriptiones Semiticarum and photograph published by B. Sass in The Genesis of the Alphabet and Its Development in the Second Millenium B.C., Wiesbaden: Otto Harrssowitz, 1988, and by R. F. Butin, Harvard Theological Review 25 (1932): 130-176.

Tell el Hen 1400 BC	Tel el Sereh (Rehov) 1400 BC	Saint Louis seal 1400 BC	Lachish sword n. 7. 1400 BC	Raddana handle 1300 BC	Lachish ewer 13th BC	Lachish frag- ments 13th BC	Lachish bowl 13th BC
				U	4	A	
↖ ?		∩	∟			□	↗
						4	
						9 ?	
						5 ?	
				E		A	
			ƀ		ƀ ƀ	ƀ	ƀ
↘		∩		∩ ?	∩	∩	∩
	∩				∩		
					∩		
∩	∩						
						∩ ?	
						9 ?	
	∩	∩			∩	∩	∩
			∩				+
word divider							

Beth Shemesh 13th-12th BC	Sarephath shard 13th-12th BC	Tell el Half 13th BC	Revadin Seal 12th BC	'Izbit Sarah 12th BC	Qubur el Wahida 1200 BC	Tel el Ajjul handle 12th-11th BC?	El Khadyr n. 1 12th-11th BC
κ	A		κ	κ D	A		κ
			9	⊙			9
^				1 P P			
	Δ			∇			Δ
				E			
				?			
H ?							
≡	≡			⊠			⊠
				⊗			
		4		Y F	F		
				Y		Y	
Q		Q	C	⊙	G		o
w					≡		
5				4			
o o				o o	⊙		o
				Y Y			Y
				9 9			
P				P			
				3 3	Σ Σ		
		+		+		+	+
word divider							

El Khadr n. II 12b-11th BC	El Khadr n. III 12b-11th BC	El Khadr n. IV 12b-11th BC	El Khadr n. V 12b-11th BC	Rasa arrow head 12b-11th BC	Marajeh shard 12b-11th BC	Byblos cone A early 11th BC	Gerbal arrow- head 11th BC
	✂	κ	κ	↗			
κ	κ	κ	κ			κ	κ
Δ	Δ	Δ	Δ		Δ	Δ	Δ
I	I	⊠		⊠ ⊠	⊠	⊠	⊠
				↗			↗
∩	∩	∩	∩		∩	∩	∩
						∩	
			∩ ∩	∩		∩	∩
⊙	⊙	⊙	⊙	⊙		⊙	⊙
γ	γ	γ		γ			γ
				γ			γ
				∨ ∨	∨ ∨		
+	+	+					

yt' arrow head 11th BC	'hdni arrow- head 11th BC	Ruweis arrow- head 11th BC	Bege' arrow-head 11th BC	King of Amarru arrow-head 11th BC	'd' arrow-head 11th BC	Byblos cone B 11th BC	Byblos spaula 11th BC
K K	K	K		K	K K	F F	K
G	G	G	G G	G	G	G	G
							77
	Δ	Δ			Δ	Δ	
							Y
I	I		I	I			I
≡	≡	≡	≡	≡	≡	≡	≡ ≡
ξ	ξ	ξ					ξ
		∨	∨	∨			∨
	∟			∟	∟	∟	∟ ∟
ξ				ξ		ξ	ξ
ξ	ξ	ξ	ξ		ξ		ξ
							≡
	0	0	0	0	0		0
z	z	z	z	z	z		
			4	4			
	∨∨						∨
x							+
word divider				1			1

House of David inscription 9th BC	Nora stone 925-825 BC	Boam fragment 925-825 BC	Honeyman inscription 900 BC	Mesha stone 850 BC	Siloam inscription 8th BC	Amman cistern inscription 8th BC	Kition bowl from Cyprus 800 BC
𐤀	𐤀	𐤀	𐤀 𐤀	𐤀	𐤀	𐤀	𐤀
𐤁	𐤁		𐤁 𐤁	𐤁	𐤁	𐤁	𐤁
	𐤂		𐤂	𐤂	𐤂		𐤂
𐤃	𐤃		𐤃	𐤃	𐤃	𐤃	
𐤄	𐤄		𐤄	𐤄	𐤄	𐤄	𐤄
			𐤅	𐤅	𐤅		
𐤆				𐤆	𐤆	𐤆	
				𐤇		𐤇	
𐤈	𐤈		𐤈 𐤈	𐤈	𐤈	𐤈	𐤈
𐤉	𐤉			𐤉	𐤉	𐤉	
𐤊	𐤊		𐤊	𐤊	𐤊	𐤊	𐤊
𐤋	𐤋	𐤌	𐤌	𐤋	𐤋	𐤌	𐤋
𐤍	𐤍	𐤎	𐤎	𐤍	𐤍	𐤎	𐤍
𐤏				𐤏		𐤏	
𐤐			𐤐	𐤐	𐤐	𐤐	𐤐
𐤑	𐤑		𐤑	𐤑	𐤑	𐤑	𐤑
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word divider				•	•	•	

Ba'al Lebanon inscription 775 BC	Boiotian Stuetette 775-800 BC	Jug from Cyprus 750 BC	Lacoo Ameno Sherd 750 BC	Thera graffiti 800-700 BC	Sevilla stuetette. Spain 750 BC	Dipylon oinochoe 725 BC	Karapae 725 BC
Α	A	Α	Α	Α	Α	Α Α	Α Α
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new letters	Υ Χ Φ Υ			Υ		Χ Υ	

Formal inscription 7th BC	Phrygian script 7th-6th BC	Lycian script 5th BC	Lydian script 4th BC	Etruscan alphabet 6th BC	East Italic alphabet 6th BC	(Latin tribe) Siciel alphabet 6th BC	Messapic alphabet (Latin tribe) 4th BC
A	Δ	ρ	Δ	Α Α	Α Λ V A V	Λ Λ Δ	Δ Α Λ Λ
B	Β Β	β β	β		Β ?	Β	β β
γ	Λ	ν ν ν			κ		Γ
D	Δ	Λ	λ		Ρ	Δ Δ Δ	ρ Δ Δ
E	Ε Ε	Ε	υ	Ξ	Ε Ξ	Ξ Ε Ξ	Ξ Ε Ξ
F	FF	F	φ 8-?	8-? φ	ϸ	ϸ ϸ	FF
ι	ς ς ς	Ι	φ	ϸ ϸ ϸ	Ι	Ι	ι φ
θ				θ θ	θ ϸ ϸ	θ θ	θ η η
⊙		χ		⊙ ⊙	⊙ ⊙		⊙ ⊙ ⊙
ι	ι	ι	ι	ι	ι ι ι	ι	ι
κ	κ κ	κ	κ κ	κ κ ϸ	κ κ κ	κ	κ κ
λ	Λ	Λ	λ λ	λ	λ λ λ	λ	Λ
μ	μ μ	μ	μ	μ μ μ	μ μ	μ	μ μ
ν	ν	ν	ν	ν ν ν	ν ν	ν ν	ν ν
ξ					ξ ?		+ x
ο	ο	ο	ο		ο ο	ο	ο ο
ρ	ρ ϸ	ρ		ρ ϸ	ρ ϸ ϸ	ρ	ρ ϸ ϸ
σ				σ σ	σ σ ?		
φ				φ φ			φ φ
χ	χ χ	χ	χ	χ	χ χ χ	χ χ	χ χ χ
ζ	ζ ζ	ζ ζ	ζ ζ	ζ ζ ζ	ζ ζ ζ	ζ ζ ζ	ζ ζ ζ
τ	τ	τ	τ	τ τ τ	τ τ τ	τ τ τ	τ τ τ
Υ φ + ρ	Υ φ Υ		ζ ο	Υ φ Υ	λ ϸ ϸ	(ν) λ	χ υ

Classical Greek alphabet	Classical Latin alphabet
A	A
B	B
Γ	C
Δ	D
E	E
	F
Z	G ²
H	H
Θ	
I	I J
K	K
Λ	L
M	M
N	N
Ξ	
O	O
Π	P
	Q
P	R
Σ	S
T	T
Υ Ϝ XY Ω U V W X Y Z	

²G is a variant of C.

BIBLIOGRAPHY

BIBLIOGRAPHY

- Aharoni, Y. "A New Ammonite Inscription." Israel Exploration Journal 1 (1951): 219-222.
- _____. "Khirbet Raddana and Its Inscription." Israel Exploration Journal 21 (1971): 130-135.
- Albright, W. F. "The Beth-Shemesh Tablet in Alphabetic Cuneiform." Bulletin of the American Schools of Oriental Research 173 (1964): 51-53.
- _____. "The Early Alphabetic Inscriptions from Sinai and their Decipherment." Bulletin of the American Schools of Oriental Research 110 (1948): 6-22.
- _____. "The Early Evolution of the Hebrew Alphabet." Bulletin of the American Schools of Oriental Research 63 (1936): 9-13.
- _____. "The Gezer Calendar." Bulletin of the American Schools of Oriental Research 92 (1943): 16-26.
- _____. "How Well Can We Know the Ancient Near East?" Journal of America Oriental Society 56 (1936): 121-144.
- _____. "The Inscription from Gezer at the School in Jerusalem." Bulletin of the American Schools of Oriental Research 58 (1935): 28-29.
- _____. "Leaves from an Epigraphist's Note Book." Catholic Biblical Quarterly 36 (1974): 490-493.
- _____. "New Light on the Early History of Phoenician Colonization." Bulletin of the American Schools of Oriental Research 83 (1941): 14-22.
- _____. "The Phoenician Inscriptions from the Tenth Century B.C. from Byblos." Journal of America Oriental Society 67 (1947): 153-160.
- _____. "The Proto-Sinaitic Inscriptions and Their Decipherment." Harvard Theological Review 22 (1966): 1-45.

- Astour, Michael C. Hellenosemitica: An Ethnic and Cultural Study in West Semitic Impact on Mycenaean Greece. Leiden: E. J. Brill, 1967.
- Barton, George A. "Notes on the Ain Shems Tablet." Bulletin of the American Schools of Oriental Research 51 (1933): 5-6.
- Bass, George F. "The Cape Gelydonya Wreck: Preliminary Report." American Journal of Archaeology 65 (1961): 267-286
- Bauer, Hans. Das Alphabet von Ras Schamra: Seine Entzifferung und Seine Gestalt. Halle/Saale: Max Niemeyer Verlag, 1932.
- _____. "Der Ursprung des Alphabets." Der Alt Orient 36 (1937): 1-2.
- Bernal, Martin. Black Athena: The Afroasiatic Roots of Classical Civilization. Vol. 2. New Brunswick, NJ: Rutgers University Press, 1991.
- _____. Cadmean Letters: The Transmission of the Alphabet to the Aegean and Further West before 1400 BC. Winona Lake, IL: Eisenbrauns, 1990.
- _____. "On the Transmission of the Alphabet to the Aegean Before 1400 BC." Bulletin of the American Schools of Oriental Research 267 (1987): 1-18.
- Best, Jan and Fred Woudhuize, eds. Ancient Scripts from Crete and Cyprus. Leiden: E. J. Brill, 1988.
- _____, eds. Lost Languages from the Mediterranean. Leiden: E. J. Brill, 1989.
- Biran, Avraham, and Joseph Naveh. "An Aramaic Stele Fragment from Tel Dan." Israel Exploration Journal 43 (1993): 81-98.
- _____. A Grammar of Biblical Hebrew. Porta Linguarum Orientalium, series 12. Wiesbaden: Otto Harrassowitz, 1976.
- Blau, Joshua. "Some Difficulties in the Reconstruction of 'Proto-Hebrew' and 'Proto-Canaanite'." In In Memoriam Paul Kahle, ed. Matthew Black and George Fohrer. Berlin: Verlag Alfred Töpelmann, 1968.
- Blazquez, J. M. "Tartessos y Los Origenes de la Colonizacion Fenicia en Occidente." In Acta

- Salmaticensia *Filosofia y Letras* 58, 12-58. Salamanca, Spain: Universidad de Salamanca, 1968.
- Buck, Carl Darling. The Greek Dialects. Chicago: University of Chicago Press, 1955.
- Bundgard, J. A. Why Did the Art of Writing Spread to the West? Reflections on the Alphabet of Marsiliana Separatum, in Analecta Romana Instituti Danici, n. 3, Hafnia, Italy: Einar Munksgaard, 1965.
- Butin, R. F. "The Proto-Sinaitic Inscriptions." Harvard Theological Review 25 (1932): 130-203.
- Cadogan, Gerald. The End of the Early Bronze Age in the Aegean. Leiden: E. J. Brill, 1986.
- Carpenter, R. "The Alphabet in Italy." American Journal of Archaeology 49 (1945): 450-456.
- _____. "The Antiquity of the Greek Alphabet." American Journal of Archaeology 37 (1933): 8-29.
- _____. "The Greek Alphabet Again." American Journal of Archaeology 42 (1938): 8-29.
- Caskey, J. L. "Did the Early Bronze Age End?" Chap. in The End of the Early Bronze Age in the Aegean. Ed. Gerald Cadogan. Leiden, E. J. Brill, 1986.
- Cerdá, Francisco Jordá. "Tartessos y la Cultura del Argar." In Acta Salmaticensia *Filosofia y Letra* n. 113, Salamanca Universidad de Salamanca, 1979, 382-386.
- Chadwick, John. Reading the Past: Linear B and Related Scripts. Los Angeles: University of California Press, 1987.
- Conway, R. S., J. Whatmough and S. E. Johnson. The Prae-Italic Dialects of Italy. Part. 3. Cambridge, MA: Harvard University, British Academy, 1933.
- Cook, R. M., and A. G. Woodhead. "Archaeology Notes: The Diffusion of the Greek Alphabet." American Journal of Archaeology 63 (1959): 175-178.
- Corpus Inscriptionum Semiticarum. Vol. 1, Tabulae. Paris: Reipublicae Typographeo, 1881.
- Cowley, A. E. "The Sinaitic Inscriptions." Journal of Egyptian Archaeology 15 (1929): 200-218.

- _____. "An Archaic Inscribed Seal from the Valley of Aijalon." Bulletin of the American Schools of Oriental Research 168 (1962): 12-17.
- _____. "The Canaanite Cuneiform Tablet from Taanach." Bulletin of the American Schools of Oriental Research 190 (1968): 41-47.
- _____. "The Evolution of the Proto-Canaanite Alphabet." Bulletin of the American Schools of Oriental Research 134 (1954): 15-24.
- _____. "Leaves from an Epigraphist's Notebook." Catholic Biblical Quarterly 36 (1974): 486 -494.
- Cross, F. M. "Newly Found Inscriptions in Old Canaanite and Early Phoenician Scripts." Bulletin of the American Schools of Oriental Research 238 (1980): 1-17.
- _____. "An Old Canaanite Inscription Recently Found at Lachish." Tel Aviv 11 (1984): 71-75.
- _____. "The Oldest Phoenician Inscriptions from Sardinia: The Fragmentary Stele from Nora." In Working with no Data: Semitic and Egyptian Studies Presented to Thomas O'Lambdin, ed. David M. Golomb. Winona Lake: Eisenbrauns, 1987.
- _____. "The Origin and Early Evolution of the Alphabet." Eretz Israel 8 (1967): 8-24.
- Cross, F. M., and Thomas O. Lambdin. "The Ugaritic Abecedary and the Origins of the Proto-Canaanite Alphabet." Bulletin of the American Schools of Oriental Research 160 (1960): 21-26.
- Cross, F. M., and P. K. McCarter, Jr. "Two Archaic Inscriptions on Clay Objects from Byblus." Revista di Studi Fenici 1 (1973): 3-8.
- CrossLand, R. A., and Ann Birchall, eds. Bronze Age Migration in the Aegean. London: Duckworth, 1973.
- Daniels, Peter T. "A Calligraphic Approach to the Aramaic Paleography." Journal of Near East Studies 43 (1984): 55-68.
- Davis, Simon. The Decipherment of the Minoan Linear A and Pictographic Scripts. Johannesburg: Witwatersrand University Press, 1967.

- Day, John. "The Date of the Adoption by the Greeks of the Phoenician Alphabet." The Classical Weekly 28, n. 10 (1934): 73-80.
- Delcor, Mathias. "L'Alphabet Phenicien: Son Origen et sa Deffusion de Samuel Bochart a Emmanuel De Rouge: Trois Siecles de Recherches: XVII-XIX s." pp. 21-33. In Phoenikeia Grammata: Lire et Ecrire en Mediterranee, ed. Cl. Baurain, C. Bonnet, and V. Krings. Namur, Belgium: Société des Etudes Classiques, 1991.
- Demsky, Aaron. "A Proto-Canaanite Abecedary Dating from the Period of the Judges and Its Implications for the History of the Alphabet." Tel Aviv 4 (1977): 14-27.
- de Motes, J. Maluquer. Epiografia Prelatina de la Peninsula Iberica, Publicaciones Eventuales no. 12. Barcelona: Instituto de Arqueologia y Prehistoria, Universidad de Barcelona, 1968.
- de Rouge, E. . Mémoire sur la Origine Égyptiane de l'Alphabet Phénicien. Paris, Imprimerie Nationale, 1824.
- Dhorme, E. "Déchiffrement des inscriptions Pseudo-Hiéroglyphiques de Byblos." Syria 25 (1946-48): 1-35.
- Diodorus Siculus. Trans. C. H. Old Father. The Library of History, Loeb Classical Library.
- Diringer, David. The Alphabet: A key for the History of Man kind. NY: Philosophical Library, 1948.
- Dow, Sterling. "The Linear Scripts and the Tablets as Historical Documents of Literacy in Minoan and Mycenaean Lands." In The Cambridge Ancient History. 3d. ed. vol. 2, part 1. Cambridge: Cambridge University Press, 1988.
- Drews, Robert. The Coming of the Greeks: Indo-European Conquests in the Aegean and Near East. Princenton, NJ: Princenton University Press, 1988.
- Driver, G. R. Semitic Writing: From Pictographic to Alphabetic. Rev. ed. London: Oxford University Press, 1976.
- Dunand, M. Byblia Grammata. Vol 2. Beirut: Ministeres de L'Education Nationale et des Beaux-Arts, 1945.
- _____. Fouilles de Byblos 1933-1938. 2-3 vols. Paris, Librari D'America, 1950.

- Dussaud, R. "L'Ostrakon de Bet Shemesh." Syria 11 (1930): 392-393.
- Evans, Sir Arthur J. Script Minoan I. Oxford: Clarendon Press, 1909.
- Gardiner, Sir Alan. "The Egyptian Origin of the Semitic Alphabet." Journal of Egyptian Archaeology 3 (1916): 1-17.
- _____. "Once Again the Proto-Sinaitic Inscriptions." Journal of Egyptian Archaeology 48 (1961): 45-48.
- Gaster, T. H. "The Chronology of Palestinian Epigraphy." Palestine Exploration Fund (1935-36): 128-140.
- Geveon, R. "Two New Hebrew Seals and their Iconographic Background." Palestine Exploration Quarterly 93 (1961): 38-42.
- Goetze, Albrecht. "A Seal Cylinder with an Early Alphabetic Inscription." Bulletin of the American Schools of Oriental Research 129 (1953): 8-11.
- Gordon, Cyrus H. "The Accidental Invention of the Phonemic Alphabet." Journal of Near East Studies 29 (1970): 193-197.
- _____. Evidence for the Minoan Language. Ventnor, NJ: Ventnor, 1966.
- Grant, Elihu. "Beth Shemesh in 1933." Bulletin of the American Schools of Oriental Research 52 (1933): 3-5.
- Grimmer, H. "Ein Neuer Inschriftenfund aus Byblos." Museon 49 (1936): 85.
- Guarducci, Margharita. Epigrafia Greca. Vol. 2, Roma: Instituto Poligrafico dello Stato, 1967-78 .
- Hallo, W. W., and W. K. Simpson. The Ancient Near East: A History. San Diego, Hartcourt Brace Jovanovich, 1971.
- Herodotus History. Trans. A. D. Godley. Loeb Classical Library.
- Herr, Larry G. "Paleography and the Identification of Seal Owners." Bulletin of the American Schools of Oriental Research 239 (1980): 67-70.

- _____. "The Formal Scripts of Iron Age Transjordan." Bulletin of the American Schools of Oriental Research 238 (1980): 21-34.
- Hillers, D. R. "An Alphabetic Cuneiform Tablet from Taanach (TT 433)*." Bulletin of the American Schools of Oriental Research 173 (1964): 45-49.
- Hirschfeld, H. "Recent Theories on the Origin of the Alphabet." Royal Asiatic Society (1911): 963-977.
- Horn, Siegfried H. "The Amman Citadel Inscription." Bulletin of the American Schools of Oriental Research 193 (1969): 2-13.
- Horsefield, G., and L. H. Vicent. "Chronique: Une Stele Egypto-Moabite au Balou'a." Revue Biblique 41 (1932): 416-444.
- Hoz, Javier De. "Algunas Conclideraciones Sobre los Origenes del Alfabeto Griego." In Estudios Metodologicos Sobre la Lengua Griega, ed. J. A. Fernandez Delgado, Caceres, Spain: Instituto de Ciencias de la Educacion de la Universidad de Extremadura, 1983, 1-48.
- _____. "On Some Problems of Iberian Script and Phonetics." In Actas del Segundo Coloquio Sobre Lenguas y Culturas Preromanas de la Peninsula Iberica, in Acta Salmaticience Filosofia y Letras no. 113, Salamanca, Spain: Universidad de Salamanca, 1979, 257-271.
- Isserlin, B. S. "The Earliest Alphabet Writing." in Cambridge Ancient History 2d ed., part 1. Cambridge: Cambridge University Press, 1982.
- Isserlin, B. S. J. "The Transfer of the Alphabet to the Greeks: The State of Documentation." In Phoenikeia Grammata: Lire et Ecrire en Mediterranee, Actes du Colloque de Liege, 15-18 de Novembre 1989. Namur, Belgium: Societe de Études Classiques, 1991, 282-291.
- Janssen, G. "Contribution au Déchiffrement des Inscriptions Pseudo-Hiéroglyphiques de Byblos." La Nouvelle Clio 7-9 (1955-7): 361-377.
- Jeffery, L. H. The Local Scripts of Archaic Greece Oxford: Clarendon Press, 1961.
- _____. "Greek Alphabetic Writing." In Cambridge Ancient History, 2d ed., vol. 3, ed. John Boardman, 818-833. Cambridge: Cambridge University Press, 1982.

- Jensen, Hans. Sign, Symbol and Script: An Account of Man's Effort to Write. London: George Allen and Unwin, 1970.
- Jidejian, Nina. Byblos Through the Ages. Beirut: Dar El-Machreq, 1968.
- Johnstone, William. "Cursive Phoenician and the Archaic Greek Alphabet." Kadmos 17 (1978): 151-168.
- Kantor, Helene J. "The Aegean and the Orient in the Second Millennium B.C." In Monographs: On Archaeology and Fine Arts Aecheological Institute of America, n. 1, Bloomington, IN: Archaeological Institute of America, 1947.
- Knapp, A. Bernard. "Bronze Age Mediterranean Island Culture and the Ancient Near East, Part 1." Biblical Archaeologist (June 1992): 50-70.
- Kaufman, Stephen A. "The Akkadian Influences on Aramaic." Assyriological Studies 9 (1974): 148.
- Kenna, Victor E. G. "The Stamp Seal Byblos 6593." Kadmos 9(1970): 95
- Kochavi, Moshe. "An Ostrakon of the Period of the Judges from Izbet Sartah." Tel Aviv 3 (1976): 1-14.
- Krings, V., Cl. Baurain, and C. Bonnet. Phoinikeia Grammata: Lire et Écrire en Méditerranée. Namur, Belgium: Société des Études Classiques, 1991,
- Kutscher, Eduard Y. A History of the Hebrew Language. Edited by Raphael Kutscher. Leiden: E. J. Brill, 1982.
- Lake, Kirsopp, and Robert B. Blake. "The Serabit Inscriptions; I. The Rediscovery of the Inscriptions." Harvard Theological Review 21 (1928): 1-67.
- Langdon, Merle K. "The Dipylon Oinochoe Again." American Journal of Archaeology 79 (1975): 139-140.
- Landgraf, John. "The Manahat Inscription: 1sth." Levant 3 (1971): 92-95.
- Leibovitch, J. "The Date of the Proto-Sinaitic Inscriptions." Le Museum 76 (1963): 201-205.
- _____. "Le Tesson de Tell Nagila." Le Museum 78 (1965): 229-230.

- Lenormand, F. Essai Sur la Propagation de l'Alphabet Phenicien dans l'Ancien Mond. 2d ed. Paris: Maisonneuve, 1875).
- Loundine, A. G. "L'Abécédaire de Beth Shemesh." Museon (1986-87): 243-250.
- de Motes, J. Maluquer. "Epigrafia Prelatina de la Peninsula Iberica." In Publicaciones Eventuales 12, Barcelona, Universidad de Barcelona, 1968.
- Martin, M. "Revision and Reclassification of the Proto-Byblian Signs." Orientalia 31 (1962): 351.
- Mansfeld, G. "Deux Ostracons Incisés a Écriture Paléo-Cananéenne du Tell de Kamid El-Loz." Bulletin du Musee de Beyrouth 22 (1969): 68-75.
- Marinatos, Sp. "The First Mycenaean in Greece." In Bronze Age Migration in the Aegean. Ed. R. A. Crossland. London: Duckworth, 1973.
- Matz, F. "The Maturity of Minoan Civilization." In Cambridge Ancient History vol. 2, part 1. Cambridge: Cambridge University Press, 1978, 163.
- Mazar, B. "Middle Bronze Age in Palestine." Israel Exploration Journal 18 (1968): 67-97.
- McCarter, P. Kyle. The Antiquity of the Greek Alphabet and the Early Phoenician Scripts. Harvard Semitic Monographs no. 9, Missoula, MT: Scholars Press, 1975.
- _____. "The Early Diffusion of the Alphabet." Biblical Archaeologist 37 (1974): 54-78.
- _____. "A Phoenician Graffito from Pithekoussai." American Journal of Archaeology 79 (1975): 140-141.
- McCarter, P. K, and Robert B. Coote. "The Spatula Inscription from Byblos." Bulletin of the American Schools of Oriental Research 212 (1973-74): 16-22.
- Mendenhall, George E. The Syllabic Inscriptions from Byblos Beirut: American University of Beirut, 1985.
- _____. "A New Chapter in the History of the Alphabet." Bulletin du Musée de Beyrouth 24 (1971): 13-18.
- Millard, Allan. "The Canaanite Linear Alphabet and Its Passage to the Greeks." Kadmos 15 (1976): 131-144.

- Milik, J. T., and F. M. Cross. "Inscribed Javelin-Heads from the Period of the Judges: A Recent Discovery in Palestine." Bulletin of the American Schools of Oriental Research 134 (1954): 5-13.
- Montet, Pierre. Byblos et L'Egypte: Quatro Campagnes de Fouilles a Gebal, 1921, 1922, 1923, 1924, 11 vols. Paris: Librairie Orientaliste Paul Geuthner, 1929.
- Moscatti, Sabatino. The World of the Phoenicians. London: Weidenfeld and Nicolson, 1968.
- Naveh, Joseph. Early History of the Alphabet: An Introduction to the West Semitic Epigraphy and Paleography. Jerusalem: Magnes Press, Hebrew University, 1982.
- _____. "Some Considerations on the Ostrakon from Izbet Sartah." Israel Exploration Journal 28 (1978): 31-35.
- _____. "Some Semitic Epigraphical Considerations on the Antiquity of the Greek Alphabet." American Journal of Archaeology 77 (1973): 1-8.
- _____. "Word Division in West Semitic Writing." Israel Exploration Journal 23 (1973): 206-208.
- Obermann, Julian. "Wind, Water, and Light in an Archaic Inscription from Shechem." Journal of Biblical Literature 57 (1938): 239-256.
- _____. "The Archaic Inscriptions from Lachish." Journal of the American Oriental Society, supplement 2 (1938): 1-48.
- Peckham, J. Brian. The Development of the Late Phoenician Scripts. Cambridge: Harvard University Press, 1968.
- Plato Phaedrus. Translated by H. N. Fowler. Loeb Classical Library.
- Pliny Natural History. Translated by H. Rockham. Loeb Classical Library.
- Praetorius, Franz. Über der Ursprung des Kanaanäischen Alphabets. Berlin: Reuther and Richard, 1906.
- Puech, E. "The Canaanite Inscriptions of Lachish and Their Religious Background." Tel Aviv 13 (1986): 23.
- _____. "L'Inscriptio de la Statue D'Amman et la Paléographie Ammonite." Revue Biblique 92 (1985): 6-

24.

- _____. "Origine de L'Alphabet: Documents en Alphabet Linéaire et Cunéiforme du II Millénaire." Revue Biblique 93 (1986): 161- 213.
- _____. "Présence Phénicienne dans les Iles a la Fin du II Millénaire." Revue Biblique 90 (1983): 365-395.
- _____. "Remarques sur Quelques Incriptions Phéniciennes de Chypre." Semitica 29 (1979): 19-43.
- Rainey, A. E. "Notes on Some Proto-Sinaitic Incriptions." Israel Exploration Journal 25 (1975): 106-116.
- _____. "Some Minor Points in Two Proto-Sinaitic Incriptions." Israel Exploration Journal 31 (1981): 92-94.
- Sass, Benjamin. The Genesis of the Alphabet and Its Development in the Second Millenium B.C. In Agypten und Altes Testament, no. 13, Wiesbaden: Otto Harrassowitz, 1988.
- _____. Studia Alphabetica: On the Origin and Early History of the Northwest Semitic, South Semitic and Greek Alphabets. Freiburg, Schweiz: Vandenhoeck und Ruprecht, 1991.
- _____. "Two Previously Unknown Proto-Sinaitic Incriptions." Tel Aviv 5 (1978): 183- 187.
- Schneider, H. Der Kretische Ursprung des "Phoenischen" Alphabets: Die Wanderungen und Wandlungen der Sundlutsage. Leipzig: J. C. Hinrichs, 1913.
- Speiser, E. A. "A Note on Alphabetic Origins." Bulletin of the American Schools of Oriental Research 121 (1951): 17-21.
- Stager, Lawrence E. "An Inscribed Potsherd from the Eleventh Century B.C." Bulletin of the American Schools of Oriental Research 194 (1969): 45-52.
- Starkey, J. L. "Exploration at Tell Ed Duweir." Palestine Exploration Quarterly (1937): 228-241.
- Stern, E. "New Evidence from Dor for the First Appearance of the Phoenicians Along the Northern Coast of Israel." Bulletin of the American Schools of Oriental Research 279 (1990): 27-34.

- _____, ed. The New Encyclopedia of Archaeological Excavation in the Holy Land. Vols. 1-4. Jerusalem: Simon and Schuster, 1993.
- Stillwell, Agnes N. "Eighth Century B.C. Inscriptions from Corinth." American Journal of Archaeology 37 (1933): 605-610.
- Stieglitz, Robert R. "The Geopolitics of the Phoenician Littoral in the Early Iron Age." Bulletin of the American Schools of Oriental Research 279 (1990): 9-12.
- _____. "The Ugaritic Cuneiform and Canaanite Linear Alphabets." Journal of Near East Studies 30 (1971): 135-139.
- Szynger, Maurice. "Quelques Remarques a Propos de la Formation de L'Alphabet Phénicien." Semitica 24 (1974): 5-12.
- Tacitus Annals. Translated by John Jackson. Loeb Classical Library.
- Taylor, W. R. "Some New Palestinian Inscriptions." Bulletin of the American Schools of Oriental Research 41 (1931): 27-29.
- _____. "Recent Epigraphic Discoveries in Palestine." Journal of Palestine Oriental Society 10 (1930): 16-22.
- Treumann-Watkins, Brigitte. "Phoenicians in Spain." Biblical Archaeologist March (1992): 29-35.
- Ullman, B. L. "The Origin and Development of the Alphabet." American Journal of Archaeology 31 (1927): 311-328.
- Ussishkin, David. "Excavations at Tel Lachish." Tel Aviv 10 (1983): 150-160.
- Vercoutter, J. "Essai sur les Relations Entre Egyptiens et Pre-Hellènes." L'Orient Ancien Illustré 6 (1954): 40.
- Warre, P. M. "3000-1400 BC Immigration and the Archaeological Evidence." In Bronze Age Migrations in the Aegean. Ed. R. A. Crossland and Ann Birchall. London: Duckworth, 1973.
- Whatmough, Joshua. The Prae-Italic Dialects of Italy. Cambridge, MA: Harvard University Press, 1933.

- Windfuhr, Gernot L. "The Cuneiform Signs of Ugarit."
Journal of Near East Studies 29 (1970): 48-51.
- Young, Rordney S. "Old Phrygian Inscriptions from Gordion."
Hesperia 38 (1969): 67-74.
- Zevit, Ziony. Matres Lectionis in Ancient Hebrew Epigraphs.
Ed. D. N. Freedman. Cambridge: American Schools of
Oriental Research, Monograph Series no. 2.