

A Selected Annotated Bibliography on the Undeciphered Byblos Texts

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I. Byblos (Gubla), Archaeology and Ancient Languages

Albright, W. F. "The Phoenician Inscriptions of the Tenth Century B.C. from Byblos," *Journal of the American Oriental Society* (1947).

Bergsträsser, Gotthelf, and Peter T. Daniels. *Introduction to the Semitic Languages: Text Specimens and Grammatical Sketches*. Winona Lake, Ind: Eisenbrauns, 1983.

This book deals with the classification and widely represented Semitic languages. These include Proto-Semitic, Akkadian, Hebrew, Aramaic, Ethiopic, and Arabic. In the Appendix he provides full paradigms. Of special interest to Byblos studies is the Proto-Semitic and linguistic phenomena associated with the earliest forms and types. The information provided here may give clues for how certain vowel and consonant clusters were used and understood at Byblos (if Byblos was impacted or related to its neighbors in terms of language).

Chadwick, John. *The Decipherment of Linear B*. Cambridge, [Eng.]: University Press, 1967.

Colless, Brian, "The Canaanite Syllabary", *Ancient Near Eastern Studies* 35 (1998), 26-46.

Colless is one of the few who supports Mendenhall's decryption, he also adds a seal from Megiddo. His web site, CryptoCracker, <http://cryptocracker.blogspot.com> (last accessed, March 10, 2009) has various posts related to Byblos.

_____. "The Byblos Syllabary and the Proto-alphabet", *Abr-Nahrain* 30 (1992), 15-62.

_____. "The Syllabic Inscriptions of Byblos: Miscellaneous Texts", *Abr-Nahrain* 34 (1996-1997), 42-57.

This article deals with Byblos text G, H, K and L. Also dealt with are a ring from Megiddo ring, ostrakon and lamps from Egypt and an inscription from Sinai. Regarding the Megiddo ring, Garbini dated to the 13th century BC. The translation of the ring as worked out by Colless ends up saying "Sealed. The scepter of Megiddo."

_____. "The Syllabic Inscriptions of Byblos: Texts B, E, F, I, K", *Abr-Nahrain* 33 (1995), 17-29.

_____. "The Syllabic Inscriptions of Byblos: Texts C and A", *Abr-Nahrain* 32 (1994), 59-79.

_____. "The Syllabic Inscriptions of Byblos: Text D", *Abr-Nahrain* 31 (1993), 1-35.

Cross, Frank Moore. *Leaves from an Epigrapher's Notebook: Collected Papers in Hebrew and West Semitic Palaeography and Epigraphy*. Harvard Semitic studies, no. 51. Winona Lake, IN: Eisenbrauns, 2003.

In the first section of this up to date work, Cross analyzes Jewish writings and scripts. In the final section there is an examination of Canaanite and Phoenician inscriptions. The relationship of Old Canaanite to Egyptian and Hebrew needs attention for any investigation into the same Byblos connections. His tabulation of the Old Canaanite and Early Phoenician is necessary for advancing any Byblos discussions about languages in that period and place.

Daniels, P.T., 'The Byblos Syllabary', in: P.T. Daniels & W. Bright (eds.), *The World's Writing Systems* (New York/Oxford, 1990). Diringer, David, and Reinhold Regensburger. *The Alphabet: A Key to the History of Mankind*. London: Hutchinson, 1968.

Dhorme, Édouard, 'Déchiffrement des inscriptions pseudohiéroglyphiques de Byblos' in *Syria* 25 (1946-1948).

Diker, Selahi. *And the Whole Earth Was of One Language: Decipherment of Lost Languages Including Etruscan, Scythian, Phrygian, Lycian, Hittite, Hurrian, Urartian, Sumerian, Achaemenid Aramaic & Elamite Parthian*. Izmir, Turkey: S. Diker, 1999.

Doblhofer, Ernst, and Mervyn Savill. *Voices in Stone: The Decipherment of Ancient Scripts and Writings*. New York: Collier, 1971.

To write a book, one should read many books. In that way, skill is learned inductively. Likewise, to decipher a language, one must study the decipherment of many languages. This book is a collection of decipherments. The tactics, techniques, strategies and tools used by those who have gone before are here recalled and celebrated. Languages include Egyptian, Old Persian, Hittite, Akkadian, Ugaritic, Gublitic, Creto-Mycenaean Linear B, Old Turkish, Etruscan and others. For example, he recounts how an Old Persian name list was the key for a problem in cracking Babylonian (126). The secret to decipherment had evaded others, but an elegant solution was available. Knowledge of such solutions is critical for any new attempts with decipherment.

Dunand, Maurice. *Byblia grammata; documents et recherches sur le développement de l'écriture en Phénicie*. 1946.

Byblos was excavated by Dunand from 1928 to 1932. This book contains a publication of the Byblos texts.

_____. *Byblos: Its History, Ruins and Legends*. Beirut: Catholic Press, 1964.

Fischer, Steven R. *Glyphbreaker*. New York: Copernicus, 1997.

This book gives a narrative overview of various successful and current attempts at decipherment. One contribution it makes is a detailed telling of one translator's notebook (Jude's notes from his time scrutinizing the Phaistos Disk). The reproduction of that work, and the system used in the process, is, as it were, a guidebook to cracking. The book is highly readable as well.

Fox, Joshua. *Semitic Noun Patterns*. Harvard Semitic studies, no. 52. Winona Lake, IN: Eisenbrauns, 2003.

As one seeks to crack Byblos, noun patterns (after names) may be the easiest to place to begin. Noun patterns in Semitic languages in general, then, must be factored into any algorithm. The noun patterns catalogued by Fox cover Akkadian, Arabic, Geez, Hebrew, Mehri, and Syriac. He reviews the past literature on the subject, and surveys Semitic patterns in general ("Semitic Pattern Systems"). He defines the patterns and the markers of different patterns, which statistically may aid in an attack on the Byblos texts. Providing over 20 patterns, and ranging over five languages, Fox's work gives the kind of data that will help define any algorithmic engine applied to an analysis of Byblos. He summarizes his findings by saying, "not all is anarchy in the Semitic derivational internal noun patterns. The languages have enough in common to allow patterns to be reconstructed as morphemes with form and meaning in the proto-language." That proto-language is of particular interest when cracking an unknown language.

Gordon, Cyrus Herzl. *Forgotten Scripts; How They Were Deciphered and Their Impact on Contemporary Culture*. New York: Basic Books, 1968.

_____. *Ugaritic Textbook; Grammar, Texts in Transliteration, Cuneiform Selections, Glossary, Indices*. Rome: Pontifical Biblical Institute, 1965.

This three volume Grammar gives material needed in a study of Ugarit and its language. This is the grammar I used to learn Ugaritic, and it has proved its worth even as it was the basis for creating a Ugaritic translation tool. The relationship of Ugarit to Byblos must be explored and developed more fully as Ugaritic may ultimately play a large part in the brute force attack for deciphering the Byblos texts.

Goren, Yuval, Israel Finkelstein, Nadav Na'aman, and Michal Artzy. *Inscribed in Clay: Provenance Study of the Amarna Tablets and Other Ancient Near Eastern Texts*. Tel Aviv: Emery and Claire Yass Publications in Archaeology, 2004.

In this modern Analysis of the Amarna letters, a chronicle is given of the origins of each of the Amarna letters. This adds scientific-feet to support Moran's 1950 dissertation (of which, see the collected writing of Moran below) regarding the Byblos tablets. The laboratory methods applied to the Amarna tablets were cutting-edge and allowed for spectral analysis in comparing clay origins to the clay used by the actual tablets. With such data, these authors were able to pinpoint the location of origin for the Amarna letters.

Gruendler, Beatrice. *The Development of the Arabic Scripts: From the Nabatean Era to the First Islamic Century According to Dated Texts*. Atlanta, Ga: Scholars Press, 1993.

Gruendler exemplifies how to present the development of scripts from Nabatean to Arabic. His methods for handling epigraphic material and papyri are illustrative of a scientific approach to cataloging and databasing. The correlation of a culture to its need for a system of writing is helpful in seeing the interdependency between form and content and people and language. His approach should be inspected when exploring other ancient languages, such as Byblos. Especially relevant are his tables for representation and reporting.

Hackett, Jo Ann. "Phonician and Punic" in *The Ancient Languages of Syria-Palestine and Arabia*. Cambridge: Cambridge University Press, 2008.

For comparative studies, a condensed grammar of Phoenician and Punic is highly desired. And Jo Ann Hackett provides just that. Her essay allows for a ready overview of the variations and similarities between Phoenician and its sister languages.

Hoch, James E. "The Byblos Syllabary: Bridging the Gap Between Egyptian Hieroglyphs and Semitic Alphabets" in *Journal of the Society for the Study of Egyptian Antiquities* 20: 115–124. (1990).

Jidejian, Nina. *Byblos Through the Ages*. Beirut: Dar el-Machreq Publishers; Librairie Orientale, 1968.

Jidejian may have provided the most thorough one-stop history of Byblos that is available. Though dated, it does indeed give an archaeological picture of Byblos through the Ages (going as far back as the Chalcolithic period). Her work is completely historical and archaeological, with a large section devoted to photographs of artifacts, drawings and landscapes. Placing the Byblos inscriptions in context can only be achieved through archaeological research of this sort.

Jensen, Hans. *Sign, Symbol, and Script; An Account of Man's Efforts to Write*. New York: Putnam, 1969.

This book was produced by the department of Hebrew and Semitic Studies of the University of Wisconsin-Madison. It is geared to a study of Semitic origins. As a collection of museum pieces, it provides large photographs of many of the texts under discussion as related to the overall topic at hand. Its usefulness is limited, but as a collection of primary sources, it functions well.

Kaltner, John, and Steven L. McKenzie. *Beyond Babel: A Handbook for Biblical Hebrew and Related Languages*. Resources for biblical study, no. 42. Atlanta: Society of Biblical Literature, 2002.

This text opens a window into Ammonite, Edomite, Moabite, Phoenician and Hebrew – all Northwest Semitic languages. Locating Byblos on the map of languages means knowing about the map.

Kaufman, Stephen A. 1989. "[Review of] Mendenhall, George E., the Syllabic Inscriptions from Byblos". *Bulletin*. 1989: 85-86.

Kaufman's conclusion of Mendenhall's work is that, "Barring the discovery of a substantial new corpus of texts in this script, there is, of course, no way to prove or disprove Mendenhall's decipherment." He describes Mendenhall's explanations of unusual constructions as "tortuous."

Kiss, Katalin É. *Universal Grammar in the Reconstruction of Ancient Languages*. Studies in generative grammar, 83. Berlin: Mouton de Gruyter, 2005.

In the introduction, Kiss uses English to graph samples of a universal language and generative languages (where generative languages are those who allow for the unlimited building of new sentences). It is possible to integrate Kiss' model with software while attempting to use the computer to crack Byblos. Kiss provides direction along the lines of how to design a language and imagine a solution. This book is a set of articles relevant to undeciphered Semitic languages (of which Byblos is suspected to be one). The most pertinent contributions are as follows: "The correlation between word order alternations, grammatical agreement, and event semantics in older Egyptian"; Chris H. Reintges, "The nominal cleft construction in Coptic Egyptian"; Gábor Zólyomi, "Complex predicate structure and Pluralised events in Akkadian"; Christian Huber, "VSO and left-conjunct agreement: biblical Hebrew vs. modern Hebrew"; Edit Doron, "IE *weid- as a root with dual subcategorization features in the Homeric poems"; Giampaolo Salvi, "Classical Sanskrit, 'wild trees', and the properties of free word order languages"; Brendan Gillon and Benjamin Shaer, "A particular coordination structure of Indo-European flavor."

Martin, Malachi, 'Revision and reclassification of the Proto-Byblian signs', *Orientalia* 31 (1962) 250-271, 339-363.

Mendenhall, George E. *The Syllabic Inscriptions from Byblos*. Beirut, Lebanon: American University of Beirut, 1985.

Mendenhall proposes a reading of the uncracked Byblos texts. Questions remain, however, if Mendenhall succeeded. An investigation of the Syllabic Inscriptions from Byblos would be far from complete if Mendenhall were not included in the mix. Because his conclusions have not remained unchallenged, an opportunity exists to confirm or deny his results. His approach to the problem leaves in its trail many gems for the next generation of researchers. His linguistic diagnostics are a starting point (if nothing else). If Mendenhall did indeed crack the Byblos inscriptions, then his work is the answer to the problem of decoding what was a puzzle.

Millard, A. R., Piotr Bienkowski, C. Mee, and E. A. Slater. *Writing and Ancient Near Eastern Society: Papers in Honour of Alan R. Millard*. Library of Hebrew Bible/Old Testament studies, 426. New York: T&T Clark, 2005.

Alan Millard's writes on "Only Fragments from the Past: The Role of Accident in our Knowledge of the Ancient Near East." His title is suggestive, and the issue is exacerbated in situations such as Byblos where there is only scant data left for the decipherment of a language. Because such little data survives from a site, Millard posits two conclusions: 1) Texts found on a site do not necessarily relate to the whole. 2) The survival of copious texts from one century and not another is no measure of growth or scribal activity. These findings, and the application of the book as a whole to the study of the Byblos inscriptions helps to gauge what kind of picture we should expect to emerge from such studies.

Moran, William L., "[Review of] Mendenhall, George E., the Syllabic Inscriptions from Byblos". *The Catholic Biblical Quarterly* 50, 1988: 508-10.

Moran concludes, "It is my opinion that, despite the prodigious labor and great ingenuity everywhere evident, this decipherment must be judged a failure. The end product, the translations, is not plausible, and the methods and assumptions by which it is achieved are unacceptable."

Moran, William L., John Huehnergard, Shlomo Izre'el, and William L. Moran. *Amarna Studies: Collected Writings*. Harvard Semitic Museum publications. Winona Lake, Ind: Eisenbrauns, 2003.

This volume is a collection of William Moran's writings. The first chapter is of some importance as Moran's dissertation was on the subject, "A Syntactical Study of the Dialect of Byblos as Reflected in the Amarna Tablets." Amarna Letters from Byblos (what Moran calls "Byblian Amarna") reveal a relationship to Hebrew. Moran "elucidated the grammar of these difficult texts, showing that, although the vocabulary of the texts was Akkadian, the grammar, notably the verbal system, was actually that of the Canaanite spoken by the writers of the letters, a language very much like a precursor to Biblical Hebrew" (xiii). The dating of the undeciphered Byblos texts will either increase or decrease the pertinence of Moran's collected writings.

Naveh, Joseph. *Early History of the Alphabet: An Introduction to West Semitic Epigraphy and Palaeography*. Jerusalem: Magnes Press, Hebrew University, 1982.

This book is a comprehensive introduction to the early development and spread of the alphabet. It tutors its readers in Semitic epigraphy and palaeography. He shows how a script is related to those who developed the script, which may be another clue for tackling the Byblos problem. He gives categories for classifying script types (unknown or otherwise) and models for representation. Because he covers languages close to and likely in relationship with Byblos (he does explore the Byblos syllabary, which he calls

enigmatic), the book exposes one to the major languages and text issues. He interacts heavily with Albright and Cross.

Nibbi, Alessandra. *Ancient Byblos Reconsidered*. Oxford, U.K.: DE Publications, 1985.

Pardee, Dennis. "Canaanite Dialects", in Woodard, Roger D. *The Ancient Languages of Syria-Palestine and Arabia*. Cambridge: Cambridge University Press, 2008.

Pardee summarizes the primary characteristics of Canaanite of c. 1400 BC. These include the Canaanite shift, a consonantal inventory, a case system, verbal system of morphology similar to Ugaritic, and other such features. These features, if coded into any software that deals with Canaanite-like languages, will open the number of avenues where automated searching must go. That is, it provides a map of options that must be taken by any brute force attack against the Byblos code.

_____. "Ugaritic", in Woodard, Roger D. *The Ancient Languages of Syria-Palestine and Arabia*. Cambridge: Cambridge University Press, 2008.

Pardee here relates Ugaritic to the larger Canaanite context and gives a synopsis of the grammar. This summary grammar is helpful in just that: it is a summary.

Pei, Mario, and Frank Gaynor. *A Dictionary of Linguistics*. New York: Philosophical Library, 1954.

Pope, Maurice. *The Story of Archaeological Decipherment: From Egyptian Hieroglyphs to Linear B*. New York: Scribner, 1975.

Robinson, Andrew. *Lost Languages: The Enigma of the World's Undeciphered Scripts*. New York: McGraw-Hill, 2002.

Renouf, P. Le Page. *Sir G.C. Lewis on the Decipherment and Interpretation of Dead Languages*. Atlantis. [Offprint]. London: Williams and Norgate, 1863.

Sobelman, Harvey, 'The Proto-Byblian inscriptions: a fresh approach', *Journal of Semitic Studies* 6 (1961) 226-245.

Speiser, E. A. *Introduction to Hurrian*. New Haven: Pub. by the American schools of Oriental research under the Jane Dows Nies publication fund, 1941.

Byblos may be a Semitic language, but that is to be determined. To compare Byblos to other texts and languages – with a view to cracking it – means including Hurrian among the languages under consideration for comparison (Hurrian is an agglutinative language, spoken by in ancient Mesopotamia a good distance from Byblos. However, Speiser argues that the Hurrians had “profound cultural influence ... upon the Assyrians, the Hebrews, and the Hittites...” Hurrian is reported to have no genetic connection with the major linguistic families or branches of Mediterranean coastal region. In this way,

Speiser is instructive given his need to compare a relatively unknown language to other Semitic languages using the scant data he had. His analysis of grammar and morphology under such constraints may be quite similar to the constraints facing a study of Byblos. Hurrian, as found in the Amarna tablets, was decoded, in part, based upon form and literary analysis. If the Byblos texts follow a form or function, as exhibited by their find location and the material they were written on, then what is true of Hurrian may be true of Byblos. Hurrian is ultimately necessary for its proximity to

Stone, Michael E. *The Armenian Inscriptions from the Sinai*. Harvard Armenian texts and studies, 6. Cambridge, Mass: Harvard University Press, 1982.

The methodology of Stone's work with difficult texts and raw data, followed by systematically transferring that to analysis can be emulated in a steadied attack on Byblos or other unwieldy samples.

Szałek, Benon Zbigniew. *Decipherment and Interpretation of Ancient Inscriptions in Unknown Scripts and Languages*. Szczecin: Politechnika Szczecińska, 1984.

This little book is an analytical and mathematical gem. It provides case studies, formulas, methods, and suggestions for decipherment. This is a code-breakers handbook for languages. Szalek gives a history of the alphabet, its origin, and the ramification of this knowledge for a scheme of decipherment. The languages he works with are Linear A, Linear B, Greek, Cypriot, the Phaistos Disk, Semitic and Egyptian. By coming up with formulas and proofs, he is able to make more dogmatic assertions regarding the probable success of any attempt at cracking Byblos. Szalek has laid down the requirements of what constitutes a crackable script. Any work with the Byblos text would have to answer to what Szalek has hypothesized.

Szałek, Benon Zbigniew. *The Proto-Byblian Inscriptions in the Light of Heuristics and Cryptology*. Szczecin: B.Z. Szalek, 2001.

Szalek may provide the most up to date material on the Byblos inscriptions and the cracking thereof. In this short work he covers Inscriptions, Greek -- Lebanon -- Byblos (Extinct city).

Wallenfels, Ronald. *Redating the Byblian Inscriptions*. New York: Ancient Near Eastern Society, 1983.

Wallenfels posits a date of mid-9th through the end of the 7th centuries BC for the Byblian inscription KAI 1-8. In 1947, Albright had already lowered the dates of the inscriptions to not later than circa 975" (see above).

Woodard, Roger D. *The Cambridge Encyclopedia of the World's Ancient Languages*. Cambridge: Cambridge University Press, 2004.

This book masterfully covers the world's ancient languages: Sumerian, Elamite, Hurrian, Urartian, Akkadian, Eblaite, Egyptian, Coptic, Ugaritic, Hebrew, Phoenician, Canaanite, Aramaic, Geez (Aksum), North and South Arabian, Indo-European, Hittite, Luvian, Palaic, Lycian, Lydian, Carian, Attic Greek, Greek dialects, Sanskrit, Middle Indic, Old Persian, Avestan, Pahlavi, Phrygian, Latin, Sabellian, Venetic, Celtic, Gothic, Nordic, Armenian, Etruscan, Georgian, Chinese, Tamil, Mayan and Epi-Olmec. A knowledge of the existence and nature of these languages should not be overlooked when seeking to decode a now lost language and script (the uncracked Byblos texts may be one or both).

Woodard, Roger D. *The Ancient Languages of Syria-Palestine and Arabia*. Cambridge: Cambridge University Press, 2008.

Woodard's introduction to this compilation, "Language in ancient Syria-Palestine and Arabia: an introduction," creates a platform for a larger study in comparative languages. His overview of the situation is brief and valuable for getting a sense of the state of Semitic studies. Being up to date, it is valuable for new work.

II. Linguistics

Chao, Yuen Ren. *Language and Symbolic Systems*. Cambridge: Cambridge U.P., 1968.

Cotterell, Peter, and Max Turner. *Linguistics & Biblical Interpretation*. Downers Grove, Ill: InterVarsity Press, 1989.

The application of modern linguistics to biblical studies is "increasingly fruitful in understanding the text." And the application of that domain to the texts of Ugarit, Amarna, and then ultimately Byblos is how one develops more comprehensive theories about the Byblos languages. This book is imminently useful in providing the grammar of linguistics.

Fowler, Roger. *Understanding Language: An Introduction to Linguistics*. London: Routledge & Kegan Paul, 1974.

What is a word? What is a sentence? Such simple concepts are not entirely simple. And the use of language and control of sound are the subjects of a scientific inquiry in the language – hence Fowler's book and others like it in this category. Fowler is especially helpful for his presentation on the Phonetic Transcription of English (267) which is an identical maneuver that will be applied to Byblos studies.

Hughes, John Paul. *The Science of Language; An Introduction to Linguistics*. New York: Random House, 1962.

Hughes lays out the basic structure for any discussion about language and language analysis. He starts with definitions: What is Language? What is the nature of meaning? Etc. Given his basic concepts, one can use his terms to add sobriety and stability to any

ongoing discussion of linguistics or linguistic attempts to tackle Byblos. He gives a history of language and comparative philology and moves on to a scientific breakdown of the language (descriptively). This includes morphology and phonetics. The identity of a word, and the relationship of a word to the physical makeup of the human speaking organ, is not trivial, nor irrelevant to Byblos studies (where we are trying to identify words). Hughes book is of secondary use in cracking the Byblos code, but it is of primary use in describing and explaining the results.

Hymes, Dell H. *Studies in the History of Linguistics: Traditions and Paradigms*. Bloomington: Indiana University Press, 1974.

Pei, Mario. *Invitation to Linguistics; A Basic Introduction to the Science of Language*. Garden City, N.Y.: Doubleday, 1965.

As Pei states in his Preface, “People also want to know about the relationship of the various languages to one another, the way they group themselves into families and subfamilies, their historical evolution out of earlier stages...” And this is one of the goals when approaching Byblos. Pei’s book gives the nuts and bolts of phonology, phonetics, phonemics and derivatives thereof. His concern ranges from pitch, loudness, timbre, accent, intonation to comparative analysis and language trees (110). As with other texts from this domain of discourse, the subject matter serves to keep the discussion of an ancient language (Byblos) within the discussion of languages in general.

III. Ancient Near Eastern Texts

Donner, Herbert, and Wolfgang Röllig. *Kanaanäische und aramäische Inschriften*. Wiesbaden: O. Harrassowitz, 1962.

This three volume work contains ancient inscriptions from the regions of Canaan.

Gibson, John C. L. *Textbook of Syrian Semitic Inscriptions*. Oxford: Clarendon Press, 1971.

Volume 1 has Hebrew and Moabite inscriptions. Volume 2 contains Aramaic inscriptions, including inscriptions in the dialect of Zenjirli. Volume 3 is Phoenician inscriptions, including inscriptions in the mixed dialect of Arslan Tash.

The actual text of Byblos is found in Mendenhall’s book earlier cited.

Goren, Yuval, Israel Finkelstein, Nadav Na’aman, and Michal Artzy. *Inscribed in Clay: Provenance Study of the Amarna Tablets and Other Ancient Near Eastern Texts*. Tel Aviv: Emery and Claire Yass Publications in Archaeology, 2004.

In 2004 while taking graduate seminars at Megiddo, I got a fresh book report from Dr. Finkelstein about this book. He and his co-researchers traveled the world taking small samples from each of the Amarna tablets. They also traveled to the country/location

where each Amarna tablet purported to originate from. With chemical analysis, they compared samples and determined the site of origin for all of the tablets.

This research is relevant to Byblos studies because we may be using the Byblos Amarna tablets as if they originate from Byblos.

IV. Algorithms and Software Aided Analysis of Languages

Blum, Adam. *Neural Networks in C++: An Object-Oriented Framework for Building Connectionist Systems*. Wiley professional computing. New York: Wiley, 1992.

The development of a multiple-front attack on decrypting a language will include the use of artificial intelligence. The material in this book gives the basic approach with applications in various fields.

CICLing (Conference), and Alexander Gelbukh. *Computational Linguistics and Intelligent Text Processing 5th International Conference, CICLing 2004, Seoul, Korea, February 15-21, 2004 : Proceedings*. Lecture notes in computer science, 2945. Berlin: Springer, 2004.

Fellbaum, Christiane. *WordNet An Electronic Lexical Database*. Language, speech, and communication. Cambridge, Mass: MIT Press, 1999.

Wordnet is a production of Princeton where an experiment was conducted with a language database. That experiment needs to be extended to other languages (Ugaritic and Hebrew in this case) to see if similar database methods will yield equally fruitful results. A whole score of thesis have generated from the WordNet project, as it is a new tool for research into languages.

Karin Aijmer, and Bengt Altenberg. International Conference on English Language Research on Computerized Corpora, *Advances in Corpus Linguistics: Papers from the 23rd International Conference on English Language Research on Computerized Corpora (ICAME 23), Göteborg 22-26 May 2002*. Amsterdam: Rodopi, 2004.

This book gives “a foundation for grammatical theory” with discussions on data, description and theory. Wordnet and the achievements from that project get partial press in this work. Important topics include:

- Corpus data in a usage-based cognitive grammar
- Putting 'putting verbs' to the test of corpora
- A corpus-based comparative study of metaphor
- Textual colligation : a special kind of lexical priming
- Methodological problems in corpus-based historical pragmatics
- Measure noun constructions : degrees of delexicalization and grammaticalization
- Translations as semantic mirrors : from parallel corpus to wordnet
- Physical contact verbs in from the perspective of cross-linguistic lexicology
- Accidental corpus

McClelland, James and Rumelhart, David E. *Explorations in parallel distributed processing Buch*. Cambridge, Mass.: MIT Press, 1991.

This is the text that started the revolution in artificial intelligence. The authors are still recognized as the authority in this field, and they provide a chapter on language analysis by software. Can a computer detect structure in unstructured text? This book broke new ground in addressing that topic. The application of this technology to the field of linguistics has proven valid and continues to do so. For Byblos studies, one approach at decipherment will include methods outlined in this text.

McLeod, Peter, Kim Plunkett, and Edmund T. Rolls. *Introduction to Connectionist Modelling of Cognitive Processes*. Oxford: Oxford University Press, 1998.

Miller, Michael. *Cloud Computing: Web-Based Applications That Change the Way You Work and Collaborate Online*. Indianapolis, Ind: Que, 2008.

Cracking Byblos may prove to be computationally expensive. Using new technologies (Amazon's or Google's implementation of cloud computing) may provide the equipment necessary for a logarithmically expansive problem. This book gives the introduction to cloud computing required to undertake such a venture in deciphering Byblos.

Powell, Warren B. *Approximate Dynamic Programming: Solving the Curses of Dimensionality*. Wiley series in probability and statistics. Hoboken, N.J.: Wiley-Interscience, 2007.

Dr. Powell of Castle-Labs in Princeton has applied Markov chains to solve diverse problems in industry. By transforming the Byblos language problem into mathematical matrix sets, it may be possible to apply the same technology in deciphering an unknown language with knowledge of how the language is theoretically structured (if we deduce that it is related to the Canaanite systems).

Schneier, Bruce. *Applied Cryptography: Protocols, Algorithms, and Source Code in C*. New York: Wiley, 1996.

So long as languages have needed to be deciphered, cryptographic methods have been applied. The computerized application of those algorithms (for implementation in an attack on the Byblos language) can safely start with this text. This book is especially relevant for its application in the C programming language, which makes for easy implementation on any platform.

Sigman, Michael E., and Stephen S. Rives. "Prediction of Atomic Ionization Potentials I-III Using an Artificial Neural Network." *Journal of Chemical Information and Computer Sciences*. 34.3 (1994): 617-620.

In this article, I use a neural network to solve a problem using the same kind of technology that would find structured data in unstructured text. The mathematics behind the algorithm for such a cryptographic method are developed here.

Weiss, Sholom M. *Text Mining: Predictive Methods for Analyzing Unstructured Information*. New York: Springer, 2005.

This ground-breaking work provides algorithms for finding meaning in text using automated methods. The application to ancient vs. modern texts is academic, as the algorithms are agnostic about the dates and ages of the texts being mined.