THE WORLD'S WRITING SYSTEMS

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Molen, Willem van der. 1993. *Javaans schrift*. Leiden: Vakgroep Talen en Culturen van Zuidoost-Azi en Oceani, Rijksuniversiteit Leiden.
Pigeaud, Theodor. 1975. *Die Handschriften van Bali und Java*. Wiesbaden: Springer.
[Soeharto]. 1987. *Butir-Butir Budaya Jawa* [Pearls of Javanese culture]. Jakarta: S. N.
Zurbuchen, Mary. 1987. *The Language of Balinese Shadow Theater*. Princeton: Princeton Univ. Pr.

SULAWESI

Damais, Charles. 1948. "Écriture bugie." In *Notices sur les caractères étrangers anciens et modernes*, ed. Charles Fossey, 2nd ed., pp. 375–79. Paris: Imprimerie Nationale de France.
Hilgers-Hesse, Irene. 1967. "Schriftsysteme in Indonesien: Makassaren und Buginesen." *Studium Generale* 20: 548–58.
Kaseng, Syahruddin. 1978. *Kedudukan dan fungsi bahasa Makassar di Sulawesi Selatan*. Jakarta: Pusat Pembinaan dan Pambangunan Bahasa.
Noorduyn, Jacobus. 1991. *A Critical Survey of Studies on the Languages of Sulawesi* (Bibliographical series 18). Leiden: Koninklijk Instituut voor Taal-, Land- en Volkenkunde.
Pelras, Christian. 1979. "L'oral et l'écrit dans la tradition bugis." *Asie du Sud-Est et Monde Insulindien* 10: 271–97.
Tol, Roger. 1990. *Een Haan in Oorlog/Toloqna Arung Labuaja: Een Twintigste-eeuws Buginees Heldendicht van de Hand van I Mallaq Daeng Mabela Arung Manajeng*. Dordrecht: Foris.

PHILIPPINES

Bernardo, Gabriel. 1953. *A Bibliography of the Old Philippine Syllabaries*. Quezon City: Library, University of the Philippines.
Conklin, Harold C. 1949A. "Bamboo Literacy on Mindoro." *Pacific Discovery* 2/4: 4–11.
———. 1949B. "Preliminary Report on Field Work on the Islands of Mindoro and Palawan." *American Anthropologist* 51: 268–73.
———. 1953. *Hanunóo-English Vocabulary* (University of California Publications in Linguistics 9). Berkeley and Los Angeles: University of California Press.
———. 1955. *Hanunóo Music from the Philippines*. Ethnic Folkways Library Album FE4466. New York: Folkways Records. Reissued in 1992 as Smithsonian Institution Folkways Casette 04466.
———. 1959. "Linguistic Play in Its Cultural Context." *Language* 35: 631–36.
———. 1960. "Maling, a Hanunóo girl in the Philippines." In *In the Company of Man*, ed. Joseph Casagrande, pp. 101–18. New York: Harper and Row.
———. 1971. "Indic Scripts of the Philippines." Paper presented at the Oriental Club of New Haven, 11 November 1971.
———. 1991. "*Doctrina Christiana, en lengua espanola y tagala*, Manila, 1593: Rosenwald Collection 1302." In *Vision of a Collector: The Lessing J. Rosenwald Collection in the Library of Congress/Rare Book and Special Collections Division*, ed. K. Mang and P. VanWingen, pp. 36–40, 119. Washington, D.C.: Library of Congress.
Gardiner, Fletcher. 1943. *Philippine Indic Studies*. San Antonio: Witte Memorial Museum.
Postma, Antoon. 1971. "Contemporary Mangyan scripts." *Philippine Journal of Linguistics* 2: 1–12.
———. 1986. *A Primer to Mangyan Script*. Panaytayan.
———. 1989. *Ambahan Mangyan*. Manila: Arnoldus Press.
Revel, Nicole. 1990–92. *Fleurs de paroles: Histoire naturelle Palawan*, 3 vols. Louvain: Peeters.
Romualdez, Norberto. 1914. "Alfabeto Tagbanua." *Cultura Filipina* 5: 53–82.
Scott, William Henry. 1984. *Prehispanic Source Materials for the Study of Philippine History*, 2nd ed. Quezon City: New Day Publisher.

Part VIII: Middle Eastern Writing Systems

IN THE MIDDLE EAST, conditions prevailed that were opposite to those driving the spread of writing in Europe: religion, rather than politics, proved to be the principal vector. The first of the "peoples of the Book" were the Jews—a name that becomes appropriate with the post-Exilic period, a time when many scholars believe the text of the Hebrew Bible achieved its final form. The Hebrew language came to be, and still is, written in a form of Aramaic square script (the earlier Hebrew script being maintained only by the Samaritans). The Word of God inherited the sanctity of the Deity, to such an extent that even the slightest scrap of sacred text was to be treated with reverence and not destroyed. This attitude in part lay behind the sequestering of the documents known as the Dead Sea Scrolls, and a thousand or more years later to the keeping of a genizah—a place to store any written refuse, notably that in a Cairo synagogue which has yielded thousands of fragments of documents in several languages pertaining to everyday life as well as to sacred matters.

Christian scholars and missionaries evolved two prominent scripts from epigraphic Semitic predecessors. Cursive developments of the Aramaic branch of the Semitic abjad resulted in the script used for Mandaic and, in numerous Eastern churches, that of Syriac, which has been taken over for some of the related Aramaic languages that survive to the present. Other varieties came into use in (pagan) Iranian empires, successors to the Persian (Achaemenid) Empire of Darius—Arsacid (Parthian), Seleucid, and Sassanian—whence they were carried into Inner Asia. Meanwhile, in the Axumite kingdom of modern Ethiopia and Eritrea, immigrants using a South Arabian abjad erected imposing monuments. This was among the first kingdoms to be converted to Christianity; with the conversion, vowel notation was added to the script, yielding the abugida that has been used (with some systematic additions) until the present for several languages of the area.

Another cursivization of an Aramaic forerunner came to be used to write Arabic. When the revelations to Muhammad were written down (after the Prophet's time) to forestall the corruption of the ipsissima verba that was a perpetual danger with oral

transmission, the Arabic script became the medium of the new message. It soon developed strongly regional variations, and many of these became incorporated into the artistic repertoire of a culture that, forbidding graphic representation of living beings, developed calligraphy as a primary art form. The distinguishing dots, originally made necessary by the merging of the forms of many of the letters through their evolution, became part of the decorative resources of the civilization.

The sacred nature of the texts originally recorded in Hebrew, Syriac, and Arabic script, coupled with the need to supplement the abjad with indication of vowels—probably due to the introduction of unfamiliar foreign technical terms from languages like Greek and Persian—led scholars who used the three scripts to introduce vocalic notations that did not corrupt the consonantal text by invading the line of letters. The first script to receive this treatment was the Syriac, then the Arabic, and lastly the Hebrew; in each case scholars were aware of the achievements of their predecessors. To this day, the vocalizations are used only in sacred texts and to prevent confusion in unfamiliar or ambiguous words in secular contexts.

The languages written in this region belong to three major groups: Semitic (itself part of Afroasiatic), Indo-European, and Altaic. The demise of Akkadian left only representatives of West Semitic still in use. Ethiopic represents South(west) Semitic, and Hebrew and Aramaic together constitute Northwest Semitic; the position of Arabic between those two groups is now disputed. Mandaic and Syriac are Aramaic languages (while Hebrew is not)—the prominence of descendants of Aramaic script through much of Asia results from the use of (Imperial) Aramaic as the lingua franca of several ancient empires, including the Babylonian, Persian, and Iranian.

The Iranian group of languages, closely related to Indic (Indo-Aryan) within the Indo-Iranian branch of Indo-European, is diversely represented among the epigraphic remains of the ancient world. They fall into two periods: Old Iranian includes Old Persian, from southwest Iran, and Avestan, the language of the Avesta, the holy books of the Zoroastrians, from the northeast. Middle Iranian languages are attested from the first century B.C.E. (Bactrian, Parthian) to the ninth century C.E. (Khwarezmian to the 13th century). The Western group includes Parthian and Middle Persian (descendant of Old and ancestor of Modern Persian); Eastern includes Bactrian, Khwarezmian (most texts in a slightly modified Arabic script), Sogdian, Khotanese, and Tumshuqese (the last two written in variants of Brahmi).

The three principal language families of Inner Asia—Turkic, Mongolic, and Tungusic—are usually regarded as a single phylum, Altaic. The transmission and adaptation of Aramaic scripts can be followed from Turkic Uyghur to Mongolic Mongolian and Oirat to Tungusic Manchu; the influence of Chinese script can be seen in the vertical lines of writing, albeit ranged from left to right—as though a page of some earlier Aramaic script were rotated counterclockwise. Compare Syriac, written vertically but rotated clockwise for horizontal reading right to left; and Lepcha, rotated clockwise from the Tibetan left-to-right model to be read vertically right to left.

— PETER T. DANIELS

SECTION 46

The Jewish Scripts

RICHARD L. GOERWITZ

The story of the Jewish scripts is the story of a clash between an older, Canaanite orthographic tradition and a broader, pan–Near Eastern Aramaic one. It is also the story of repeated readaptations of a simple consonant-only script (an abjad), and its ultimate expansion into a genuinely alphabetic writing system. The story of the Jewish scripts is thus a great deal more than the story of sectarian orthographic tradition: It is an important chapter in the history of writing.

From Phoenician to Aramaic to Jewish script

Although Hebrew probably existed in some distinct form as early as the mid second millennium B.C.E., texts broadly identifiable as such only begin to appear on the Palestinian archeological scene in the ninth century B.C.E. These texts are written in a distinctive right-to-left consonantal script that differs in its general appearance, but not in its basic twenty-two letter inventory, from what we find in the Dead Sea Scrolls, in medieval Jewish manuscripts, and even in today's modern Hebrew texts (TABLE 46.1; note later medial/final alternative forms).

This oldest Hebrew script was probably borrowed from Israel's northern coastal neighbors, the Phoenicians, whose script also consisted of twenty-two symbols (SECTION 5). While some Phoenician dialect might actually have possessed just twenty-two consonantal phonemes to go with these twenty-two symbols, the Hebrew of the early first millennium B.C.E. probably possessed at least twenty-five consonantal phonemes (see TABLE 46.2). Because the size of its consonantal inventory exceeded the number of symbols in the Phoenician script, we infer that some of the borrowed Phoenician letters must have taken on multiple values in Hebrew—the same way, for example, that English uses *th* to represent the values [θ] and [ð]. During this period, ע *ʿ*, ח *ḥ*, and ש *š/ś* were probably bivalent ([ʕ, ɣ], [ħ, x], [ɬ, ʃ] respectively).

As it passed through successive generations of Israelite scribes, the Phoenician-derived Old Hebrew script took on certain traits that distinguished it from the scripts of its neighbors. Although the Old Hebrew script has persisted among the Samaritans—adherents to an ancient offshoot of Judaism—even into recent times (compare TABLE 46.2, col. 2, with TABLE 5.4 on page 95), among Jews this script did not outlive the many sociopolitical upheavals of the late first millennium B.C.E. and the early first millennium C.E., though in a few Dead Sea Scrolls it is used for the Name of God.

TABLE 46.1: *Old Hebrew and Jewish Scripts*[a]

Transliteration	*Ca. 600 B.C.E.*	*Ca. 125 B.C.E.*		*Modern*
ʾ		א		א
b		ב		ב
g		ג		ג
d		ד		ד
h		ה		ה
w		ו		ו
z		ז		ז
ḥ		ח		ח
ṭ		ט		ט
y		י		י
k		כ	ך	כ ך
l		ל		ל
m		מ	ם	מ ם
n		נ	ן	נ ן
s		ס		ס
ʿ		ע		ע
p		פ	ף	פ ף
ṣ		צ	ץ	צ ץ
q		ק		ק
r		ר		ר
š		ש		ש
t		ת		ת

a. In the last two columns, the right-hand letters are word-final forms. "600 B.C.E." reflects several texts; "125 B.C.E." represents a Hasmonean Dead Sea Scroll manuscript.

From about the twelfth century B.C.E. on, Aramaic-speaking peoples began to diffuse into the Levant, and later into Palestine itself, leading to a slow displacement of Canaanite-speaking peoples (of which the ancient Israelites were one, Hebrew being a southern or "inland" Canaanite dialect). A series of distinct and significantly Aramaized powers also seized control of Palestine. These were, in turn, the Assyrians, the Babylonians, and the Persians—the last of whom established one eastern dialect of Aramaic (what we now call "Imperial" Aramaic) as the administrative language of the entire Near East. Within a few decades, Imperial Aramaic, and its own Phoenician-derived script forms (see FIGURE 57), had achieved dominance throughout the region. We find it being used, for instance, in Aramaic papyri produced by a fifth-century B.C.E. Jewish military colony on Elephantine Island, opposite Aswan (Syene), Egypt. This domination persisted until the third century B.C.E.—the century after Alexander the Great conquered the Near East and ushered in a new era of Greek cultural hegemony over the eastern Mediterranean region.

Despite its replacement by Greek in official circles, Aramaic remained in use, both by local administrations and by the diverse populations who knew one or another dialect of it as their native language. No longer an official international medium of communication, Aramaic script forms became free to develop independently in the various locales that used them. It is out of this milieu that a distinctive Jewish script began to take shape. By the mid third century B.C.E., we begin to discern a local Judean variant emerging from the remnants of the Imperial Aramaic script. After a period of vacillation, during which the old Hebrew letter forms remained in use, Jews finally settled on a localized Aramaic script as their standard. This script was used for both Hebrew- and Aramaic-language documents.

Although many regional variations and stylizations have arisen over the years (e.g. the semi-cursive Italian "Rashi" script used for rabbinical commentaries, see TABLE 46.2, col. 3), the basic formal Jewish script has remained fundamentally the same all the way into modern times. Traditionally, Jews have taken great pride in their formal script, especially the often beautifully ornamented forms utilized in the Torah scrolls from which Rabbis read (actually, chant) scripture portions in the synagogue.

The standard reference for the history of the script is Naveh 1987; on the Hebrew language generally, see Sáenz-Badillos 1993. There is no similar volume on Aramaic.

From consonants to vowels

One notable trait of Phoenician orthography in the early first millennium B.C.E. was its defective character. In particular, it had no means of expressing vowels. Later on it also came to be written without any divisions between words. Hebrew and Aramaic scribes, when borrowing this script, maintained the older practice of marking word boundaries with a slash, dot, and—later on, in Aramaic—a space. They also worked out a way of representing vowels using "helping" consonants or *matres lectionis* 'mothers of reading', viz. ה *h*, [a:] and [ɛ:], ו *w*, [u:] and later [o:], and י *y*, [i:] and later

TABLE 46.2: *Hebrew Consonants*[a]

Hebrew	*Samaritan*	*Rashi*	*Num. Value*	*Trans-literation*[b]	*Reconstructed Mid 2nd Millennium*	*Tiberian*	*General Standard Israeli*	*Name*
א	𐤀	א	1	ʾ	[ʔ]	[ʔ]	[ʔ, Ø]	ʾálep̄
ב	𐤁	ב	2	b, b̲	[b]	[b, v]	[b, v]	bēt̲
ג	𐤂	ג	3	g, ḡ	[g]	[g, ɣ]	[g]	gímel
ד	𐤃	ד	4	d, d̲	[d]	[d, ð]	[d]	dāleṯ
ה	𐤄	ה	5	h	[h]	[h]	[h]	hē
ו	𐤅	ו	6	w	[w]	[w]	[v]	wāw
ז	𐤆	ז	7	z	[z, dz][c]	[z]	[z]	záyin
ח	𐤇	ח	8	ḥ	[ḥ, x]	[ḥ]	[x]	ḥeṯ
ט	𐤈	ט	9	ṭ	[tʼ]	[ṭ][d]	[t]	ṭēṯ
י	𐤉	י	10	y	[j]	[j]	[j]	yōd̲
כ ך	𐤊	כ ך	20	k, k̲	[k]	[k, x]	[k, x]	kap̄
ל	𐤋	ל	30	l	[l]	[l]	[l]	lā́med̲
מ ם	𐤌	מ ם	40	m	[m]	[m]	[m]	mēm
נ ן	𐤍	נ ן	50	n	[n]	[n]	[n]	nūn
ס	𐤎	ס	60	s	[ts][e]	[s]	[s]	sā́mek̲
ע	𐤏	ע	70	ʿ	[ʕ, ɣ]	[ʕ]	[ʔ, Ø][f]	áyin
פ ף	𐤐	פ ף	80	p, p̄	[p]	[p, f]	[p, f]	pēh
צ ץ	𐤑	צ ץ	90	s	[tsʼ, ʧʼ, tɬʼ]	[s]	[ts]	ṣāḏēh
ק	𐤒	ק	100	q	[kʼ]	[q]	[k]	qōp̄
ר	𐤓	ר	200	r	[ɾ]	[ʀ]	[ʁ]	rēš
ש	𐤔	ש	300	ś, š	[ɬ, s, ʃ]	[s, ʃ]	[s, ʃ]	śīn, šīn
ת	𐤕	ת	400	t, t̲	[t]	[t, θ]	[t]	tāw

a. In the first and third columns, a right-hand letter is the word-final form.
b. Over- and underbarred letters represent fricative versions (i.e. in pointed texts, without *dāgēš* or with *rāp̄ē*).
c. Perhaps [ʒ, ʤ]; Diakonoff 1992.
d. "Emphatic" consonant.
e. *ts* > *s*; Faber 1984, 1992.
f. See Blau 1982; Israeli ʿ varies widely.

[e:]; e.g. אדוני *ʾdwny* (Judges 13:8) ~ אדני *ʾdny* [ʔaðo:na:j] 'lord'. At first, *matres* were used only for word-final long vowels (Cross and Freedman 1952; Zevit 1980.

Though the *matres* brought the Hebrew and Aramaic scripts considerably closer to what we think of as true alphabets, these scripts still fell short because they lacked distinct vowel symbols that could be used regardless of vowel length or position in the word. The Hebrew and Aramaic scripts, that is, still focused primarily on syllabic frames (e.g. **qām* appears as קם *qm*), representing their nuclei—that is, the vowels—only in restricted contexts, and using an imprecise modification of the consonantal system. The development of a full, voweled alphabet did, in fact, occur during the first

TABLE 46.3: *Tiberian Vowel Points*

Sign (with מ*)*	*Transliteration*	*Tiberian*	*Israeli*	*Name*
מִ	*i, ī*; with yōḏ̲, *î*	[i(:)]	[i]	hîreq
מֵ	*ē*; with yōḏ̲, *ê*; with hē', *ēh*	[e:]	[e]	ṣērē
מֶ	*e*; with yōḏ̲, *ê*; with hē', *eh*	[ɛ(:)]	[e]	səḡōl
מַ	*a*	[a(:)]	[a]	páṯaḥ
מָ	*ā*; with hē', *â*; *o*	[ɔ(:)]	[a, o]	qāmeṣ; as *o*, qāmeṣ ḥāṭūp̄
מֹ	*ō*; with wāw, *ô*; with hē', *ōh*	[o:]	[o]	ḥôlem
מֻ, מוּ–ה	*u, ū*; *û*	[u(:)]	[u]	qibbúṣ, šûreq
מְ	*ĕ*	[ɛ]	[ɛ]	ḥāṭēp̄ səḡōl
מֲ	*ă*	[a]	[a]	ḥāṭēp̄ páṯaḥ
מָ	*ŏ*	[ɔ]	[o]	ḥāṭēp̄ qāmeṣ
מְ	*ə*, Ø	[ə, Ø]	[ə, Ø]	šəwā

millennium B.C.E.—but not among Canaanites or Arameans. Rather, it occurred farther west among the Greeks, who adapted and extended the Semitic script to suit their own dialects (SECTION 21).

Despite the contemporaneous development of a full alphabet among the Greeks, and later the Romans, etc., Hebrew scribes continued their consonant-dominated writing tradition, eschewing truly distinct vowel symbols. Though their system generally conveyed a given writer's basic intent, various diachronic phonological changes such as *h*-apocope, ʾ-quiescence, *aw*- and *ay*-monophthongization, stress lengthening, etc., created a rift between spelling and pronunciation. As this rift widened, new and extended old uses of the *matres* arose to bridge the gap. We obtain our best view of these changes in the Dead Sea Scrolls of the late first millennium B.C.E., where Freedman and Mathews (1985) discern three spelling typologies: (a) the Proto-Rabbinic, (b) the Proto-Samaritan, and (c) the Hasmonean. A fairly conservative strand of the Proto-Rabbinic spelling system later became the dominant orthography for Jewish biblical manuscripts. Other forms of literature, being less constrained by tradition, tended to vary more widely (Weinberg 1985: 7–28).

As detail-conscious methods of biblical interpretation spread, and the correct reading of the biblical text became progressively more critical to Jewish liturgy and study, the nominally reformed biblical spellings became themselves insufficient, and additional extensions arose. In the early first millennium C.E., Greek transcriptions apparently came into use as adjuncts to the Hebrew, possibly in efforts to record the correct pronunciation of vowels not covered by the *matres* (cf. Vööbus 1971: 4–10). Later on, however (about 600 C.E.), a full solution was found: specialized *points* or diacritics (TABLE 46.3) that could be combined with the consonants used in traditional spellings (Yeivin 1980: 157–274).

As an example of how these diacritics worked, note the traditional spelling of the word 'Judah'. In the main medieval reading tradition, the Tiberian—that used in the

northern Palestinian city of Tiberias—this word was probably pronounced [jəhu:ðɔ:], although scholars today typically transcribe it as *yəhûḏâ*.* The traditional consonantal writing of this word is יהודה, with the ו *w* and final ה *h* functioning as *matres* for [u] and [ɔ] respectively. Combined with the special diacritics for [ə], [u], and [ɔ], the Tiberian spelling of this word is יְהוּדָה, i.e. the original spelling augmented with some (sometimes redundant) dots and dashes. In a standard biblical text, יְהוּדָה would also carry a *cantillation mark* (or *accent*) to indicate stress position and musical motif (TABLE 46.4). Many medieval manuscripts also show a line over the ד, called *rāpeh*, which signals a voiced fricative [ð] rather than stop [d] pronunciation for the דּ (so for all the nonemphatic stops, בּ גּ דּ כּ פּ תּ [v, ɣ, ð, x, f, θ], known by the mnemonic *begad kefat*). Had the ד been a stop, [d], it would have been marked with a *dāḡēš*, i.e., with a central dot דּ; similarly בּ גּ כּ פּ תּ [b, g, k, p, t]). *Dāḡēš* also marks doubling, e.g., לּ stands for [ll]. The question of whether a *dāḡēš* indicates a geminate or stop articulation for a given consonant can ultimately be resolved, but often only by reference to (morpho)phonological processes that fall outside our scope. The two pronunciations of שׁ are distinguished as שׁ *ś* [s] and שׁ *š* [ʃ]. Another mark inserted into the consonantal text is the hyphen-like *maqqēp*, connecting a word with (usually) a particle that no longer bears primary stress: כָּל־אָדָם *kōl-ʾāḏām* – כָּל־אָדָם *kol-ʾāḏām* 'every person'.

Three main Hebrew diacritic vowel/cantillation systems are known to scholars today. These are: (a) the Tiberian (mentioned above), (b) the Babylonian, and (c) the Palestinian. All developed between approximately 600 and 1000 C.E. Toward the end of this period, hybrid systems also proliferated. Aside from a few medieval manuscripts containing Aramaic Bible translations (called Targums), Jewish sacred literature (e.g. the Mishnah), or liturgical poetry (*piyyuṭim*), these diacritic systems—both hybrid and pure—occur only in biblical texts. Their purpose was to record one or another group's notion of how the biblical text ought to be correctly read; the scholars who devised and preserved the systems are known as Masoretes. Most of the differences between the three main Masoretic traditions are purely graphic; that is, they show the same overall cantillation patterns and vowels, but represent these by different signs. It is true, though, that a few of the vocalic differences reflect genuine underlying dialectal divergences. And, while the cantillation systems typically agree on the placement of the main clause and verse divisions (Aronoff 1985), they often differ substantially in their complexity and handling of lesser details.

Salient features of the major diacritic systems are described in Yeivin 1980, Revell 1970, 1977, and especially Yeivin 1985. There is still, however, a great deal of work left for the next generation of scholars. For example, Wickes 1881, 1887—the still standard monographs on the Tiberian cantillation marks—have not even been updated, still less replaced by more comprehensive studies. Medieval transcriptions of Tiberian Hebrew in Arabic characters are also for the first time being systematically

*A widely used transcription of Hebrew (and related languages) uses a circumflex accent for a long vowel marked by a *mater lectionis*, and a macron for a long vowel not so marked. A line under (or over, for *p* and *g*) a stop consonant indicates that it is pronounced as a fricative.

TABLE 46.4: *Tiberian Accents (cantillation marks)*[a]

In the Twenty-one Prose Books				In the Three Poetical Books[b]			
	Accent	*Name*	*Usage*		*Accent*	*Name*	*Usage*
Pausal (disjunctive) Accents							
1.	ֽ	silluq	דָּבָר	1.	׏	sillûq	דָּבָר
2.	֑	aṯnāḥ	דָּבָר	2.	֒	ʿôleh wəyôrēḏ	דָּבָר
3.	֒	səḡôltā'	דָּבָר	3.	֑	'aṯnāḥ	דָּבָר
	֥	šalšéleṯ	דָּבָר	4.	֣	great rəḇîaʿ	דָּבָר
4.	֣	great zaqēp	דָּבָר		֤	little rəḇîaʿ	דָּבָר
	֤	little zaqēp	דָּבָר	5.	֖	rəḇîaʿ muĝrāš	דָּבָר
5.	֖	ṭipḥā'	דָּבָר	6.	֭	sinnôr	דָּבָר
6.	֗	rəḇîaʿ	דָּבָר	7.	֮	dəḥî	דָּבָר
7.	֙	zarqā'	דָּבָר	8.	֯	pāzēr	דָּבָר
8.	֡	pašṭā'	דָּבָר	9.	֥֣	great šalšéleṯ	דָּבָר
	֫	yəṯîḇ	דָּבָר	10.	֣֜	'azlâ ləḡarmēh	דָּבָר
9.	֢	təḇîr	דָּבָר		֤֜	məhuppāḵ ləḡarmēh	דָּבָר
10.	֠	gə́reš	דָּבָר				
	֧	geršáyim	דָּבָר				
11.	֨	pāzēr	דָּבָר				
	֤֨	great pāzēr	דָּבָר				
12.	֪	great təlîšā'	דָּבָר				
13.	֥	ləḡarmēh	דָּבָר				
Non-pausal (conjunctive) Accents							
1.	֣	mûnāḥ	דָּבָר	1.	֣	mêrəḵā'	דָּבָר
2.	֤	məhuppāḵ	דָּבָר	2.	֤	tarḥā'	דָּבָר
3.	֥	mêrəḵā'	דָּבָר	3.	֥	'azlā'	דָּבָר
	֥֥	double mêrəḵā'	דָּבָר	4.	֦	mûnāḥ	דָּבָר
4.	֦	darḡā'	דָּבָר	5.	֧	ʿillûy	דָּבָר
5.	֧	'azlā'	דָּבָר	6.	֨	məhuppāḥ	דָּבָר
6.	֨	little təlîšā'	דָּבָר	7.	֩	galgal	דָּבָר
7.	֩	galgal	דָּבָר	8.	֪	little šalšéleṯ	דָּבָר
[8.	֫	mâyəlā'	לְהַחֲלִיל]	9.	֬	sinnôrîṯ	דָּבָר

a. As enumerated in Wickes 1887: 10–11, 1881: 12.
b. Psalms, Proverbs, Job.

edited and published (Khan 1990). These promise to revolutionize much of what we know about the phonology behind the Tiberian diacritics (Khan 1987, 1990, with Garr 1990, form the basis of TABLE 46.3, col. 3; note also Goerwitz 1990 on long *pataḥ* and *səḡōl*).

With the addition of specialized diacritics to the older consonantal system, a re-

markable change took place in Hebrew writing: it became genuinely alphabetic. Medieval Hebrew script is, in fact, vastly more explicit and descriptive than printed Western scripts because its cantillation signs include detailed information about stress, pause (a word at the end of a syntactic unit usually assumes a somewhat different stress and vocalization pattern, closer to a historically earlier form), and musical pitch. The great irony here is that this system arose only after the Greeks had borrowed the Semitic consonantal script and extended it systematically to cover vowels as well. Liturgical Hebrew script simply reincorporates and extends these principles, finishing the "alphabetization" process that the Phoenician-derived scripts themselves had originally inspired. It remains unclear whether the Hebrew cantillation marks were adapted from Greek or Syriac antecedents, or whether they arose together against a common backdrop of Jewish, and subsequent Christian, modal chant.

Codification of the medieval script

By about 1200, the once diverse world of medieval Jewish pointing systems had become considerably more monolithic. The reason for this change is that the Tiberian system, by reason of its fullness and supposed greater accuracy, ended up superseding the others (Chiesa 1979: 9–17). Since that time, almost all biblical manuscripts have carried Tiberian vowel and cantillation marks. Adoption of the Tiberian system as the standard for all biblical manuscripts brought to completion the process of standardization that had begun over a millennium earlier, with the development of the national Jewish variant of the old Imperial Aramaic script. It is a remarkable but verifiable fact that anyone who can read a modern printed Hebrew Bible can, after a short period of adjustment, read not only medieval biblical manuscripts, but also for instance the Jewish-script manuscripts found among the Dead Sea Scrolls (see TABLE 46.1).

Although vowel and cantillation marks assume an important role in most medieval and later biblical manuscripts and editions, nonbiblical texts (as noted above) generally do not carry vowel or cantillation signs. Furthermore, nonbiblical texts show the same expansionistic uses of *matres lectionis* that were systematically excluded from the conservative biblical tradition. They also often differ in a few ancillary consonantal spelling conventions, such as the use of ו and י for consonantal *w* and *y* respectively. Modern Israeli printed texts continue liberal, nonbiblical uses of the *matres*. Much work in developing standards for their use has in fact been done during the twentieth century (Weinberg 1985: 47–185). By way of contrast, vowel pointing or *niqqud* only appears (a) in school books, (b) in prayer books and poetry, and (c) in situations where a word, if left unpointed, might easily be misconstrued. Cantillation marks do not appear at all any more except in printed Bible editions. In effect, Israeli script, like most nonbiblical Hebrew orthographies, owes more to writing principles developed during the second millennium B.C.E. than to the medieval biblical scripts—whose diacritics supply nuances of pronunciation that serve no useful purpose in, and often even impede, everyday written communication.

Sample Texts

Imperial Aramaic

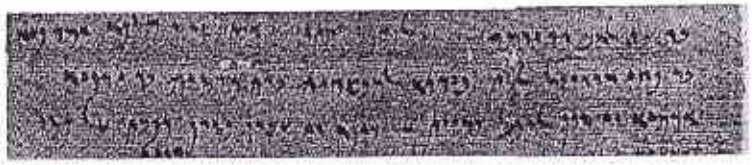

FIGURE 57. Introduction to a quitclaim written at Elephantine, 26 August 440 B.C.E. (Sayce and Cowley 1906, papyrus F, lines 1–3).

ב← \ /// לאב הו יום /// /// /// לפחנס שנת = // /// ארתחשסש מלכא
b← 14 b'l wh mwy 19 snhpl tnš 25 šššḥtr' 'klm

אמר פיא בר פחי ארדיכל לסון בירתא למבטחיה ברת מחסיה בר
rm' 'yp rb yḥp lkydr' nwsl 'tryb hyḥṭbml trb hysḥm rb

ידניא ארמיא זי סון לדגל ודיזת על דינא זי עבדן בסון נפ[ר]ת על כסף
'yndy 'ymr' yz lgdl nws tzyrw l' 'nyd yz ndb' l' [d]pn nwsb psk

1. Transliteration: b 14 l'b hw ywm 19 lpḥns šnt 25
2. Normalization: ba 14 la-'ab hū yōm 19 la-paḥons šanat 25
3. Gloss: on 14th Ab that day 19 Paḥons year 25

1. 'rtḥššš mlk' 'mr py' br pḥy 'rdykl lswn
2. 'Artaḥšásta malk-ā 'amar Pī'a bar Paḥī 'aradēkal la-Sūn
3. Artaxerxes king-the said Pia son.of Pakhi builder of-Aswan

1. bytr' lmbṭḥyh brt mḥsyh br ydny'
2. bīrat-ā la-Mibṭaḥyā barat Maḥsēyā bar Yadānyā
3. fortress-the to-Mibtachia daughter.of Machseia son.of Yedoniah

1. 'rmy' zy swn ldgl wryzt 'l dyn' zy
2. 'Aramāy-ā ḏī Sūn la-dágəl warīzat 'al dīnā ḏī
3. Aramean-the of Aswan of-division.of Warizat concerning lawsuit which

1. 'bdn bswn npd/rt 'l ksp
2. 'abád-na ba-Sūn np[r]/[d]t 'al kásəp
3. did-we in-Aswan suit(?) regarding silver

'On the 14th of Ab, that is, day 19th of (the Egyptian month) Pahons, year 25 of Artaxerxes the king, Pia son of Pakhi, a builder of Aswan, the fortress, said to Mibtachia, daughter of Machseia son of Yedania the Aramean, belonging to the the Warizat division at Aswan: "Concerning the lawsuit we undertook in Aswan—a suit(?) regarding silver (and other belongings) ..."'

—AP 14, lines 1–3 (Cowley 1923: 41–43; Porten and Yardeni 1989: 38–39).

Note: The document goes on to state that Pia and Mibtachia's division of property is satisfactory to Pia, and that he will not litigate any further on this matter. Note the cosmopolitan setting: this document records a property settlement between a recently divorced Egyptian-named builder and his Jewish wife.

Hebrew with Tiberian vocalization

Stress falls on the last syllable of each word unless otherwise marked.

וַיֹּאמְרוּ← אִם מָצָאנוּ חֵן בְּעֵינֶיךָ יִתֵּן אֶת הָאָרֶץ
ṣerāʾāh ṯeʾ nattuy ăḵênêʿəb nēḥ ûnʾāṣām miʾ ûrəmʾōyyaw←

הַזֹּאת לַעֲבָדֶיךָ אַל תַּעֲבִירֵנוּ אֶת הַיַּרְדֵּן
nēdrayyah ṯeʾ ûnērîḇăʿat laʾ âzzuḥăʿal ăḵḗḏāḇăʿal ṯʾōzzah

1. *Transliteration:* wayyōʾmərû ʾim māṣāʾnû ḥēn bəʿênêḵā
2. *Transcription:* waj-joːm(ə)r-uː ʔim moːˈsɔːnuː ħeːn bəʃeːˈnɛːxɔː
3. *Gloss:* and-said-they if found-we favor in-eyes-your

1. yuttan ʾeṯ hāʾāreṣ hazzōʾt laʿăḇāḏêḵā laʿăḥuzzā
2. jutta:n ʔeθ hɔː-ʕɔːrɛts haz-zoːθ laː-ʃavɔːˈðeː-xɔː laː-ʔaxuzzɔː
3. let.be.given ACC the-land the-this to-servants-your as-possession

1. ʾal taʿăḇîrēnû ʾeṯ hayyardēn
2. ʔal taː-ʃaviːˈreː-nuː ʔeθ haj-jardeːn
3. not may.you.cause-cross-us ACC the-Jordan

'Then they said, "If we have found favor with you, let this land be given to us, your servants, as a permanent possession. Do not make us cross the Jordan!"'
—*Numbers 32:5 (for the phonetics, see Khan 1990, ms. 1).*

Israeli Hebrew

הקונקורדנציה לתנ"ך היא עדיין בחזקת "ספר החתום" לרוב←
bôrl "mûtāheḥ rps" tqzḥb nyyd' 'yh *k"ntl hyṣnadrôqnôdh*←

הציבור, ... והרי לאמיתו של דבר, הקונקורדנציה לתנ"ך עשויה להיות
tôyhl hyûś' k"ntl hyṣnadrôqnôdh ,rbd lš ôtym'l yrhw ... rûbbyṣh

כלי מחזיק ברכה וספר־עזר לכל אדם בישראל, המתעניין
nyyn'tmh ,l'rṣyb md' *lkl* rze'-rpsw hkrb qyzḥm ylk

בכתבי־הקודש שלנו
ûnlš šdôqh-ybtkb

1. *Transliteration:* *hqônqôrdansyh* *ltn"k* hy' 'dyyn bḥzqt
2. *Transcription:* ha-konkordants'ja la-ta'nax hi ʔa'dajin b-xez'kat
3. *Gloss:* the-concordance to.the-Tanakh that still in-presumption

1. "spr heḥatûm" lrôb hṣybbûr, ... whry l'mytô šl dbr,
2. 'sefer he-xa'tum l-rov ha-tsi'bur va-ha're la-ʔami'to ʃel da'var
3. book the-sealed to-most.of the-public and-here as.the-truth of thing

1. hqônqôrdansyh ltn"k ʿṣuyh lhyôt kli mḥzyq brkh
2. ha-konkordants'ja la-ta'nax ʔasuja li-hjot kli maxaziq braxa
3. the-concordance to.the-Tanakh made to-be tool holder.of blessing

1. wspr ʿezr *lkl* 'dm byśrl, hmtʿnyyn bktby
2. v-'sefer 'ʔezer l-xol ʔa'dam b-jisra'ʔel ha-mitʔanyen b-xitve
3. and-book.of help to-every.person in-Israel the-interested in-scriptures.of

1. hqôdš šlnû
2. ha-'kodeʃ ʃe-'la-nu
3. the-holiness which-to-us

'A concordance of the Bible is still considered a "sealed book" by most of the public. ... But the truth of the matter is that a concordance of the Bible can serve as a beneficial reference tool for anyone in Israel interested in our holy scriptures.' —*Even-Shoshan 1985: 1.*

Note: *Tanakh* is an acronym for the three components of the Bible: *Torah, Nevi'im, Ktuvim* 'the Law, the Prophets, and the Writings'.

Bibliography

Aronoff, Mark. 1985. "Orthography and Linguistic Theory: The Syntactic Basis of Masoretic Hebrew Punctuation." *Language* 61: 28–72.

Andersen, Francis I., and A. Dean Forbes. 1986. *Spelling in the Hebrew Bible* (Biblica et Orientalia 41). Rome: Biblical Institute Press.

Birnbaum, Solomon A. 1954–71. *The Hebrew Scripts*. 2 vols. Vol. 1, Leiden: Brill, 1971; vol. 2, London: Palaeographica, 1954–57.

Blau, Joshua. 1982. *Polyphony in Biblical Hebrew* (Israel Academy of Sciences and Humanities, Proceedings 4/2). Jerusalem.

Chiesa, Bruno. 1979. *The Emergence of Hebrew Biblical Pointing* (Judentum und Umwelt 1). Frankfurt am Main: Lang.

Cowley, A. 1923. *Aramaic Papyri of the Fifth Century B.C.* Oxford: Clarendon. Repr. Osnabrück: Zeller, 1967.

Cross, Frank Moore, Jr. 1961. "The Development of the Jewish Scripts." In *The Bible and the Ancient Near East*, ed. G. Ernest Wright, pp. 133–202. Garden City, N.Y.: Doubleday. Repr. Winona Lake, Ind.: Eisenbrauns, 1979.

Cross, Frank Moore, Jr., and David Noel Freedman. 1952. *Early Hebrew Orthography: A Study of the Epigraphic Evidence* (American Oriental Series 36). New Haven.

Diakonoff, Igor M. 1992. "Proto-Afrasian and Old Akkadian: A Study in Historical Phonetics." *Journal of Afroasiatic Languages* 4: 1–133.

Dolgopolsky, Aharon B. 1977. "Emphatic Consonants in Semitic." *Israel Oriental Studies* 7: 1–13.

Even-Shoshan, Abraham. 1985. *A New Concordance of the Bible* [in Hebrew]. Jerusalem: Kiryat Sefer.

Faber, Alice. 1984. "Semitic Sibilants in an Afro-Asiatic Context." *Supplement to Journal of Semitic Studies* 29/2, 189–224.

——— 1992. "Second Harvest: *šibbôleθ* Revisited (Yet Again)." *Journal of Semitic Studies* 37: 1–10.

Freedman, David Noel, A. Dean Forbes, and Francis I. Andersen. 1992. *Studies in Hebrew and Aramaic Orthography* (Biblical and Judaic Studies from the University of California, San Diego,

2). Winona Lake, Ind.: Eisenbrauns.
Freedman, David Noel, and K. A. Mathews. 1985. *The Paleo-Hebrew Leviticus Scroll*. N.p.: American Schools of Oriental Research.
Garr, W. Randall. 1990. "Interpreting Orthography." In *The Hebrew Bible and its Interpreters* (Biblical and Judaic Studies from the University of California 1), ed. William Henry Propp et al., pp. 53–80. Winona Lake, Ind.: Eisenbrauns.
Goerwitz, Richard L. 1990. "Tiberian Hebrew Segol: A Reappraisal." *Zeitschrift für Althebraistik* 3: 3–10.
Hanson, Richard S. 1964. "Paleo-Hebrew Scripts in the Hasmonean Age." *Bulletin of the American Schools of Oriental Research* 175: 26–42.
Khan, Geoffrey. 1987. "Vowel Length and Syllable Structure in the Tiberian Tradition of Biblical Hebrew." *Journal of Semitic Studies* 32: 23–82.
———. 1990. *Karaite Bible Manuscripts from the Cairo Genizah* (Cambridge University Library Genizah Series 9). Cambridge: Cambridge University Press.
Millard, Alan R. 1970. "'*Scriptio continua*' in Early Hebrew: Ancient Practice or Modern Surmise?" *Journal of Semitic Studies* 15: 2–15.
Naveh, Joseph. 1970. *The Development of the Aramaic Script* (Israel Academy of Sciences and Humanities, Proceedings 5/1). Jerusalem.
———. 1973. "Word Division in West Semitic Writing." *Israel Exploration Journal* 23: 206–8.
———. 1987. *Early History of the Alphabet*, 2nd ed. Jerusalem: Magnes.
Porten, Bezalel, and Ada Yardeni. 1989. *Textbook of Aramaic Documents from Ancient Egypt*, vol 2: *Contracts*. Jerusalem: Hebrew University.
Revell, E. J. 1970. *Hebrew Texts with Palestinian Pointing* (Near and Middle Eastern Series 7). Toronto: University of Toronto Press.
———. 1971–72. "The Oldest Evidence for the Hebrew Accent System." *Bulletin of the John Rylands Library* 54: 214–22.
———. 1976. "Biblical Punctuation and Chant in the Second Temple Period." *Journal for the Study of Judaism* 7: 181–98.
———. 1977. *Biblical Texts with Palestinian Pointing and their Accents* (Society of Biblical Literature Masoretic Studies 4). Missoula, Mont.: Scholars Press.
Sáenz-Badillos, Angel. 1993. *A History of the Hebrew Language*, trans. John Elwolde. Cambridge: Cambridge University Press.
Sayce, Archibald H., and A. E. Cowley. 1906. *Aramaic Papyri Discovered at Assuan*. London: Moring.
Vööbus, Arthur. 1971. *The Hexapla and the Syro-Hexapla* (Papers of the Estonian Theological Society in Exile 22). Stockholm.
Weinberg, Werner. 1985. *The History of Hebrew Plene Spelling*. Cincinnati: Hebrew Union College Press.
Wickes, William. 1881. *A Treatise on the Accentuation of the Three So-Called Poetical Books of the Old Testament*. Oxford: Clarendon. Repr. with the following, New York: Ktav, 1970.
———. 1887. *A Treatise on the Accentuation of the Twenty-One So-Called Prose Books of the Old Testament*. Oxford: Clarendon. Repr. with the above, New York: Ktav, 1970.
Yeivin, Israel. 1980. *Introduction to the Tiberian Masorah*, ed. and trans. E. J. Revell (Society of Biblical Literature Masoretic Studies 5). Missoula, Mont.: Scholars Press.
———. 1985. *Mswrt hlšwn h'bryt hmštqpt bnyqwd hbbly* [The Hebrew language tradition as reflected in the Babylonian vocalization] (Academy of the Hebrew Language Texts and Studies 12). Jerusalem: Academy of the Hebrew Language.
Zevit, Ziony. 1980. *Matres Lectionis in Ancient Hebrew Epigraphs* (ASOR Monographs 2). Cambridge, Mass.: American Schools of Oriental Research.

SECTION 47

Aramaic Scripts for Aramaic Languages

PETER T. DANIELS

Aramaic was the lingua franca of Southwest Asia from early in the first millennium B.C.E. until the Arab Conquest in the mid seventh century C.E. Contemporary with the Roman Empire, several peoples used varieties of Aramaic script that had become cursive (no comprehensive survey of these "Late Aramaic" scripts has yet been published). These include the Palmyrans (Klugkist 1982)—Palmyra was a city-state in present-day eastern Syria—and the Nabateans (see TABLE 5.5 on page 97); the Manichean script, as well, belongs in this group (SECTION 48). The Nabateans (centered around Petra, in present-day southern Jordan) wrote in Aramaic but spoke Arabic, and the Arabic script (SECTION 50) emerged from the Nabatean (Abbott 1939, Gruendler 1993). Within this Arabic- (and Iranian- and Turkic-)speaking milieu, Aramaic has survived as the vernacular of several non-Muslim minorities (and three villages near Damascus which have become predominantly Muslim); and as the liturgical languages of two sects for which cursive scripts arose, Syriac for certain Christians and Mandaic for Mandeans. Syriac is the vehicle for a vast literature (its Golden Age was before the Conquest, its Silver Age after) and still serves in several contemporary churches; Mandaic, still used by a Gnostic group in Iraq, Iran, and elsewhere, is little known, but its script has undergone the most interesting development of any abjad.

Classical Syriac

The origin of Syriac script is not fully clear, though its development across the centuries of its flowering can be followed fairly easily thanks to dated colophons (Hatch 1946). The fullest discussion of Syriac paleography is Pirenne 1963.

Three kinds of consonants

There are three main varieties of Syriac writing. Oldest is the *Estrangelo*; during the Golden Age there came about a schism in the Syrian church, on Christological

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