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LANGUAGE

UNRAVELING THE MYSTERY OF THE ALPHABET FROM A TO Z

VISIBLE

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David Sacks

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Alfred A. Knopf Canada

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THE MODERN WORLD'S MAJOR WRITING SYSTEMS

Name of Script	Number of Users Worldwide (Primary Language)	Geographic Range
Roman alphabet	1.9 billion	Americas; Western Europe; parts of Eastern Europe and the former Soviet Union; Turkey; Central and Southern Africa; Oceania; parts of Southeast Asia
Chinese script	0.9 billion	China; Taiwan
Arabic alphabet	291 million	Near East; North Africa; Iran; parts of Central and Southeast Asia
Devanagari script	260 million	Much of India
Cyrillic alphabet	252 million	Russia; other parts of Eastern Europe; parts of Central Asia
Bengali script	125 million	Northeast India; Bangladesh
Japanese script	118 million	Japan

About three-quarters of the world's population live in countries where an alphabet or alphabet-based script is the national writing system. This table takes into account varying levels of literacy around the globe in listing the seven most-used scripts, with approximate numbers of users for whom each script is native and the regions where the scripts are indigenous. Of the seven, only the Chinese and Japanese systems are not alphabetic.

LITTLE LETTERS, BIG IDEA

Ask people to name the most consequential inventions of world history, and you'll hear a list probably including the wheel, the telephone, the atomic bomb, the first computing machine. (Comedian Mel Brooks, in his 1960s audio skit "The Two-Thousand-Year-Old Man," claimed the greatest invention was Saran Wrap.) What might be missing from the answers, overlooked, is the family of little shapes that your eyes are scanning right now: the letters of the alphabet. For the alphabet was an invention, a spectacularly successful one. Judged on longevity and extent of modern daily use, it compares with the wheel.

The alphabet was invented in Egypt around 2000 B.C. as a writing method to show sounds of words. Without doubt, its earliest readers read aloud, their lips forming the words displayed. (Reading aloud continued to be standard practice throughout ancient and medieval times.) The alphabet was not the earliest writing: Egypt, Mesopotamia, and probably China already had nonalphabetic systems. But the alphabet was the most efficient writing system ever found, before or since. Like the wheel, it changed the ancient world, and, like the wheel, it is still with us and has never been superseded.

Today about 4.8 billion people, over three-quarters of humanity, live in countries that use an alphabet or a writing system modified from an alphabet. About 26 major alphabetic scripts are in place worldwide. The International Three are the Roman, Arabic, and Cyrillic alphabets, each serving multiple nations and languages.

Our own familiar alphabet is the Roman, bequeathed to Western Europe by the Roman Empire and today the most popular script on Earth—weighing in at about 100 languages, 120 countries, and nearly 2 billion users worldwide. The Roman alphabet owes its statistical dominance partly to its use by Spanish (330 million native speakers worldwide), by Portuguese (160 million native speakers), and by the languages of Central and Southern Africa (270 million speakers) as well as by English (350 million native speakers). There are variations of the Roman alphabet: For example, English employs 26 letters; Finnish, 21; Croatian, 30. But at the core are the 23 letters of ancient Rome. (The Romans lacked J, V, and W.)


Amazingly, with the sole exception of Korea's Hangeul script (invented in isolation in the mid-1400s A.D.), all of today's alphabetic scripts have a common origin. All can be traced back through history to one source: the first Near Eastern alphabet of 2000 B.C. The family ties are direct and actual. Our Roman alphabet is a third cousin to the Arabic alphabet, a second cousin to the Cyrillic alphabet, and a grandchild of the Greek alphabet. True, different alphabets don't usually look alike (although nearly half of our capital letters strongly resemble their Greek "grandparents"). But alphabets reveal their kinship in general principles and in their sequences of letter sounds. References to "the alphabet," in this chapter particularly, are meant to include any working alphabet, present or past, such as the Phoenician and Aramaic as well as our own.

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Chinese writing symbols typically represent one word each. These translate, from left, as “tea,” “hear,” and “middle.” The “middle” symbol, like other of the oldest Chinese symbols, comes close to being a picture of what it means.

The remaining one-quarter of Earth’s population, 1.4 billion people, use nonalphabetic writing. Basically this means China, including Taiwan, and Japan. The Japanese system comes from an adaptation of the Chinese that dates back to the 600s A.D.

What’s the big difference? Why doesn’t Chinese writing qualify as an alphabet? In Chinese script, each symbol denotes a whole word of the Mandarin Chinese language. We call such symbols “logograms” (from two Greek roots meaning “word letter”). A Chinese symbol is primarily not phonetic; it does not operate by conveying sound. Rather, it conveys the idea behind the word. A few symbols actually *show* their subject as a stylized picture, like the third one in the chart. That sort of symbol qualifies both as a logogram and as a pictograph (meaning “picture writing”).

If we English speakers normally wrote the word “dog” as , that would be a pictograph. If we wrote “dog” with an agreed-on symbol like Ø, that would be a logogram. But we do neither. We write “dog” with three symbols, not one, which together re-create the sound of the word. Each of the symbols (letters) denotes a tiny bit of speech, part of the word’s sound. We know the symbol-to-sound code because we had to memorize it

in kindergarten or thereabouts, as the doorway to literacy: “A is for ‘apple,’ B is for ‘ball’ . . .”

The letter’s sound is the smallest amount possible to isolate, what linguists call a phoneme. A phoneme is an “atom” of language, almost always smaller than a syllable. (At most, a phoneme is a syllable, as in the long I of “icy” or the English word “a” or certain other vowel uses.) Our word “pencil” has two syllables but six phonemes, each neatly displayed by a different letter.

An alphabet is a writing system based on letters, which by definition symbolize phonemes only. The letters combine to show words of a particular language, shared between writer and reader. The alphabet must adequately represent the language by having enough letters with the right sounds—that is, most of the sounds essential to the spoken language. Yet the number of letters needed is surprisingly small: fewer than 30 for most languages. Russia’s Cyrillic alphabet has 33 letters; Iran’s Farsi-language version of the Arabic alphabet, 32. While India’s Devanagari script hits 48, it and related Indian scripts are not purely alphabetic but also straddle the category of a syllabary (defined below).

Alphabets exploit the fact that human languages tend to use not many phonemes—only around 20 to 40 per language, typically. No matter how many tens of thousands of words there are in a given tongue, the words, once analyzed, yield only a few dozen basic sounds. These are not, of course, the same 40 from language to language: Arabic and English share many sounds, yet Arabic requires certain throat clicks that English speakers cannot make, never having learned them in the cradle. (By the same token, for a mean diversion sometime, ask a Parisian to say the English word “law.” He’ll struggle to come out with something like “loe.”) English has a rather high number of phonemes, between about 44 and 48, depending on regional accent. This abundance is due partly to English’s rich heritage, combining Germanic

and Franco-Latin influences, from two different language groups. Nearly half our phonemes are shadings of vowel sounds, such as the A in “law” that gives Parisians such trouble.

We don’t need 44 letters for 44 phonemes, because letters can do double duty. English spelling assigns several sounds to all vowel letters (go, got, ton, etc.) and finds extra sounds in letter pairings like OI, CH, and TH.

An alphabet enjoys one huge advantage over any other writing system: It needs fewer symbols. No other system can get away with so few. This makes an alphabet easier to learn. Students need memorize only two dozen or so letters to begin building toward literacy, which typically takes about another five years of instruction.

Because the memorization step is simple enough for five- and six-year-olds, the whole process, with an alphabet, can be completed before students reach working age. The learning need not interfere with earning a living. This crucial fact has made the alphabet historically the vehicle of mass literacy. With the alphabet’s invention, the farmer, the shopkeeper, the laborer have been able to read and write—unlike the situation in prealphabetic societies. The very first alphabet was invented, scholars today believe, for humble people who were being excluded from the mysteries of Egyptian hieroglyphic writing.

Compare our 26 letters to the Chinese system, which involves at least 2,000 symbols for educated daily reading and writing, out of an inventory of about 60,000 symbols overall. Mass literacy became possible in China only with the communist state of 1949. Today Chinese schoolchildren normally take three years longer than Western children to learn to read and write, with most of that extra time devoted to mastering the symbols.

Despite the symbolization problem, China’s writing system serves that nation’s needs. China has eight regional languages; its



Simple enough for children to master. Greek letters inked onto a papyrus scroll help provide a literature lesson for a boy in ancient Athens, in the remnant of a painted scene from a ceramic cup, dated between 470 and 450 B.C. The legible words hoi hamera kleei belong to a phrase meaning something like, “Those whose deeds time makes famous . . .,” perhaps a line of verse.

logogram system, while keyed to Mandarin vocabulary, is at least partly accessible to non-Mandarin-speakers, more so than alphabetic rendering would be. Also there is the tone factor. Chinese tongues like Mandarin and Cantonese contain many homonyms, distinguished only by being spoken in different tones of voice. The Mandarin word *ma*, for instance, could mean “mother,” “horse,” “scold,” “hemp,” or other things, depending on tonal modulation. In Chinese writing, the various *mas* simply command different-looking symbols, whereas alphabetic writing would have trouble making those words look different from each other. The inadequacy of an alphabet for Chinese is shown in the sometimes-confusing Pinyin system for transliterating Chinese words into Roman letters.

The need to accumulate symbols has hampered most nonalphabetic systems down through history. In the ancient Near East,

two major writing forms preceded the alphabet. Both were elaborate, expressive, and confined to specialists. Egyptian hieroglyphics consisted of pictographs, logograms, and phonetic signs: about 700 picture symbols, written usually in combinations. Mesopotamian cuneiform, as typified by the Babylonian version, was mainly a phonetic script of about 600 symbols, half of them used regularly.

Being phonetic, cuneiform reproduced the sounds of words, like an alphabet. However, cuneiform was a syllabary system—a category worth glancing at, so as to better appreciate the flexibility of our letters.

In a syllabary, the symbols denote whole syllables. The word “pencil” would be two symbols, something like ▲↓, with ▲ meaning the sound “pen” and ↓ meaning “sil.” Simple and reasonable so far—but, depending on the sounds of your particular language, how useful generally would ▲ and ↓ be? In English, not very. Your ▲ could help spell “pig pen” and ↓ could go into “window sill,” but ▲ and ↓ would spend much of their time out of use. Meanwhile, other symbols would be needed. As you would be continually inventing new ones, the list would grow into the hundreds.

Some modern tongues do fine with scripts that overlap between an alphabet and syllabary: Hindi or Korean, for example. But for English, a syllabary would be chaos. How many lame symbols like ▲ and ↓ would we need—two hundred? With our letters, two symbols like A and B represent nearly 8 percent of our alphabet. We get much better use from A and B than we would from any two syllabary signs.

Because letters work at the phoneme level and are unencumbered by any extra baggage of sound, they achieve maximum efficiency. Our six letters of “pencil” can easily be broken out and rearranged within countless other words—“lien,” “Nile,” “stipend,” “clip”—that sound nothing like “pencil.” Letters are the original snap-on tools: They build on each other as necessary,

so you actually need fewer items in your toolkit. With 26, we capture reasonably well the approximately 500,000 words of English. In fact, we could theoretically drop one or two letters—Q, for instance—and spell “queen” as “cween” or “kween.”

The genius of the letters is the way they combine simplicity with precision. Although few in number, they are wonderfully flexible and versatile as a group. They can be arranged in endless variations to capture details of sound. Letters fairly cling to the sounds of words, showing the textures: “fill” versus “film,” “ascetic” versus “esthetic,” “serendipity,” “pterodactyl,” “Mooselookmeguntic.” Organs of speech could hardly be more exact or delicate in their sounds than letters in their showing. At least for most languages.

The letters’ precision isn’t just a topic for rhapsody. It opens onto the most important fact about the alphabet, the key to understanding the background of our 26 letters and much of world cultural history besides—namely, that letters can jump from language to language. Letters are so clever at showing speech that they need not be confined to any particular tongue but often can be fitted from one right to another.

Even if the two languages are totally unlike, letters often can make the transition. Because their core selection of sounds (inherited from the alphabet’s earliest stages) is close to being universal, letters usually can be adapted to a different tongue through only a few changes: three or four letters revalued to new sounds, a letter or two invented, unneeded letters discarded. That is why various modern languages have different numbers of letters for the same general alphabet.

Letters have leapt from language to language throughout history. Originally that was how the alphabet spread across the ancient world, blossoming among people previously illiterate: the Jews, Aramaeans, Greeks, Etruscans, Romans, and others. Each

group spoke a different language. Each acquired its alphabet by copying someone else's and then adapting the letters to the new tongue. When Julius Caesar as a Roman general entered Gaul in 59 B.C., he found the inhabitants writing their Celtic language with the Greek alphabet, learned during a prior century from Greek traders at the seaport now called Marseille.

Since the initial spread of literacy, alphabets of the world have kept jumping around, propelled by conquest, missionary religion, or cultural politics. In the early 1990s, three former provinces of the Soviet Union announced they would dump their Cyrillic alphabet (imposed by Stalin in 1940) and switch to the Roman. The newly independent countries of Azerbaijan, Turkmenistan, and Uzbekistan have not altered their spoken languages, which are Turkic tongues, related to Turkish. But the governments have moved to replace Cyrillic street signs, textbooks, tax forms, etc., with new ones printed in a modified, 29-letter Roman alphabet. Elementary schools now teach Roman letters. The massive, disruptive changeover—inspired by westward trade ambitions and hatred of the Soviet memory—was declared officially complete in Azerbaijan, at least, in 2001. The new alphabet is modeled on that of modern Turkey, which switched from Arabic to Roman letters in 1928, under the westernizing regime of Kemal Atatürk.

Prior to 1940, Azerbaijan, Turkmenistan, and Uzbekistan used the Arabic alphabet, until the early Soviets imposed the Roman one in the 1920s. Thus the three regions have seen all three major alphabets in the last 80 years: Arabic, Cyrillic, and (twice) Roman. Although the languages of the three countries are unrelated to Arabic, Russian, or Latin, each alphabet has taken hold in turn.

Other examples abound. In around 1860, Romania switched from Cyrillic to Roman, turning westward from czarist Russia's sphere. Vietnam had Roman letters imposed by French colonialism in 1910; the change displaced a traditional, Chinese-derived

script. Today in Ho Chi Minh City, shop signs and newspapers are in Roman letters and Vietnamese language. Meanwhile, in neighboring Cambodia, a kindred language is written in an entirely different way, based on an ancient script of India.

We think of the Arabic alphabet as the written form of the Arabic tongue. Yet Arabic letters have belonged to other languages, too. Carried outward from Arabia by armies and seafarers after the mid-600s A.D., the Arabic alphabet now serves about nine major tongues linguistically unrelated to Arabic: Berber in Morocco, Nubian in Sudan, Farsi and Kurdish in Iran, Urdu and Sindhi in Pakistan, Pashto in Afghanistan, Uighur in China, and Malay in Malaysia. Malay has traditionally been written in either of two alphabets, Arabic or Roman. Roman predominates today, yet in the capital city, Kuala Lumpur, you can still buy a Malay-language newspaper printed in Arabic letters, as well as others in Roman ones.

Malay isn't the only switch-hitter. The African common-tongue Swahili may be written in Arabic letters or the usual Roman. The language known as Serbo-Croatian—shared, with dialectical differences, between Serbia and Croatia—is written in Cyrillic by Serbs, in Roman by Croats. (The split, a legacy of rival medieval missionary churches, has surely contributed to the calamitous distrust between those peoples.) Likewise, India's Hindi and Pakistan's Urdu are fundamentally the same tongue, only using Devanagari script in India, Arabic letters in Pakistan. And Yiddish, while not exactly German, is closely akin to it. Yet Yiddish is written in Hebrew letters, and German in Roman ones.

The “spreadability” of an alphabet means that the future of our Roman letters looks very bright indeed. In Russia's Volga Valley, about 440 miles east of Moscow, the semiautonomous, Turkic-speaking republic of Tatarstan has announced its intent to follow Azerbaijan's example and go Roman. Struggling nations

elsewhere, particularly in Central and Southeast Asia, may be expected in coming decades to do likewise, switch to Roman letters for native tongues, as a bid to tie into global trade and communication and to better prepare their people to learn English. Tragically, much that is venerable and spiritually sustaining will be lost. Yet that seems inevitable in the 21st century we are shaping. And it is sobering to reflect that our 26 letters wield such power.

To unlock our letters' mysteries, we begin with the ancient Phoenicians. The Phoenician alphabet of 1000 B.C. would become the great-grandmother of our own. About 19 of our letters can be traced back directly—in their shapes, their alphabetical sequence, and, for most, their sounds—to Phoenician counterparts. Ours is not the only descendant. As shown in the “Family Tree of the

Phoenicia, the Near East, and the Eastern Mediterranean, 1000 B.C.



World's Alphabets" (pages xiv–xv), the Phoenician alphabet has been the source for nearly every subsequent alphabet, past and present.

The Phoenicians were a dynamic Iron Age people, based in what is now Lebanon. Today they are remembered as the best seafarers of the ancient world. In the 700s B.C. they spanned the length of the Mediterranean with a seaborne trade network, exchanging luxury goods from the East for raw materials from the West: Babylonian textiles, Egyptian metalwork, and Phoenician carved ivory were traded for elephant tusks from North Africa and bars of silver and tin from Spain. Sustaining the network was a westward string of some 14 major colonies, plus lesser ones—Phoenician seaports on foreign soil, serving as ship stations and local trade depots. Today a handful of these foundations survive inhabited: The southern Spanish Atlantic seaport of Cadiz, for example, began its life as a Phoenician colony named Gaddir (“walled place”). But the most fateful Phoenician colony was Carthage (Kart Hadasht, “new city”), built soon after 800 B.C. on the Tunisian coast. Carthage would grow to a great power of the Mediterranean, eventually dwarfing old Phoenicia in wealth and might, before being challenged and destroyed (146 B.C.) by the Italian city of Rome.

The Phoenician homeland was not a unified nation but a grouping of independent port cities, linked by common language, religion, self-interest. Three cities were foremost: Byblos, Sidon, and the island-fortress of Tyre. All three are inhabited today, as Lebanese cities. Lebanon’s capital, Beirut, was likewise once a Phoenician port.

The Phoenicians were Semites, akin in ethnic group and language to the ancient Jews. Phoenician speech would have sounded much like ancient Hebrew. Israel—the Jewish kingdom of David and Solomon—was Phoenicia’s southern neighbor and trade partner in the 900s B.C. Unlike the monotheistic Jews, however, the Phoenicians worshipped several gods, chiefly the pro-

tective Melkart (“king of the city,” sometimes called by the title Baal, “lord”) and his consort, the queenly, sexual Astarte.

Sometime before 1000 B.C., the Phoenicians began writing their language in a 22-letter alphabet. They did not invent this alphabet but inherited it from prior Semitic tradition. Created around 2000 B.C. by Semitic speakers, the skill of alphabetic writing had spread gradually through parts of the Near East, learned by one group of Semites from another. Some Semitic peoples may have known of it without using it; non-Semites surely knew nothing about it.

With the Phoenicians, the Semitic alphabet acquired an international platform. As part of a bustling, urban society, the alphabet was taught to Phoenician children, used for government and trade, and carried abroad by merchant fleets. Phoenician writing would have been eyed enviously by foreign trade partners with no writing of their own. Eventually some would copy the Phoenician letters for themselves.

The alphabet was just one of several technologies by which the Phoenicians prospered. They were masters of improved techniques in shipbuilding and navigation (they are credited with the discovery and use of Polaris, the North Star), carpentry, metalworking, and the earliest glass working. Their alphabet surely abetted their technical skills, while their success and travel served to publicize their alphabet, whether they wished so or not.

Although the Phoenicians came along nearly 1,000 years after the alphabet’s invention, their version of the alphabet is the earliest that fully rewards modern study. Scholars can analyze and understand the Phoenician letters, thanks to sufficient archaeological remains. The prior millennium has left us with less satisfactory material.

About 500 inscriptions survive from Phoenicia after 1000 B.C., with over another 6,000 from Carthage and its network after

EXPERTS IN FOREIGN TRADE



Aboard ships newly beached at a port of Egypt, long-robed Phoenician merchants make gestures of obeisance to Egyptian authorities (not shown) while white-kilted Egyptian harbor pilots come ashore. The Phoenician cargo includes jars, right center, probably of wine, a drink foreign to Egypt. This modern painting depicts an Egyptian tomb mural from the later second millennium B.C., found near modern Luxor and now sadly ruined by moisture.

The Phoenicians' trade network brought them into contact with nations of the Mediterranean and Near East: Egypt, Assyria, the Jewish kingdom, the Aramaeans of Damascus, the Etruscans of western Italy, the kingdom of Tartessus in southern Spain, and a marginal but ambitious northeast Mediterranean people, the Greeks. Trade prompted the dissemination of Phoenicia's alphabet. By about 900 B.C. the Jews, Aramaeans, and other Near Eastern peoples had copied Phoenician letters for their own use; by about 800 B.C. the Greeks had done likewise. The Greek adaptation, specifically, was a crucial step toward the formation of our modern letters.

400 B.C. Most are brief: prayers, gravestone epitaphs, statements of ownership on artifacts, and the like. Usually the writing is chiseled or scratched into durable material like stone or ceramic—the material being the reason for the writing's survival. Phoenician letters, conveying the Phoenician language, can gen-

The Phoenicians are described with mixed admiration and distrust in extant Greek and Hebrew literature, such as Homer's epic poem the *Odyssey* and the biblical books of Kings and Ezekiel. Virtues like craftsmanship and intrepid seafaring are counterbalanced with accusations of greed, dishonesty, decadence, and a readiness to kidnap foreign women for the slave trade. Some of this may have been libel, prompted by jealousy.

Our word "Phoenician" comes from ancient Greek. *Phoinikes*, "red people," was what the Greeks called them, probably in reference to their copper skin color. Alternatively, the name may refer to the prized textile dye, ranging in hue from red to dark purple, which was Phoenicia's prime luxury product. Extracted from sea mollusks' dead bodies through a secret process, this uniquely beautiful and expensive purple, exported in woven clothing and furnishings, became an international status symbol in antiquity, its use confined to the very rich, chiefly royalty. Down through the early 20th century A.D., the color purple was associated in Europe with kings and emperors.

What the Phoenicians called themselves we do not know. One possibility is something like *Kananni*, "Canaanites," for the Phoenicians were descendants of people who in the second millennium B.C. had inhabited the biblical land of Canaan (today covered by Israel, the Palestinian Authority, Lebanon, western Jordan, and coastal Syria). Archaeology reveals that some of these Canaanite forebears were using the Semitic alphabet by about 1650 B.C., in a version similar to what the Phoenicians would use.

erally be read with confidence by experts due to the similarity to Hebrew. Among the inscriptions are schoolroom-type exercises, including valuable lists of the letters in alphabetical order.

Such survivals are but a tiny remnant of Phoenician writing that once existed. From Egyptian, Greek, and Roman authors we

hear of Phoenician or Carthaginian historical annals, business archives, and volumes of religious lore. Those writings have vanished, as they were normally written in ink on perishable material like animal hide or papyrus (an ancient reed paper), quick to decay. Furthermore, Phoenician literature was not copied and preserved by the Greco-Roman culture that eventually dominated the Mediterranean; in fact, just the opposite: A whole library of Phoenician-language scrolls went up in flames when the Romans sacked Carthage, for example.

Phoenician letters, true to the alphabetic principle, symbolized tiny sounds of speech: “d,” “h,” “m,” “p,” etc. The letters were all consonants; there were no vowel letters. Although vowel sounds existed in Phoenician speech, it was not felt necessary to show them in writing. The absence of vowel letters was a feature inherited from the traditional Semitic alphabet. Words were written in abbreviated form, consonant letters only. (Eventually, biblical Hebrew would use the same technique.)

To a modern English speaker, this system with no vowel letters probably sounds crazy. Vowel letters are essential to identify written English words, especially where a vowel begins the word or *is* the word. Try writing “I am an ass” without vowels. More generally, En-

This chart demonstrates how each Phoenician letter's name opened with a consonant sound appropriate to the letter. The names aleph and ayin began with consonants that are unknown to English speech and cannot be clearly shown in our spelling. Thus those two name spellings are misleading.

Although modern scholars are confident regarding the 22 ancient names themselves (see box, page 23, “How We Know the Phoenician Letters' Names”), the English translation remains uncertain for a few, such as tet and tsade. The third letter's name, gimel, used to be translated as “camel”—the crook shape being interpreted as the animal's hump—but today is thought to have meant the boomerang-like “throwing stick” used for hunting small game. Pronunciation tips: The first sound of gimel is the hard “g” of “girl.” The letter name he sounds like “hay.” The name lamed is lah-med.

THE PHOENICIAN ALPHABET OF 1000 B.C.

Letter Shape	Sound	Name	Name's Meaning	Descendant(s) in Our Alphabet
K	breathing stop	<i>aleph</i>	ox	A
𐤁	"b"	<i>bayt</i>	house	B
𐤂	"g"	<i>gimel</i>	throwing stick	C
𐤃	"d"	<i>dalet</i>	door	D
𐤄	"h"	<i>he</i>	shout of surprise	E
𐤅	"w"	<i>waw</i>	peg	F, U, and Y
𐤆	"z"	<i>zayin</i>	ax	G and Z
𐤇	guttural "kh"	<i>khet</i>	fence	H
𐤈	emphatic "t"	<i>tet</i>	wheel	—
𐤉	"y"	<i>yod</i>	arm and hand	I
𐤊	"k"	<i>kaph</i>	palm of hand	K
𐤋	"l"	<i>lamed</i>	ox goad	L
𐤌	"m"	<i>mem</i>	water	M
𐤍	"n"	<i>nun</i>	fish	N
𐤎	"s"	<i>samek</i>	pillar	—
𐤏	guttural sound	<i>ayin</i>	eye	O
𐤐	"p"	<i>pe</i>	mouth	P
𐤑	"ts"	<i>tsade</i>	papyrus plants	—
𐤒	"q"	<i>qoph</i>	monkey	Q
𐤓	"r"	<i>resh</i>	head	R
𐤔	"sh"	<i>shin</i>	tooth	S
𐤕	"t"	<i>taw</i>	mark	T

glish and other Indo-European tongues assign strong meanings to vowel sounds, for instance in distinguishing “pack,” “peck,” “peek,” “pick,” “pike,” “pock,” and so on.

In Phoenician and other old Semitic languages, not so. Phoenician vocabulary was more uniformly structured. Compounds aside, Phoenician words tended to have two- or three-consonant roots, with one consonant almost always first and another often last. For example, the Phoenicians wrote the word “king” as letters m-l-k, representing a word sounding something like *melik*. Because the vowel sounds were framed between end consonants, the written form m-l-k was pretty clear.

Moreover, although a few other Phoenician words could be written as m-l-k, they all necessarily related to kingship or royalty, for that was the meaning of that root. In writing, context would help to clarify words’ meanings.

For ease of learning, the Phoenician alphabet had several built-in memory devices, inherited from Semitic tradition. The letters in abstract were given a strict sequence, so students would not forget any—a feature we retain when we teach preschoolers the “Alphabet Song.” The letters had names, as ours do. But *their* names made more sense, as being names of familiar objects: ox, house, throwing stick, hand, water. Every letter’s shape formed a stylized sketch of the object named: The “ox” was shaped like two horns; “throwing stick” looked like a boomerang; “water” was a wavy line. And the cleverest touch: Each letter name began with a different sound, the sound appropriate to the letter. The “house” letter, *bayt*, denoted the sound “b.” (Indeed, it is ancestor of our B.) The “hand” letter, *kaph*, denoted the “k” sound. (Ditto, it is the K ancestor.) The Phoenician alphabet thus resembled a modern, phonetic, radio-communication alphabet, where words replace the English letter names according to the same principle of the first sound: Alpha, Bravo, Charlie, Delta . . .

The system meant that once a Phoenician child had memorized a list of 22 common nouns, he or she had a handle on each letter's sound (it being the same as the name's opening sound) and on each letter's shape (it being typically a rough sketch of the object named). This is the same sign-for-sound code that we learn, perhaps more laboriously, in kindergarten and first grade.

As mentioned, the Phoenician alphabet contained the seeds of about 19 of our modern Roman letters. Keeping in mind that Phoenician letters were also pictures and tended to project leftward for right-to-left writing (while ours go the other way), you can glimpse some of our letters taking form in the Phoenician list. The sequence of Phoenician letter sounds clearly anticipates our own: "b," "g," "d" . . . "k," "l," "m," "n" . . . "q," "r," "sh," "t." The Phoenician L letter looks like our L and stands at place number 12, exactly where L stands today. Other Phoenician letters clearly anticipate our Q and T in shape and sound and our E, H, and O in shape. Our B, D, K, and others are there, too, in their sounds and general sequence, although with shapes not yet familiar.

Some Phoenician letters sounded far different from ours, as you might expect. The letter *aleph* was a breathing stop and *ayin* a harsh throat sound; most English speakers would be stumped to pronounce either. And Phoenician speech obviously used a lot of sibilance, since its alphabet needed four kinds of S. We retain two today, our S and Z.

But how did it begin? If Phoenician letters belong to a tradition by then 1,000 years old, what preceded? Who invented the alphabet? The answers take us south from Phoenicia, to Egypt of the pharaohs.

During the 1970s, a world-popular TV series was the BBC's *Upstairs, Downstairs*, about the household of a titled family in

THE MODERN HEBREW ALPHABET

Letter Shape	Main Sound	Name
א	[silent]	<i>alef</i>
ב	“b”	<i>bayt</i>
ג	“g”	<i>gimel</i>
ד	“d”	<i>dalet</i>
ה	“h”	<i>he</i>
ו	“v”	<i>vav</i>
ז	“z”	<i>zayin</i>
ח	guttural “kh”	<i>khet</i>
ט	emphatic “t”	<i>tet</i>
י	“y”	<i>yod</i>
כ	“k”	<i>kaf</i>
ל	“l”	<i>lamed</i>
מ	“m”	<i>mem</i>
נ	“n”	<i>nun</i>
ס	“s”	<i>samek</i>
ע	[silent]	<i>ayin</i>
פ	“p”	<i>pe</i>
צ	“ts”	<i>tsade</i>
ק	“q”	<i>qof</i>
ר	“r”	<i>resh</i>
ש	“sh”	<i>shin</i>
ת	“t”	<i>tav</i>

THE HEBREW ALPHABET: ELDEST CHILD OF THE PHOENICIAN

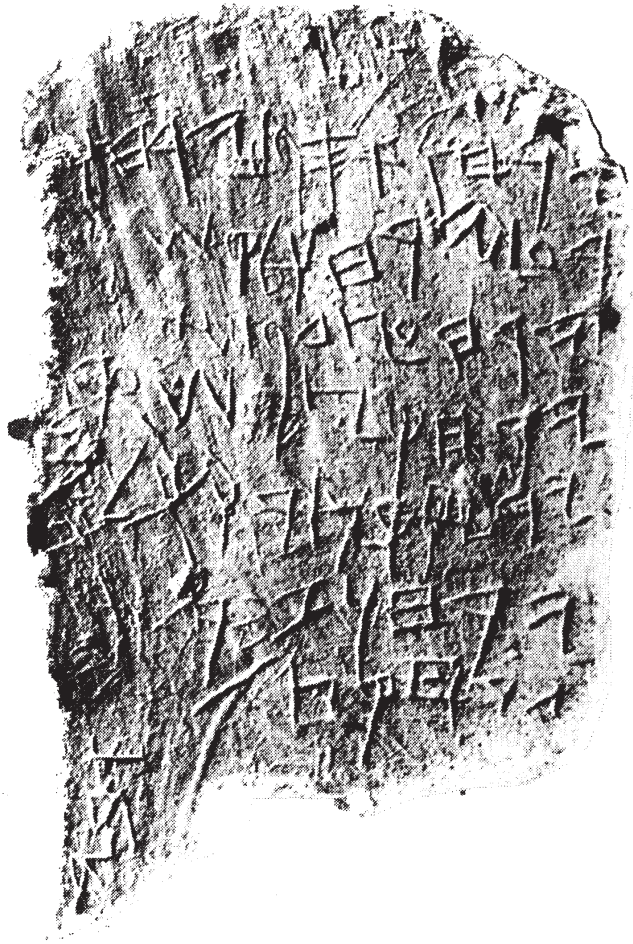
The 22 Hebrew letters were born by being copied from the 22 Phoenician ones, sometime perhaps around 950 B.C. Today the debt to Phoenicia is obvious in the modern Hebrew letters' sounds and sequence, although not their shapes. (As to their names, see box "How We Know the Phoenician Letters' Names," page 23.)

The copying into Hebrew marked the first of several times in history that the Phoenician alphabet would be borrowed by another people. Because the ancient Hebrew and Phoenician languages were so similar, Hebrew speakers would have found the Phoenician letters perfectly usable for their language. The one wrinkle, according to modern analysis: Hebrew could have used three more letters, to show certain sounds existing in Hebrew but not Phoenician. So three Hebrew letters probably did double duty as two sounds each.

Hebrew evidently had no prior writing system; with the adoption of the Phoenician alphabet, there began the permanent recording of Judaism's faith and historical sagas, reaching back into the second millennium B.C. Whatever the antiquity of Jewish tradition, the oldest words of the Bible (written in Hebrew) date only from the 900s B.C.

Of the modern Hebrew letters, only *khet*, *qof*, *resh*, and *shin* show any resemblance in shape to their Phoenician models. Yet originally the two alphabets looked identical: Hebrew's alphabet *was* the Phoenician, as revealed by extant inscriptions like the famous Gezer Calendar (page 22). Later, starting in the 200s B.C., Hebrew letter shapes would undergo major changes.

The Hebrew and Arabic practice of writing from right to left derives from the Phoenicians.



Phoenician letters, Hebrew language? The Gezer Calendar is a limestone inscription from the mid- or late 900s B.C., thought to be the earliest survival of written Hebrew. Discovered in A.D. 1908 at the site of the ancient city of Gezer in what is now southern Israel, the “calendar” briefly lists the months of the year by farming duties. It may be a student’s exercise: At the bottom left corner, the writer added certain letters that might spell his name, apparently Abijah.

The letters of the inscription are Phoenician. The language could be Phoenician, too, but experts believe it is Hebrew (the two were very similar), partly because of the archaeology: The stone tablet seems to have come from the time and place of the Jewish kingdom ruled by Solomon. If it is Hebrew, then the inscription preserves the newborn Hebrew alphabet, which had been copied recently from the Phoenician alphabet and still looked exactly like it. The text reads: “Two months of harvest. Two months of sowing. Two months of late planting. A month of reaping flax. A month of reaping barley. A month of reaping and measuring. Two months of vine tending. A month of summer fruit.”

HOW WE KNOW THE PHOENICIAN LETTERS' NAMES

The 22 Phoenician letter names cited in this book are universally accepted by scholars, given variations in spelling. However, no source from ancient Phoenicia tells us the names. Instead, we rely on reasonable extrapolation.

The 22 Phoenician letter names that we use today are actually the 22 ancient Hebrew names, slightly adjusted. An important written source tells us the ancient Hebrew names, not the Phoenician. The Hebrew versions are assumed to reflect closely the Phoenician ones, from which they came. There would have been no problem of translation, for example: Names like *aleph* and *resh* would have meant “ox” and “head” in both Hebrew and Phoenician.

The Hebrew names are preserved in one of the most important documents from antiquity: the Greek translation of the Hebrew Bible, originating in the Greek-Egyptian city of Alexandria in the 200s B.C. Known as the Septuagint (from the Latin word for “seventy,” on the tradition that 70 scholars produced it), this Greek Bible would prove essential to Judaism’s survival and the spread of Christianity in the Greco-Roman world. In its book of Lamentations, the Septuagint happens to use Hebrew letter names to order the text’s verses. The 22 names appear repeatedly, written out in Greek letters.

Edwardian London. The characters fell into two groups: the well-heeled family and associates, and the socially more humble servants, “belowstairs.” Each group had its dramas, sometimes intersecting. The storyline, appealing to democratic tastes, favored the servants, who included the star character.

The alphabet was an invention “belowstairs,” in a society far more harshly class-bound than even Edwardian London. Today we believe—from dramatic archaeological evidence, analyzed in 1999—that the alphabet was invented in Egypt sometime around 2000 B.C. (See “The Cradle of the Alphabet,” page 29.) The inventors were al-

most certainly not Egyptians but foreign workers, probably soldiers, employed by Egypt. They spoke a Semitic language, a Bronze Age ancestor of Phoenician, Hebrew, and Aramaic; it was a tongue quite distinct from Egyptian although linguistically related to it.

Extant Egyptian documents from the Middle Kingdom era (roughly 2000 to 1600 B.C.) often mention foreign labor in Egypt: mercenary soldiers, miners, stonecutters, and the like, some of them enslaved war prisoners. Many would have been Semitic speakers from points east: Sinai, Canaan, the Arabian peninsula. The Egyptians knew them by the oft-contemptuous name *Amu* (Asiatics). *Amu*, in Egyptian eyes, were typically desert Bedouin.

As well as being socially marginal, Semites in Egypt were mostly illiterate. Certain individuals of authority—a mining foreman, a military captain—would have mastered a simplified version of Egyptian writing, and a tiny few perhaps knew some Mesopotamian cuneiform, yet as a people they had no writing. They could, however, study their Egyptian masters' ways.

The official Egyptian writing system was hieroglyphics (see box, pages 27–28, “Egyptian Picture Writing”). Hieroglyphic pictures communicated Egyptian words by representing either (1) the idea behind a word or (2) the consonant sounds of the word or (3) often both, using multiple pictures. Almost any picture could be employed in two different ways, although not simultaneously: an image of a tree branch might mean “wood” or it might mean the sounds *k-h-t* (the consonants of the Egyptian word for wood). In its phonetic meaning, *k-h-t*, the branch picture might help represent entirely different Egyptian words, like “after” (which was *k-h-t*, the same consonants) or “strong” (*n-k-h-t*).

Phonetically, most hieroglyphic pictures denoted three consonant sounds each. One group of a few dozen denoted two consonants each. And—most significantly for our present study—there were some 25 pictures denoting one consonant sound each; together, these consti-

tuted 25 essential consonants of Egyptian speech. Here was an entire Egyptian “alphabet,” embedded in the massive hieroglyphic system.

Evidently someone among the Semites, a lone genius or a group, became inspired by this alphabetic principle in Egyptian writing. A purely alphabetic system was envisioned, to be adjusted to Semitic speech. Like the Egyptian counterpart, the Semitic alphabet would show only consonants: To include vowels would have made the letters too many for easy learning.

Perhaps over a year, perhaps over a generation, the inventors arrived at a list of essential Semitic consonant sounds that would need to be symbolized for writing: possibly around 27 (to guess from later evidence). The list would have differed somewhat from the 25 Egyptian consonants. To their 27 sounds, the inventors married 27 letters, which were pictures.
















The choice of pictures was natural, because that’s how the Egyptians wrote and because only a picture would possess a name, which was deemed necessary to prompt the reader as to the letter’s sound. How could you remember to say the sound “z” unless you were looking at a picture of a zebra? So the Bronze Age reasoning ran.

A letter would be an image permanently agreed on, simple and distinctive in shape, presenting a familiar object whose Semitic name began with the appropriate sound. For visual models, the inventors could look to the beautiful hieroglyphics abounding in public places of Egyptian cities and to the simpler symbols of Egyptian rock-writing practiced in open country. From these they chose pictures to copy as their letters. The new picture letters were known by their Semitic names, with the Egyptian names and values discarded.

For example: To symbolize the sound “r,” the Semites borrowed an Egyptian hieroglyph of a man’s head in profile. That symbol in Egyptian could mean the word “head”—or “chief” or “promote” or “fetter,” in combination with other signs. The two

OH, YOU DON'T KNOW THE SHAPE I'VE BEEN

From Hieroglyphics to E-mail: The Making of Three of Our Letters

<i>Egyptian Hieroglyph</i>	<i>Sinai Alphabet</i>	<i>Phoenician Alphabet</i>	<i>Phoenician Alphabet</i>	<i>Today</i>
<i>2000 B.C.</i>	<i>1750 B.C.</i>	<i>1000 B.C.</i>	<i>800 B.C.</i>	
				
hand	<i>kaph</i> , "hand"			
				
snake	<i>nun</i> , "fish" (= eel?)			
				
eye	<i>ayin</i> , "eye"			

The evolution of three of our letter shapes is traced in this sampling of their ancient forms. The first column shows the Egyptian writing picture from which the letter's shape was copied; the second column shows an early form of the letter itself; subsequent shapes follow. The Semitic letter disregarded whatever meaning the hieroglyph had and instead exploited the name that the image would command in Semitic speech: "hand," kaph, sound "k." The letters began their lives as careful pictorial renderings but steadily morphed toward simplicity and abstraction. Many of our capital letters retain aspects of their ancient forms, sometimes with exactly the same consonant sound as in 1000 and 2000 B.C.

Egyptian spoken words for "head" were something like *tip* and *djedje*. But the inventors didn't care about all that. They saw the hieroglyph of the head and called it *resh*, the Semitic word. Because the name *resh* began with the sound "r," and because the pictorial image was clear and distinctive, they selected that image

About 700 hieroglyphic symbols were being used in 2000 B.C. In addition to knowing the symbols, there was the exacting job of painting them. Because the system took years to master and constant practice to retain, its use was confined to a literary elite of priests and scribes. Even other high-born types, such as landowners, might not know how to write hieroglyphics.

Less rigorous was the second Egyptian writing system, hieratic. (The name, which is misleading, means “priestly,” but other social classes used it.) Hieratic was a simplified hieroglyphic script, designed for ink and brush on papyrus or textile: Pictures were converted to stylized outlines or strokes, with a far reduced vocabulary. Hieratic writing in its most basic form was accessible to most of the Egyptian upper and middle classes: landowners, certain merchants, and military officers.

for the sound. Thus they invented letter R as the sketch of a head in profile. Future generations of Semitic children would look at the *resh* picture and think of sound “r.” Today, just erase the second leg of our capital R and you’ll see not a P really, but the primordial head and neck in profile.

The earliest alphabetic writing was thus a bunch of pictures. The oldest surviving Semitic inscriptions, from around 1800 and 1700 B.C., show pictures—a head, a section of fence, a human stick figure—arrayed in cumbersome rows or columns like crude hieroglyphics, a whole row spelling out perhaps five words. Yet they were our letters’ direct ancestors, as this book will trace.

The alphabet was (and is) a gloriously simple system, invented for the masses. Abruptly, it gave the power to write and read to “little people,” foreign laborers in mighty Egypt. Any Semitic

text continues on page 41

THE CRADLE OF THE ALPHABET

How the Search for the World's First Alphabet Has Led to Egypt

Modern experts now believe the alphabet was invented sometime around 2000 B.C. by Semites who dwelled as foreigners in pharaoh's Egypt; the inventors were inspired by Egyptian writing systems. The Egyptian connection has been established through two spectacular archaeological discoveries, one at the beginning and one at the end of the 20th century.

Starting in the mid-1700s A.D., certain European scholars theorized that Egyptian hieroglyphics were the source or inspiration for the ancient Hebrew letters. The decipherment of hieroglyphics in 1823 did not obviously support the theory, for the two writing systems were shown to work on different principles. The question remained alive throughout the 19th century, amid growing awareness of the place in history of the Phoenician alphabet: The emergence of Phoenician and Hebrew writing "next door" to ancient Egypt might not be coincidence, it was argued. But further understanding had to wait for methods of modern archaeology.

The first breakthrough came in 1905 with the discovery and later assessment of about 30 inscriptions in a distinctive script that modern eyes had never seen. It was pre-Phoenician alphabetic writing, although no one knew it at first. The inscriptions were found at a desert locale in central-west Sinai called Serabit el-Khadem, now within modern Egypt. They had been carved into local sandstone and preserved by the site's solitude and absence of destructive vegetation. Their discoverer, British archaeologist William Flinders Petrie, recognized they were novel and important but had no idea how to read them, and decades later he would conclude, wrongly, that they were not alphabetic.

The writing was pictures: carved sketches, arranged in rough rows or columns. The pictures ran continuously (no systematic breaks), and their direction for reading—leftward or rightward, up or down—was unclear. There were about 27 recurring shapes: a fish, a snake, a human stick figure with arms out, a wavy line, the head of an ox or cow, and

continued

others. Certain figures resembled Egyptian hieroglyphic pictures, but the system was not hieroglyphic.

Serabit el-Khadem was foremost an ancient Egyptian site, the scene of intermittent turquoise mining between about 2200 and 1200 B.C. Here agents of the pharaoh, with armies of underlings, had torn out the semiprecious stone from under the desert. The miners probably included non-Egyptians such as Near Easterners, many of whom would have spoken Semitic dialects. As can be guessed, the writing would turn out to be theirs.

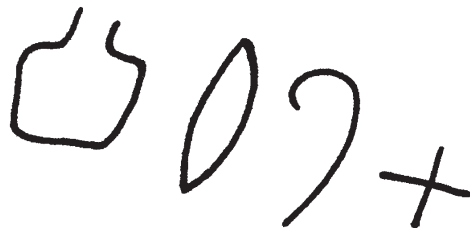
The 30 inscriptions had been left amid a mass of more conventional Egyptian relics, similarly carved from local sandstone. These included figurines, panels of hieroglyphics, and remnants of a temple of the Egyptian goddess Hathor, patron deity of the miners. It was Egyptian treasures that had drawn Petrie to the site; he did not come looking for the alphabet.

The writing stood in some relationship to the surrounding Egyptian material. Several of the mysterious inscriptions were scratched onto stone-carved Egyptian figurines, including a small sphinx. Scholars' attempts to date the writing have since relied on (disputed) dating of the sphinx through artistic analysis. British Egyptologist Alan Gardiner believed it to have been carved around 1800 B.C. Later experts put the date at 1500 B.C. But today some believe 1750 B.C. looks like a good guess for the Sinai sphinx and inscriptions.

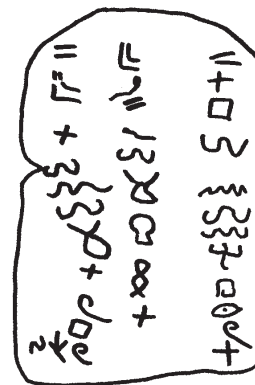
The symbols remained undeciphered for a decade after Petrie's published report. Then, in 1916, Gardiner published a brilliant article, "The Egyptian Origin of the Semitic Alphabet," which set the stage for all subsequent study. Gardiner argued that the Sinai writing was alphabetic, that the pictures were individual letters, that each of them had been copied from an identifiable Egyptian hieroglyphic picture (with the Egyptian value disregarded), and that when sounded out correctly, the picture letters would yield words of ancient Semitic. As proof, Gardiner offered his decipherment of a single word.

The inscriptions contained about a dozen examples of four symbols together—“box,” “eye,” “cane,” “cross,” we might call them—apparently an important word or notion. The four appeared, amid others, on the sphinx figurine. By extreme good luck, the sphinx also carried a hieroglyphic message, scratched into one shoulder, easily translated: “Beloved of Hathor, lady of the turquoise.” What if the two texts, hieroglyphic and mystery script, were the same?

From this assumption, Gardiner identified “box,” “eye,” “cane,” “cross” as four letters representing the Semitic word *baalat*, “lady.” The respectful term *baalat* was the feminine form of *baal*, “lord,” and could be the title or name of a goddess in various Semitic cultures. The sphinx evidently was an offering, dedicated in two writings; “beloved of Hathor” would refer to the worshipper who had donated the figurine to the goddess’s temple. The gift was to thank her for help and protection in the mines.



Above, the word baalat, “lady,” as it appears in one of several Serabit el-Khadem inscriptions. Apparently meant to be read from left to right, the letters are bayt, ayin, lamed, taw—that is, B, throat sound, L, T. As usual for the early alphabet, the letters show only the word’s consonant sounds. The guttural ayin has no English-spelling equivalent and is normally left out in transliteration, although linguists might show it with the symbol ‘ and spell the above word as ba‘alat. The letters’ names mean “house,” “eye,” “ox goad,” “mark.” The same four letters in other Serabit inscriptions may have slightly varied shapes, as in the sketch at right. There the word B’LT runs downward, at the bottom right.



continued

The Semites who wrote the Serabit inscriptions were presumably part of the Egyptian mining operation: laborers, soldiers, concubines, or similar types. They may have been foremen or others of authority, generally skilled and intelligent. Nevertheless, that such people could be literate, in an era before mass education, testifies to the accessibility of alphabetic writing.

Could the Semitic alphabet have been *invented* at the Sinai mining base? That is possible, but experts generally view the 30 inscriptions themselves as being “second generation”: The 27 signs, confidently used, seem developed. The Sinai inscriptions (whether dated at 1750 or 1500 B.C.) were probably fruit of a Semitic tradition by then a few centuries old.

Since Gardiner’s breakthrough, other scholars have announced decipherments of Sinai inscriptions, yet only Gardiner’s *baalat* remains certain. Although we can interpret nearly every individual picture letter, the messages elude us, due to the absence of word breaks and of a fixed writing direction: The Semitic right-to-left writing norm would not take hold until a future century; the earliest alphabet writings could be flowing in any direction, including up or down.

Archaeology of the mid-20th century seemed to lead away from Egypt for the alphabet’s origin, toward the Levant—the eastern Mediterranean coast and interior. During the second millennium B.C., this had been the biblical land of Canaan. Canaanites were Semitic speakers whose culture was doomed to wither under invasions by Hebrew tribesmen, seaborne Philistines, and others during the violent birth of the Iron Age, soon after 1200 B.C. Only a northern Canaanite remnant would survive and flourish: the Phoenicians.

In the Levant, archaeologists found two batches of pre-Phoenician alphabetic writing. The unearthing in 1929 of the grand Canaanite city of Ugarit, on the coast of modern Syria, brought to light 1,000 inscriptions in an odd version of the alphabet made up of 30 cuneiform shapes. Dated between about 1350 and 1200 B.C., the relics suggested

that Mesopotamian influence on the Levant, earlier on, might have helped prompt the alphabet's invention.

The second batch of discoveries was to the south, at sites now within Israel and Lebanon: some 25 short or broken inscriptions in familiar letters, their shapes recalling both the Sinai and Phoenician writing. The letters had been incised or inked onto household objects: a dagger, arrowheads, pottery (found as fragments). The dagger probably dates from 1650 B.C. or earlier; other items date variously from the 1200s to about 1000 B.C. One incised potsherd may fall within the range of 1750 to 1450 B.C. Another sherd, from around 1200 B.C., carries a list of 22 letters, the same 22 that would later become the Phoenician alphabet. Only some differences in letter shapes distinguish these from the Phoenician versions to come.

The older relics all were found to the south, in southern Israel. This may indicate that the technology of alphabet-writing spread northward up the coast during those centuries. The latest-dated items, arrowheads from Lebanon, in the north, merge into the start of the Phoenician alphabet, both in time and place.

The findings proved the existence of a Canaanite alphabet, in use at some places probably by 1700 B.C., which preceded and became the Phoenician alphabet. The Canaanite version was part of the larger Semitic tradition.

Such facts seemed by the 1960s A.D. to point to the very birth of the alphabet. Of the two earliest groups of Semitic alphabetic remnants, from Canaan and from Sinai, the Canaanite material seemed to many scholars to have begun earlier. Since Canaan could claim the earliest extant letters, and since the early alphabet culminated with Canaanite descendants, the Phoenicians, why not view Canaan as the heart of the tradition and the likely place of origin?

For the rest of the 20th century, at least through the year 1999, books and articles on the early alphabet took their cue from the Canaanite evidence. Your local library has a whole shelf of books con-

continued

taining the theory that the alphabet was invented in the Levant, around 1700 B.C. Yes, it was inspired partly by Egyptian hieroglyphics (the theory allows), but the inventors were looking at imported Egyptian scrolls and artwork. The inventors belonged to a sophisticated Canaanite society at a crossroads of trade, linked to Egypt by sea and to Mesopotamia by caravan routes east. Impressed with the writing systems of both great cultures, these people culled what they needed.

That reconstruction now goes into the trash can, due to a remarkable recent archaeological find in Egypt.

Like Petrie at Sinai, John Coleman Darnell wasn't looking for the alphabet; he was looking for Egyptian relics. In the early 1990s, the adventurous young Egyptologist of Yale University (today his title there is assistant professor) was absorbed in a field survey of ancient Egypt's road system, which had linked the Nile cities by land and given access to the eastern desert and the Red Sea. The roads had carried Egyptian armies, messengers, caravaners, and other land travelers. To trace the old roads, Darnell and his wife, Deborah, also an Egyptologist, would drive and hike through parts of central and southern Egypt, sometimes camping in the desert, mainly during winter months, when the sun is less ferocious (although night temperatures can plunge into the teens Fahrenheit). Much of their work involved recording thousands of Egyptian inscriptions at hundreds of archaeological sites.

By late 1992, the pair had made an important discovery. In central Egypt, about 30 miles northwest of Luxor (ancient Thebes), amid desert hills seemingly in the middle of nowhere, the Darnells had found a perfectly preserved stretch of ancient road. Part of a desert shortcut connecting the royal city of Thebes with Abydos to the north, the road lay in a valley alongside cliffs of cream-colored limestone. The valley, largely untouched since antiquity, was littered with ancient remnants—many left as litter, including camel droppings, pottery fragments, and bits of

rope. Along the base of the cliffs ran hundreds of Egyptian inscriptions, carved into the stone by centuries of travelers along the road.

Here was an open-air archaeological treasure ground, saved, by its remoteness, from the antiquities thieves who are the scourge of Egyptian archaeology. (On the other hand, the Darnells realized they were not the first modern scholars to see the valley. British archaeologists in 1936 had passed through, taken some photographs and notes, and given the forlorn locale a name, based on a nearby place-name: Wadi el-Hol, the Valley of Terror.)

On his first and subsequent visits, John Darnell studied the messages along the cliffs, where “blackboard-like sheets of rock” (his phrase) had invited ancient passersby to carve. The writing looked familiar enough at first. Darnell recognized much of it as a rock-writing style of the ancient Egyptian military: It was a mishmash of hieroglyphic and hieratic symbols, chosen for easy carving, which had reached one typical style during the Middle Kingdom, around 2000 to 1600 B.C.

During much of this era Egypt was a beleaguered state, pressed by invaders from the north and south. Around Thebes, the southern capital, authorities strove to keep roads clear of brigands and desert raiders, for the sake of royal messengers especially. The roads saw frequent, camel-borne, military patrols (amply documented by archaeology). With long stretches of desert and countryside on their routes, senior Egyptian patrol officers had developed a tradition of carving commemorative messages into rocks.

Rock-writing was sober business. Our word “graffiti,” with overtones of naughtiness, does not do it justice; it was more like a gravestone epitaph for someone still alive. The writer gave his name and title and ended usually with reference to a deity, a prayer for aid on the desert crossing. The inscription was thought of as permanent and spiritually potent: The writer’s name would be seen and spoken by future generations of passersby, a condition good for the soul in the afterlife.

continued

The myriad carvings at Wadi el-Hol seemed to Darnell to belong comfortably to this road-warrior tradition. From specifics in the messages' content and writing shapes, and from analysis of material remains around the valley, Darnell and others would eventually choose an approximate date of 1800 B.C. for peak activity along the road.

It was on his third visit, in 1994, that Darnell noticed two strange inscriptions. They had been carved into the limestone at shoulder level, about 20 feet apart: two short, crooked rows of symbols. Surrounding them were conventional Egyptian inscriptions; all seemed to belong together. Says Darnell, "I saw the method of cutting, the placement on the rock, and I immediately associated them with the Middle Kingdom and Egyptian military rock-writing." Except that the signs themselves were not readable to Darnell. "Some of them seemed to derive from Egyptian signs, but they clearly were being used in a way that was not any Egyptian tradition."

The two inscriptions contained about 16 and 12 signs, including duplicates. Fifteen different signs seemed to be used. Some obviously were pictures. Darnell could discern an ox head, a human stick figure with raised arms, wavy vertical lines, a symmetrical cross. What message they carried, he couldn't guess. He could, however, guess what kind of writing they were. "At a glance, they looked similar to the Sinai inscriptions. So I was certain these, too, would turn out to be alphabetic."

Verification was slow and methodical. By now Egyptian authorities had been informed of Wadi el-Hol, and word was spreading. Amid a new official presence, involving permissions and paperwork—and occasional looting raids that saw some of the Egyptian carvings torn wholly from the rock—experts in ancient writing were brought to the valley or shown photographs of the two inscriptions.

The writing indeed proved to be alphabetic. The symbols are letters, closely related to those of Sinai and Canaan. The two inscriptions cannot be deciphered confidently, due to the absence of word breaks and our un-

familiarity with some of the letters. Nobody knows for sure if the writing runs from right to left or left to right. However, assuming the flow is right to left, like that of future Semitic writing, one inscription may begin with the word “chief” and the other one may end with the word “god.”

By 1998, Darnell and others had reached a couple of dramatic conclusions. First, the two inscriptions are probably the oldest alphabetic writing yet discovered, certainly the oldest that can be dated confidently: They were carved in about 1800 B.C., give or take a century. More important, the inscriptions can be viewed as signposts that point directly back to the alphabet’s invention. On the basis of the Wadi el-Hol evidence, that invention is now assigned to around 2000 B.C. in Egypt—about three centuries earlier (and in a different country) than previously thought. “Finds in Egypt Date Alphabet in Earlier Era,” announced the front-page *New York Times* headline of a November 1999 piece reporting on the work.

The evidence is in the letter shapes, Darnell explains. Study has confirmed that every letter of the two inscriptions is copied from some preexisting symbol in Egyptian rock-writing and/or hieroglyphics. That is where the inventors and early users of the alphabet found their letter shapes.

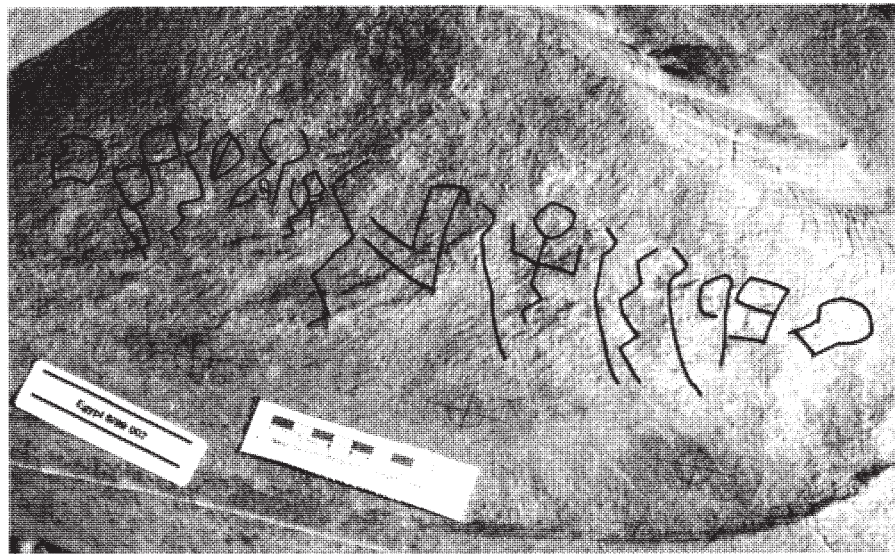
Certain Wadi el-Hol letter shapes suggest a particular moment in time when that copying occurred. We know enough about Egyptian rock-writing to track the evolution of its symbols, and several Wadi el-Hol letters clearly reflect Egyptian symbol forms of the early Middle Kingdom, around 2000 B.C. Yet the Wadi el-Hol date of *carving* looks closer to 1800 B.C. The implication: The Wadi el-Hol writing preserves letter shapes bequeathed from the alphabet’s invention, around 2000 B.C.

Most revealing are the M letters. The two inscriptions contain four specimens of a wavy, vertical line. Without doubt, this is the ancestor of the wavy-lined Phoenician M letter, named *mem* (water), and thus is the ancestor of our own M. The Wadi el-Hol M letter strongly resembles a preexisting, vertical, wavy Egyptian rock-writing symbol—obviously the source. But the Egyptian symbol was normally

continued (on page 40)



Inscription 1



Inscription 1 (augmented)

The world's oldest alphabetical writing yet discovered, the two Wadi el-Hol inscriptions are carved roughly into limestone about 20 feet apart, amid hundreds of other carvings that are Egyptian nonalphabetical writing. In the photograph of Inscription 2, the large "ghost" figure is actually an ankh symbol belonging to a nearby Egyptian inscription.

The inscriptions' letters look like cartoon figures. Yet experts find here the earliest examples of our A, B, E, L, M, R, and other letters. To the untrained eye, the only letter that resembles its future self is T, found twice in Inscription 2: It is the cross or lowercase t shape, at third from the top and again farther down.

Each picture letter denoted a consonant sound. When sounded out correctly, the letters would produce words in ancient Semitic. Only two words have been deciphered, even tentatively. Assuming the writing runs right to left (and that is uncertain), then



Inscription 2



Inscription 2 (detail)

the first two letters in Inscription 1 would be R-B. If these were meant as a whole word, it is reb, "chief." With the same provisos, in Inscription 2, the last two letters, at bottom left, are el, "god."

The two words may give us a guess at both inscriptions' content. The many decipherable ancient Egyptian rock messages at Wadi el-Hol and other road sites follow a standard formula: The writer identifies himself by name and title and invokes a patron deity. The two Wadi el-Hol inscriptions may simply be alphabetic versions of an army-regulation message, "name, rank, and prayer."

The name of God. As read from right to left, the primordial letters aleph and lamed spell el, "god," apparently part of a soldier's prayer for safety in the desert. The ladle-like lamed is the letter L. The ox-head aleph is not an E but rather a breathing-stop like a tiny cough, which began the word's Semitic pronunciation and which does not show up in normal English spelling.

We cannot identify the god, but polytheistic Semitic peoples of later centuries would worship a protective father called Melkart or Baal or sometimes just El. Meanwhile, an-

other Semitic branch, the Jews, would evolve a faith in a single God. In Hebrew, the letters aleph and lamed likewise form the divine name, as contained in the biblical word Elohim ("God") and in familiar names like Elizabeth and Michael. The Arabic word Allah ("God") comes from the same linguistic tradition.

written horizontally. The Egyptian vertical phase was brief, around 2000 B.C. So the vertical shape at Wadi el-Hol betrays the letter's approximate date of birth. Other letter shapes allow similar deductions.

Who were the inventors? Darnell believes they may have been in the Egyptian army: Semitic mercenaries or similar, whom the Egyptians would have called *Amu* (Asiatics). These people were illiterate originally. But the army that they joined happened to have a vigorous writing tradition, which inspired them, it seems, to think of a writing method for themselves.

Perhaps the inventors were junior officers among the *Amu*, individuals who had learned some standard Egyptian rock-writing and were able to work from there. Perhaps, Darnell theorizes, they got help from Egyptian army scribes, who sought to improve the foreigners' organization with the gift of literacy.

As to who might have carved the two Wadi el-Hol inscriptions, same answer as above. Not the inventors themselves, of course, but their great-great-grandnephews, serving in Egypt's camel corps. It was the army that did most of the writing along desert roads.

One last item of information. Quite near to one of the alphabetic inscriptions on the limestone wall is an Egyptian message mentioning someone named Bebi, titled as "expedition leader of the *Amu*." This can't be coincidence, Darnell maintains: The three inscriptions, alphabetic and Egyptian, were probably carved at the same time. If Bebi was an Egyptian, leading a Semite troop on road patrol, then the "chief" of one alphabetic message could have been one of those Semites, a junior officer or tribal chieftain under Bebi's command. A similar person would have written the other alphabetic message. The two Semitic soldiers were using their "native" writing form, different from Egyptian. Says Darnell, "It certainly looks as though General Bebi wrote his name, and two of Bebi's Semites wrote theirs."

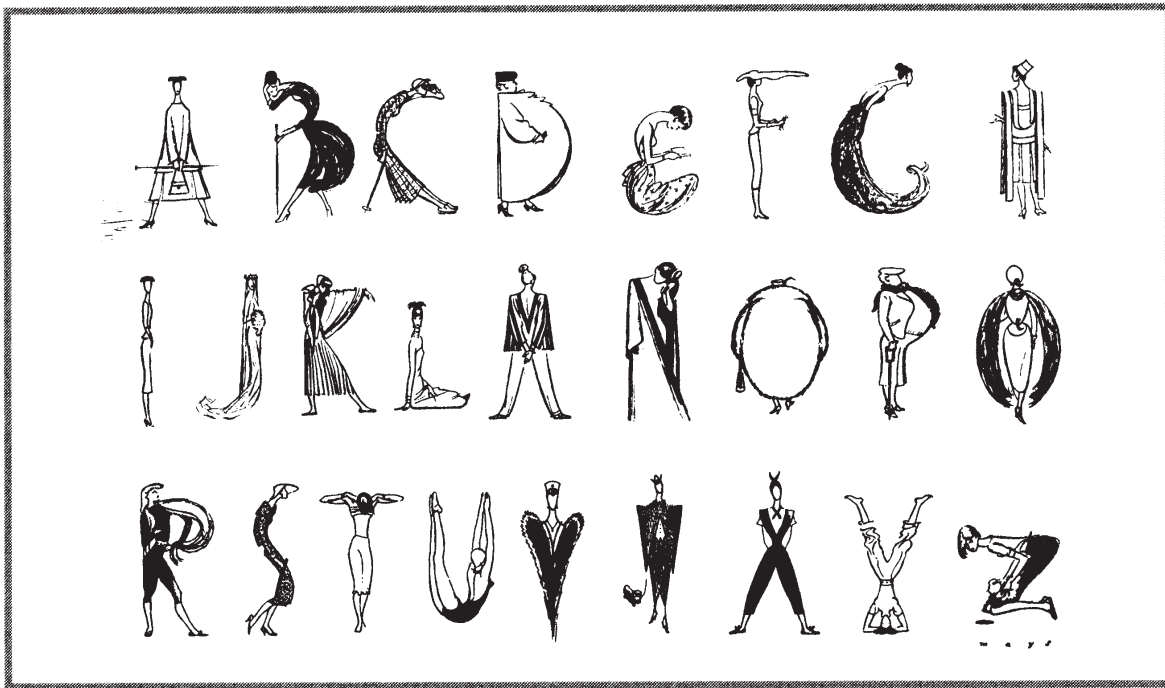
speaker with the opportunity could learn 27 pictures and their names: that, and a few years' practice, brought literacy.

During the second millennium B.C., the new technology spread from Egypt along caravan routes northeast and southeast into the greater Semitic world, to Canaan and the Arabian peninsula. It proved as accessible to the poor as to the rich.

In Canaan and Arabia, the original alphabet apparently evolved into two separate traditions: two different-looking alphabets, adjusted to local speech. In each, the letter shapes morphed away from cumbersome pictures to stylized images, easier to write. The number of Canaanite letters dropped to 22, easier to learn. The Canaanite alphabet passed to the emergent Phoenician culture at the start of the Iron Age (1200 B.C.). The Arabian branch today survives only in the traditional script of Ethiopia.

But the secret power of the alphabet—unknown to its inventors, surely—was that it did not need Semitic speech in order to work. That fact would emerge in centuries to come. With modest adjustments, the miraculous letters would be fitted to diverse tongues of Europe, India, and Southeast Asia, and carry literacy around the globe.

Who today reads hieroglyphics? The upstart notion of the *Amu* has triumphed. Their picture letters were destined for billions of people. Like the wheel or the telephone, the alphabet was an invention to change the world.



An alphabet of (female) personalities is imagined in D. L. May's cartoon "The A-to-Z Line," from the British satirical magazine Punch (March 23, 1955). Although modern taste might wish for deeper criteria than just clothing and body types, this cartoon still charms, with its 1950s elegance and class consciousness. Punch ceased publication in 2002.

And now for the 26 heroes of our story . . .