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Alphabets and Writing

This entry, in fact, this entire encyclopedia, would be a very different object if there were no alphabet. Although there are nonalphabetic writing systems and there are ways to communicate other than through writing, an alphabet is one of the most powerful tools for the easy expression of a diverse range of ideas.

An alphabet facilitates a print culture, one in which permanent records can be maintained and people can communicate with others across time and space. Even as people surf the World Wide Web for information in diverse media, they visit websites that are filled with displays of alphabetic characters. The source codes for these sites are even written in programming languages that rely on alphabets.

What exactly is an alphabet? How did the first ones arise? What was it like to communicate prior to the invention of the alphabet? What are the differences between alphabets and other writing systems? How does the use of an alphabet relate to a print culture? Questions such as these have been explored for more than two thousand years and have led to heated debates, arduous archaeological expeditions, and massive treatises on the development of writing.

Development of the Alphabet

Although the details are the subject of active research and scholarly debate, there is a rough consensus on the general development of writing and the series of stages that were involved. However, many scholars disagree about the precise dates or sources of the changes that moved writing from one stage to the next.

In the earliest stage, any culture possesses a system of meaning; in fact, that is usually a key component of any definition of “culture.” People communicate that meaning through verbal means, gestures, and physical markings. Cultures throughout the world have placed these markings in the sand, on rocks and trees, and on

individuals' bodies. A palm print on the wall of a cave is not usually considered to be “writing,” but it may well qualify as such, given that it is an enduring representation of meaning.



A Sumerian clay tablet from Ancient Mesopotamia features incised cuneiform characters that provide a tally of sheep and goats. (Gianni Dagli Orti/Corbis)

Over time, these symbol systems evolve and begin to serve more complex functions in society. Denise Schmandt-Besserat (1989) has made the case that the use of tokens

for accounting was a major precursor of writing in Sumeria. She presents evidence that simple tokens (e.g., spheres, disks, cones) indicating quantities of stored grain appeared with the development of agriculture in 8000–7500 B.C.E. More complex tokens representing manufactured goods appeared with elaborate markings at the time when cities and organized states developed, around 3500–3000 B.C.E. The earliest full-fledged writing systems then grew out of methods for representing these tokens in a linear form on tablets.

The early writing systems of Sumeria, Egypt, and neighboring countries were complex and difficult to learn. There were hundreds of distinct signs, or pictographs, to learn, each with multiple meanings. As a result, only a few scribes could read and write; literacy was essentially a monopoly of the rich and powerful. One might compare these systems to the Chinese writing, which originally developed around 1500 B.C.E. and now has thousands of characters.

It was once thought that the transition to alphabetic writing, to the forerunner of Greek, Hebrew, Arabic, and Latin alphabets that are in use today, occurred around 1700 B.C.E. in the Levant region, or what is now Syria, Lebanon, and Israel. However, in 1993 and 1994, John Darnell and Deborah Darnell made a discovery that changed previous thoughts. They were exploring in southern Egypt at a place called Wadi el-Hol (Gulch of Terror) when they discovered limestone inscriptions that appeared to be alphabetic. Returning in the summer of 1999, with early writing experts, they were able to show that the earliest known alphabet was probably invented around 1900–1800 B.C.E. by Semitic-speaking slaves who were working in Egypt. By reducing the set of symbols to a manageable thirty and by using these to represent consonants that appeared in the spoken language, the slaves had developed a system that anyone could learn relatively easily. This expanded greatly the possibilities for accumulating knowledge, manipulating it, preserving it, transmitting it to succeeding generations, and sharing it with others.

The Semitic alphabet then spread in various forms. Of most significance was its adoption by the Greeks (around 1000 B.C.E.), who eventually added symbols to the alphabet in order to represent vowels that appeared in their spoken language and to distinguish different words that might otherwise be represented by the same set of consonant symbols. Not long afterwards, this alphabet moved from the Etruscans (with

influences from the Greek) to Rome, leading to the development of the Latin alphabet, which spread rapidly throughout the Western world.

The Origin of Print Culture

The shift to alphabetic writing made widespread literacy more attainable. It became easier to learn how to write and, perhaps more important, easier to learn how to read. With a writing system that could easily represent spoken language, it became possible to conceive of recording a lecture, a political speech, or a plan of action. Those permanent records led to many changes in society. It overstates the case to mark the beginning of history by the beginning of an alphabet. Nevertheless, the movement from the oral narratives of Homer's day to the formal historical analysis of Herodotus and Thucydides depended on having the efficient, widely used writing system that the Greek alphabet provided. It is a similar overstatement to link the beginning of formal education, as in Plato's Academy, to the creation of an alphabet. Yet it is no accident that people speak of learning the ABCs; the modern educational system depends on alphabetic writing. Others have traced the origins of literature, philosophy, government, and science to the creation of alphabetic writing systems.

In the fifteenth century, the printing press was invented in Europe. Although a printing press had been developed in China, Johannes Gutenberg's innovation was to combine the press with typography, a technology that itself depended on an alphabetic system of writing. The possibility of wide dissemination of texts reshaped the church and the academy, extending a process of alphabetization that had begun more than twenty-five hundred years earlier.

A key aspect throughout this process of developing alphabets was the ability to represent knowledge in both permanent and mobile forms. As Bruno Latour (1988) argues, this made possible the development of both modern science and the Western European imperialist movement. The alphabet was a key element, facilitating typographic printing, which in turn allowed the easy reproduction of texts.

The great flowering of Greek culture appeared shortly after the adoption of alphabetic writing. Later, the Roman culture blossomed following its adoption of the alphabet from the Etruscans. Then, the full realization of the alphabet is observed through the printing press, which predates the Renaissance of these classic cultures. It is

thus easy to adopt the innovation-driven view that the alphabet was necessary for, or even caused, these great changes in history. In *The Literate Mind* (1998), Jens Brockmeier cautions people about this kind of reasoning. He argues that before an alphabet can have the powerful effects attributed to it, there must be a literate mind ready to accept it and make use of it. More generally, that caution should lead people to be skeptical about any simple, one-step model of social change. Alphabets have certainly made a difference in the development of print culture, but it is necessary to look carefully at the processes of change to see the relations among literacy tools (such as alphabets), literacy practices, social organization, and literate modes of thought.

Alphabets Versus Other Writing Systems

It is impossible to ignore alphabets and their influence on the development of Western civilization. Alphabets can represent phonemes (i.e., units of speech that are distinguishable within a language) and, thus, alphabetic texts typically remain close to the familiar spoken language. This can make it relatively easy to learn to read and write. It also makes computing and printing easier. In contrast, nonalphabetic writing tends to represent concepts independent of their representation in speech. While there are a small number of phonemes in any language, there are thousands of concepts and, correspondingly, thousands of symbols. Thus, for example, in written Chinese there are thousands of characters to learn and remember. The huge number of symbols also makes printing and computer use more difficult.

	oracle bone <i>jiaguwen</i>	greater seal <i>dazhuan</i>	lesser seal <i>xiaozhuan</i>	clerkly script <i>lishu</i>	standard script <i>kaishu</i>	running script <i>xingshu</i>	cursive script <i>caoshu</i>	modern simplified <i>jiantizi</i>
rén (*nin) human	𠄎	亼	𠄎	人	人	人	亼	人
nǚ (*nraʔ) woman	𡗗	𡗗	𡗗	女	女	女	𡗗	女
ěr (*nəʔ) ear	𦊳	𦊳	𦊳	耳	耳	耳	𦊳	耳
mǎ (*mrāʔ) horse	𠂇	𠂇	𠂇	馬	馬	馬	𠂇	马
yú (*ŋa) fish	𩺰	𩺰	𩺰	魚	魚	魚	𩺰	鱼
shān (*srān) mountain	𠂇	𠂇	𠂇	山	山	山	𠂇	山
rì (*nit) sun	𠄎	𠄎	𠄎	日	日	日	𠄎	日
yuè (*ŋwat) moon	𠄎	𠄎	𠄎	月	月	月	𠄎	月
yǔ (*waʔ) rain	𠄎	𠄎	𠄎	雨	雨	雨	𠄎	雨
yún (*wan) cloud	𠄎	𠄎	𠄎	雲	雲	雲	𠄎	云

A nineteenth-century chart illustrates written Chinese, which is an example of a nonalphabetical writing system. (Historical Picture Archive/Corbis)

The differences between alphabetic and other writing systems are important. On the other hand, one should be cautious in attributing too much to an alphabet. Consider, for example, its relation to literature. Many would argue that alphabetic writing made possible literacy for everyone and mass distribution of texts through the printing press. Yet, a country such as China has achieved a high rate of literacy despite a writing system that few people, perhaps no one, can fully master. In fact, there are claims that the body of literature in Chinese is greater than that in European languages. It is also argued that an alphabetic system is better because it is phonetic (i.e., the symbols can represent spoken sounds). This makes it easy to learn and easy to establish

a connection between spoken and written language. However, linking the spoken and written language creates difficulties in multilingual contexts. In Europe, for example, there is no common written language in which one could write the charter for a European union. On the other hand, people throughout China, even though they speak very different languages, can all read Chinese writing. This is true across other countries in Asia as well. In a time in which people seek global understanding, nonphonetic writing systems can meet the needs of diverse speakers and alphabets can seem obstacle.

Some people also argue that alphabets make possible the permanent representation of meaning; indeed, that is a key ingredient of a print culture. However, because the alphabetic representation corresponds to the spoken sounds, it must change rapidly to accommodate inevitable changes in the way in which people speak. Thus, it is difficult to read some words that were written by William Shakespeare and nearly impossible for most people to read the original words written by Geoffrey Chaucer. Using an ideographic language, which makes no attempt to represent sounds, it would be much easier to turn to the texts of long ago. A person who is literate in Chinese can still read with ease those texts that were written long before the time of Shakespeare and Chaucer. The ability to transcend phonemic changes must certainly contribute to a sense of history and an understanding of the origins of ideas.

Finally, the straightforward simplicity of alphabetic languages comes at another price. As William Jenner (1992) points out, it may be easier to express laws less ambiguously in an alphabetic language, but the possibilities for poetry may be inherently greater in a language that is less tied to precise replication of spoken forms. Ideographic and pictographic languages offer multiple readings of both the sounds and visualizations of language that are not possible with alphabets.

The Mythical Story of Alphabets

The student of alphabets and writing might be forgiven for starting with what might be called the Homeric myth of alphabets. It goes something like the following. Someone in Ancient Greece invented an alphabet. This made possible writing, as it is known in the West, and consequently, literature, history, philosophy, schools, laws, and the other trappings of modern civilization. As a result, there was one of the most dramatic shifts in all of human history, from an oral to a print culture and from illiteracy

to literacy. The shift marks the divide between history and prehistory.

Several specific (although not necessarily correct) ideas follow from this legend. First, because alphabets developed long ago, their history is well established and noncontroversial; scholars know where and when the alphabets arose, and the unknown events that led to the development of alphabetic writing are lost forever in the desert sands. Second, the move to alphabetic writing represents the straightforward adoption of a useful new tool, and the origin of a print culture can be seen clearly as a consequence of the shift to alphabetic writing. Third, alphabets are clearly superior to other modes of writing. Fourth, alphabets and their use are fixed elements in the modern movements of technology and globalization.

As with any legend, there are elements of truth, but a long and continuing thread of scholarship has shown that the move to alphabetic writing, or what might better be termed a process of alphabetization, is far more complex, dynamic, far-reaching, and current than this discrete shift model suggests.

Modern Alphabets

It is easy to think of the development of the alphabet as a historical curiosity, one representing an important event, but an event with little relevance to modern concerns. That way of thinking would miss seeing some fascinating events and issues. First of all, the field of study of early writing systems is undergoing changes that are typical of a new or emerging field, rather than one wherein the major questions have all already been answered. As mentioned above, one of the most significant events in this area of inquiry was the finding of the first sample of alphabetic writing, which was reported in the mass media only at the end of 1999. As with similar discoveries, it has raised more questions than answers. What did that first writer say? Was he or she really the first? How was that alphabet invented? How did the ideas get back to the Levant and later to Greece and Rome?

To investigate questions such as these, centers have been established, such as the West Semitic Research Project at the University of Southern California. This project uses large-format cameras or high-resolution digital imaging to photograph objects and manuscripts. Various kinds of film, including those that record only infrared light, are employed as well. These new technologies transform the kinds of questions that scholars are able to ask about ancient texts and artifacts.

Moreover, the actual processes of developing writing systems are continuing throughout the world. The well-known emoticons used in e-mail messages, such as the smiley face made up of a colon and a right parenthesis, are examples of people's continuing need to find better symbols for expression through writing. In some countries, this process is not so benign.

Toby Lester (1997) describes the situation in Azerbaijan. In 1991, the government had decreed that all Azerbaijan writing was to be in Latin letters instead of the Cyrillic alphabet, which had also been used for Russian. These changes are far more significant than, for example, the conversion to the metric system in the United States would have been. Changing alphabets in Azerbaijan is a traumatic process, but it happened before when they changed from Arabic to Latin in the 1920s, and then from Latin to Cyrillic in the 1930s. Azerbaijan is not unique in this regard. Throughout the world, alphabets are a subject of politics, not just linguistics. They are also a way to express culture and social relations. Consider the ASCII system, which defines how computers encode characters. Few people may be aware of the fact that the system works perfectly well for the Latin alphabet but that it does not work at all for most of the languages in the world and that it requires more complicated coding for even the major European languages, such Spanish with its tilde, French with the cedilla, or German with the umlaut.

These issues are being played out in the World Wide Web. Major efforts have been devoted to building systems that can accommodate all writing systems, including even the nonalphabetic systems, but in practice, the user is still much better off if he or she can use the Latin alphabet. Will technologies be developed to permit communication across writing systems? Will the diversity in writing systems be preserved? Or, will participation in a global system lead to the dominance of a single alphabet? Will that alphabet itself change to meet new technological and political imperatives? These are questions that call for continued attention to the nature of the symbols that are used for writing.

See also: ANIMAL COMMUNICATION; JOHANNES GUTENBERG; INTERNET AND THE WORLD WIDE WEB; LANGUAGE ACQUISITION; LANGUAGE AND COMMUNICATION; NONVERBAL COMMUNICATION; HISTORY AND METHODS OF PRINTING; SYMBOLS.

Bibliography

Brockmeier, Jens. (1998). *Literales Bewusstsein: Schriftlichkeit und das Verhältnis von Sprache und Kultur* [The Literate Mind: Literacy and the Relation Between Language and Culture]. Munich: Fink.

Coulmas, Florian. (1989). *The Writing Systems of the World*. London: Blackwell.

Daniels, Peter T., and Bright, William, eds. (1996). *The World's Writing Systems*. New York: Oxford University Press.

Himelfarb, Elizabeth J. (2000). "First Alphabet Found in Egypt." <<http://www.archaeology.org/0001/newsbriefs/egypt.html>>

Jenner, William J. F. (1992). *The Tyranny of History: The Roots of China's Crisis*. London: Penguin.

Latour, Bruno. (1988). "Drawing Things Together." In *Representation in Scientific Practice*, eds. Michael Lynch and Stephen Woolgar. Cambridge, MA: MIT Press.

Lester, Toby. (1997). "New-Alphabet Disease?" <<http://www.theatlantic.com/issues/97jul/alphabet.htm>>.

Ong, Walter. (1982). *Orality and Literacy: The Technologizing of the Word*. London: Routledge.

Schmandt-Besserat, Denise. (1989). "Two Precursors of Writing in One Reckoning Device." In *The Origins of Writing*, ed. Wayne M. Senner. Lincoln, NE: University of Nebraska Press.

Senner, Wayne M., ed. (1989). *The Origins of Writing*. Lincoln: University of Nebraska Press.

Wilford, John Noble. (1999). "Discovery of Egyptian Inscriptions Indicates an Earlier Date for the Origin of the Alphabet." <<http://www.library.cornell.edu/colldev/mideast/alphorg.htm>>.