



*At the end of a humid summer day in the mid-18th century, Japanese women air precious books to prevent mildew. The Japanese adopted Chinese ideographs beginning around the third century. Today, reading and writing require a knowledge of some 1,850 characters, yet literacy in Japan is universal.*

# The Struggle for Literacy

"Reading maketh a full man," Francis Bacon declared in 1597, "and writing an exact man." His aphorism, penned a century and a half after Gutenberg's creation of the printing press, expressed the West's revived faith in the awesome power of literacy—to elevate the human mind, to uplift the citizenry, to spur progress. Today, many Americans, awash in memos and junk mail, take the written word for granted. Yet perhaps 27 million of their countrymen are "functionally illiterate." They must strain even to decipher the warning label on a bottle of aspirin. In many other places, reading and writing remain uncommon, the printed word a mystery: Illiteracy afflicts more than 90 percent of the people in some Third World countries. Indeed, of mankind's 3,000 spoken languages, only some 78 are written. Here, Walter A. Fairservis traces the development of writing in ancient times; Steven Lagerfeld describes the impact of literacy in the West; and David Harman examines the uneven state of reading and writing in the United States today.

## FROM STICKS AND BONES

*by Walter A. Fairservis*

Early in 1835, Henry Creswicke Rawlinson, a young British Army officer and amateur Orientalist, stood in the shadow of a fabled mountain near the town of Bisotūn, in what is now western Iran. His superiors in London had sent him to Persia to reorganize the army of the shah; his passion for the history of ancient civilizations had brought him to the mountain.

Far above him, carved into a vertical expanse of rock 60 feet long and 23 feet high, loomed a huge bas-relief of nine men in chains being led before a king. Beneath the tableau were hundreds of lines of cuneiform inscriptions, their meaning lost to

history. Rawlinson was determined to unlock their secret.

Just copying the inscriptions into his notebook cost him years of grueling labor: crawling from toehold to toehold in the hot sunlight, dangling from ropes suspended 500 feet above the desert floor, perching on flimsy ladders lodged on narrow outcroppings of stone. When he was done, he had copies of a single inscription written in what proved to be three ancient tongues—Old Persian, Elamite, and Babylonian-Assyrian. Rawlinson already had some knowledge of Old Persian; he thought he would be able to use a translation of the Persian inscription to crack Elamite and Babylonian-Assyrian.

### Making Marks

Even so, it took him another 10 years of toil to decipher the Persian cuneiform—the bas-relief, he discovered, celebrated the victories of King Darius of Persia during the sixth century B.C. Four more years passed before he made sense of Babylonian-Assyrian. He never did decode Elamite (the language of a people who lived in what is now southwestern Iran), and indeed it was only in 1890 that scholars managed to decipher parts of it. Some of its secrets remain hidden to this day.

But Rawlinson's achievement was monumental. He opened the world of ancient Mesopotamia to a 19th-century Europe newly curious about the "lost" civilizations of the past.

Rawlinson was not alone in his passion for decoding the scripts of the ancients, but the information that he and other 19th-century Europeans gleaned provided little more than a tantalizing glimpse of the cultures that produced the earliest writing. Not only did translation remain a daunting task, but written records were (and are) few, and the interpretation of other artifacts required painstaking scholarship. Only during the last 50 years has scholars' knowledge of the ancients deepened enough to allow them to draw firm conclusions about the role of writing in the rise of early civilizations.

Some scripts—the so-called Linear A and the Phaistos Disc from Crete—still defy translators. Nevertheless, from those that have been deciphered, researchers now know that the birth of civilization and the development of writing were intertwined.

Writing alone does not explain the greatness of ancient

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*In the ancient world, scribes led lives of privilege and high status, indicated by the exaggerated proportions of these Egyptian scribes busily tallying a wheat harvest around 1400 B.C.*

Egypt, China, or Greece. But writing always accompanied the flowering of civilizations. As the University of Chicago's Ignace J. Gelb, one of the scholars who pioneered the 20th-century study of ancient scripts, put it in 1952: "Writing exists only in a civilization and a civilization cannot exist without writing."

In recent years, archaeologists and linguists have gone beyond the old "uniformitarian" view that early writing did little more than extend the political rule of reigning elites. Instead, researchers such as C. C. Lamberg-Karlovsky of Harvard's Peabody Museum now argue that the effects of the early scripts were far more varied and complex, subtly influencing commerce, the arts, and farming, as well as government.

Man's use of graphic symbols dates back at least to the late Stone Age (between 25,000 and 12,000 B.C.), when the people of prehistoric Europe painted vivid pictures of the deer, bison, and other animals that they hunted. The paintings were in part the expression of an animistic faith: Prehistoric man hoped that he could influence the hunt by symbolizing his prey. This notion that symbols can affect the life of what is represented has endured. To this day, for example, certain groups in India have no word for the cobra, a threat in everyday life, because they fear

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that creating the word may conjure up the thing itself.

A new array of symbols was added to the old as prehistoric man increasingly took to settled farming and livestock herding after about 8000 B.C. One reason was the need to keep accounts. By the late Stone Age, it had become common practice to notch sticks and bones to record the passing of days and months and the number of animals claimed in the hunt. With the development of sedentary village life the emphasis changed to recording the number of sheep or goats in a flock or the amount of grain held in storage. Often, easily counted tokens were used. As the new way of life increased the importance of private property, incised or painted marks and various kinds of stamps appeared as a way of marking one's possessions. Always prey to the vicissitudes of nature, farmers created symbols for the supernatural forces that governed rainfall, fertility, earth, and water.

Not all the new farming cultures used symbols for all these categories, but the practice was widespread, particularly in the Near East, Egypt, southeastern Europe, the Indo-Iranian borderlands, and probably northern China. These were the places where the earliest civilizations took root.

The first was probably Sumeria, which emerged in ancient Mesopotamia beginning around 3200 B.C. At the heart of the Sumerian world were its cities, strategically positioned where tributaries flowed into the great Tigris and Euphrates rivers. These waterways, augmented by canals, fed the cities' outlying fields of wheat, barley, and oats. But Mesopotamia was in the end a desert land flanked by the mountains of the Iranian Plateau and the arid wastes of the Arabian deserts, and the Sumerians were beset by unpredictable cycles of drought and plenty.

### **Hammurabi's Laws**

The precariousness of their existence, compounded by the scarcity of stone, metal, and wood within their realm, made the Sumerians the ancient world's premier traders. Notched sticks and other devices were no longer sophisticated enough for keeping records of rates of exchange, past transactions, and inventories. Thus, after a period of evolution, Sumerian cuneiform writing made its appearance around 3100 B.C. ("Cunei" were the wedge-shaped marks that the Sumerians incised in soft clay tablets, which were then baked.)

But another concern spurred the creation of cuneiform, one that led the Sumerians to make an enduring contribution to civilization itself. Vulnerable to nature, to enemies near and far, and to turmoil in their own cities, the Sumerians realized that they would never survive without a formal system of regulation

*The Phaistos Disc, discovered in a Minoan palace in 1980, has never been deciphered. Its mysterious figures, houses, and plants are unlike anything in other writing from ancient Crete. Some scholars speculate that the disc is a game piece of some kind, the figures meaningless.*



and control. Their solution was to create a system of laws.

Sumerian philosophers were aware that nature itself seemed to be controlled by laws of regularity: sunrise, sunset; dry season, wet season; death and rebirth. In addition, there seemed to be "functional" laws: birds flew, plows plowed, soldiers fought. Violation of these laws created disorder. Beginning about 2600 B.C., the Sumerians promulgated a series of very specific written laws, which are preserved in the code of the Babylonian king Hammurabi (1792–50 B.C.), the successor to the Sumerian kings. The Code of Hammurabi touched on nearly every realm of human activity, specifying, for example, the rights of women and war veterans, the responsibilities of city architects, and the legal rights of slaves.

Literacy at first was probably confined to Sumeria's temple scribes, but it seems likely that aristocrats and merchants also learned to read and write. The Sumerians established schools with regular hours and a full complement of teachers and teachers' assistants, offering instruction that went well beyond writing, to geography, astronomy, law, ethics, and perhaps other languages. A culturally sophisticated people, the Sumerians used writing not only for practical purposes but for narrative histories and commentaries on the human condition.

The exigencies of existence led some to profound speculations on the meaning of life itself, expressed in such Sumerian writings as the *Epic of Gilgamesh*, in which a hero-king vainly seeks immortality. Such writings survive—and will probably turn out to be the largest cache of surviving documents of any of the ancient civilizations—because they were written on virtually

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imperishable clay tablets.

If the Sumerian world view was pervaded by pessimism, a sense of helplessness in the face of nature's unpredictability, the Egyptians, living some 1,000 miles to the west in the fertile Nile River valley, were generally optimistic. Long before the first great Pyramids were built, the Egyptians believed that death was simply another form of existence, not an end, and thus that a person's name was a label for all time. By the time King Narmer unified ancient Egypt around 3100 B.C., kings and nobles were concerned that their names be represented not only by artifacts left in their tombs, as in the past, but by writing. "Thy name shall endure" is one of Egypt's most ancient epithets.

As the Pharaohs consolidated the Egyptian state, implanting the fundamental belief that the Pharaohs themselves were gods, Egyptian writing became almost entirely a priestly function. It was not that the scribes were priests, but that their writing served priestly, as well as secular, purposes. Because much of the writing that survives has to do with religion, the script is called hieroglyphic (sacred writing).<sup>\*</sup> The Egyptians referred to it as "God's writing." This formal script of "beauty, dignity, and above all, permanence," as British ethnologist Albertine Guar described it, was part of the symbolism that held Egypt together.

### **Inventing the Alphabet**



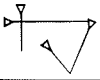







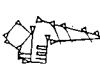
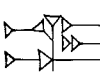


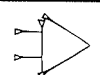
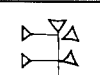
Egypt's scribes also developed two cursive forms of writing (hieratic and, later, an even more abbreviated form called demotic), usually brushed onto papyrus, that were used as a kind of shorthand in the day-to-day business of an empire.

By creating a system of signs with specific meanings, the Egyptians made ordinary messages, religious statements, and the Pharaohs' directives as readily understood in the southern reaches of their empire in the Sudan as on the shores of the Mediterranean. Without writing, it is doubtful that the Egypt of the Pharaohs would have endured over the centuries. Yet, because the Egyptians restricted literacy to a scribal class, hieroglyphic writing perished with the old Egypt some four centuries after the birth of Christ.

In China, religious beliefs nurtured early writing, just as they had in Egypt. Almost as far back as settled life can be traced in China, the Chinese were conscious of their social relationships. Each individual's identity was linked to his social class, his extended family, and quite likely his lineage. Systematic Chi-

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<sup>\*</sup> Egyptian hieroglyphs make up a so-called logo-syllabic system that has three elements: ideograms, which are pictures of the things referred to; phonograms, which stand for consonants (there are no vowels in Egyptian writing); and determinatives, which clarify the meaning of the glyphs.

|        |   |   |   |   |
|--------|---|---|---|---|
| BIRD   |  |  |  |  |
| FISH   |  |  |  |  |
| DONKEY |  |  |  |  |
| OX     |  |  |  |  |

*Sumerian cuneiform, like most scripts, began as a series of pictures. During a millennium of evolution, signs came to signify sounds instead of objects; images, pared down and tilted, became more abstract.*

nese "ideographic" writing (in which each word is represented by a pictorial sign) was probably created during northern China's Shang dynasty during the second millennium B.C. Ideographs were commonly used to record names, lineage, and ownership, but one of its most important uses was in "oracle writing." It was unthinkable to embark on an important endeavor without first seeking guidance from the ancestral gods. Shang kings and nobles consulted them through diviners, who drilled holes in animal shoulder bones or turtle shells and then heated them over a fire. The resulting cracks were read as divine statements and recorded by scribes on the bone or shell.

Chinese writing had existed before the Shang dynasty, but it took the invention of a series of indicators, much like the determinatives in Egyptian hieroglyphics, to make the system more efficient. Essentially, these indicators (over 200 in number) told readers how to distinguish the meaning of words that share the same ideograph and pronunciation. The indicators were developed after the Shang dynasty, but they were rooted in the picture writing concept.

Chinese ideographic writing may seem cumbersome to Westerners, but it had (and has) one great strength: A word might be pronounced differently in Shantung, the birthplace of Confucius, than in Kansu to the west, but it was always "spelled" the same way, using the same ideogram.\* Written Chinese thus united a dispersed people who spoke several different dialects.

Other societies besides those of Sumeria, Egypt, and China invented their own forms of writing: By 1400 B.C., for example, the merchant princes of Crete and Mycenae were using Linear B

\*Some 50,000 ideographs exist in written Chinese, but only about 3,500 are in everyday use.



to create commercial and governmental archives. Across the Atlantic, the Maya were using glyphs by the fifth century and the Aztecs were using a form of picture writing nine or so centuries later. But in the Old World, with the exception of Chinese ideographs, virtually all of the writing systems that had survived slowly died out after the invention of a markedly more efficient writing system, the alphabet.

Scholars generally credit the creation of the alphabet to the Phoenicians, the merchant seamen of the eastern Mediterranean, who had in turn derived some of *their* signs from Egyptian hieroglyphs. The Greeks then adopted the Phoenician system's consonants and added the crucial missing element: vowels. Greek, like all the Indo-European languages that came after it, changed the meaning of words by changing vowels. (In English, for example, "man" becomes "men.") An alphabet made learning to read and write breathtakingly simple. Instead of using hundreds or even thousands of symbols, each standing for a specific object, word, or idea, the alphabet equated a scant handful of signs with the sounds of speech.

### **The Romance of Writing**

The Greek alphabet may have been in the making before the time of Homer (who probably lived during the ninth or eighth century B.C.). Already in love with rhetoric and the spoken word, the Greeks became a highly literate people. A grave insult among ordinary Athenians of the fifth century B.C. was to say of a man: "He can't read, he can't swim."

"Cadmus, the legendary inventor of the alphabet, is said to have sown the dragon's teeth that raised a crop of warriors," writes Long Island University's Robert Pattison. "On Greek soil, the alphabet, once established, also bore a mighty crop." The results are still with us: the comedies of Aristophanes, the histories of Herodotus and Thucydides, the philosophy of Aristotle.

The alphabet proved to be at least as precious a legacy as the Greeks' great works of intellect and art. In Italy, new alphabets—amalgamations of borrowed Greek letters and indigenous signs—sprang up like weeds in a garden. Latin writing was a hybrid of Greek, Etruscan, and native letters, adapted to the Latin language, and, finally, refined to only 23 signs. Like the Greeks before them, the Romans prized literacy. At least as early as the first century B.C., they pressed reading and writing on their citizens, helping to create an empire unified by its cultural beliefs and by Rome's ability to have its written proclamations understood from the British Isles to North Africa. Polybius, who recorded the rise of Rome in the second century B.C., writes that

the army required literacy even of its lowliest soldiers. The gift of writing was so widespread that one of its curses was also common. On the walls of Pompeii and other towns, ordinary Romans freely scrawled graffiti, misspellings and all.

The writings of Virgil, Cicero, and Seneca, republican ideals, and the elements of Roman law are among the literate Romans' legacy to the West.

The spread of alphabetic systems beyond these early beginnings is a long and complex story. The Latin alphabet became the basis of the writing systems of modern Western Europe, while some of the alphabets of Eastern Europe and Russia were derived from Greek letters. By the fourth century, Greek letters had also supplanted hieroglyphs in Egypt. The generally vowelless alphabet of Aramaic, an early Semitic language common in the Levant as early as 1300 B.C., became the basis of several alphabets in India, far to the east. Arabic and Hebrew also owe much of their written character to Aramaic.

All of the ancient civilizations that created scripts, including those that lacked an alphabet, also developed a sense of themselves as superior to nonliterate cultures. Yet many societies thrived without writing: the "chieftainships" of Polynesia, the Ashanti and other tribal kingdoms of West Africa, the Indians of America's Pacific Northwest. In most cases, they developed symbols, such as the totem pole or the designs used in painting pottery, that served their purposes. The Inca of what is now Peru used a pendant of knotted cords called a *quipu* to keep an accurate census, assess taxes, and record trading transactions. Over the course of three centuries, the Inca managed to build a sizable empire, marked by elaborately terraced farms and an extensive network of well-engineered roads, which they lost only when the Spanish *conquistadores* destroyed it in 1532.

Yet writing clearly made a vast difference. The history of writing and the cultures that developed it is a romance of immense significance. The invention of writing was probably the most significant step in man's cultural evolution. Aside from its daily utility, writing has preserved long-dead tongues and the record of ancient institutions. It has preserved the history of man's triumphs and failures. It has made possible the rapid sharing of new knowledge. Above all, it is magical in its ability to bring the past alive and to allow us to imagine the future.

## THE READING REVOLUTION

— by *Steven Lagerfeld*

Writing “will implant forgetfulness in [men’s] souls; they will cease to exercise memory because they rely on that which is written.” Thus Plato (speaking through a character in one of his dialogues) questioned the value of literacy some four centuries after the Greeks began adopting the alphabet. Only knowledge gained through spirited debate, Plato argued, “is written in the soul of the learner.”

Of course, the ultimate reply to Plato is that his doubts about literacy are known to us only because he committed them to writing. Yet, in one form or another, Plato’s reservations have preoccupied thinkers through the ages. Do reading and writing transform human consciousness? How so? Is literacy best left in the hands of the few, or is *mass* literacy better? Will widespread literacy ensure social and economic progress? Never in the past were the answers to all these questions self-evident, and some remain, in one form or another, subjects of scholarly debate.

Despite the invention of the alphabet, which vastly simplified the task of learning to read and write, the spread of literacy was far from inevitable. The leaders of Greece and Rome had chosen to promote reading and writing among their citizens. For many centuries, their successors in the West did not.

Interestingly, the early Christians sided with Plato. Christ is said to have written only once—in the dust, as if to signify the transience of the written word. His disciples did not commit his teachings to writing until some 30 to 60 years after his death, preferring that the Word be transmitted orally, kept alive on the tongues of men. Yet Church leaders soon recognized that a holy book would be needed to keep the faith intact. (The Gospels and Old Testament had already been written.) Amid the cacophony of Europe’s hundreds of languages and dialects, few of them written, only the old imperial language of Latin could be read as easily in the British Isles as in Holland or Italy.

Reluctantly, the Church adopted Latin as its official language. The *litterati* of the Middle Ages—mostly priests, along with a handful of nobles and merchants—reserved the ability to read and write for themselves, in part because they believed that it gave them power over the souls of commoners. (Not only in Europe: In medieval India, for example, only the Brahmin, or “twice born,” were permitted to read the sacred Veda.) Indeed,



*In Gutenberg's time, printing presses were few and compositors worked for months on each book. By the 16th century, every major town in Europe had a print shop, which often doubled as an informal university.*

a mystical quality was attached to the written word; in Middle English, the word *grammar* referred to occult lore; in medieval Britain, those accused of murder who could read from the Latin Bible were automatically spared the hangman's noose.

But the truth was that from the fall of the Roman Empire until the 14th or 15th century, even most of the high-born cared little for literacy. "Letters are removed from manliness," a group of German Goths told Queen Amalasuntha of sixth century Italy, "teaching . . . results for the most part in a cowardly and submissive spirit." Among the notable illiterates of the era were William the Conqueror and Charlemagne—whose clerics did their reading and writing for them. It was the Church, with its legions of literate men, that organized and spearheaded the Crusades. It was the Church that provided Western Europe with a semblance of cultural unity.

The common folk did not begrudge the *litterati* their monopoly on letters. Reading and writing, quite simply, were unnecessary luxuries for the peasant farmers of the Middle Ages. Knowledge passed by word of mouth from father to son, from

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mother to daughter. As late as the 17th century, English country squire Nicholas Breton noted, farmers could "learn to plough and harrow, sow and reap, plant and prune, thresh and fan, winnow and grind, brew and bake, and all without book."

Imagining today what daily life was like in such an oral society is as difficult as putting oneself in the place of a blind man. Say a word and a literate person will immediately see it spelled in his mind's eye: It is the written word that has form, substance, and meaning, that produces the mind's order. But in an oral world, the written word is ephemeral. In the courtrooms of 12th-century England and France, written deeds and bills of sale counted for less in resolving legal disputes than human witnesses who, according to St. Louis University's Walter Ong, "were alive and . . . could defend their statements; writing was [viewed as] dead marks on a dead surface."

Even among the literate of the Middle Ages, old ways lingered. Reading more often meant speaking aloud (or *sotto voce*) than thinking in solitude. In the scriptoria of the monasteries, one monk would read from the pages of the Bible while his fellows labored over their rote transcriptions; in the classrooms of medieval universities, professors recited to their students from the few available texts. (Books were so lightly regarded that old writings were commonly rubbed out when paper and vellum were scarce so that the monks could continue their copying.) Writing was no different. Few medieval authors, observes Ong, wrote with quill in hand, painstakingly building their arguments word by word, brick by brick, a house of logic. Rather, most dictated their thoughts aloud to scribes.

### God's 'Extremest Act of Grace'

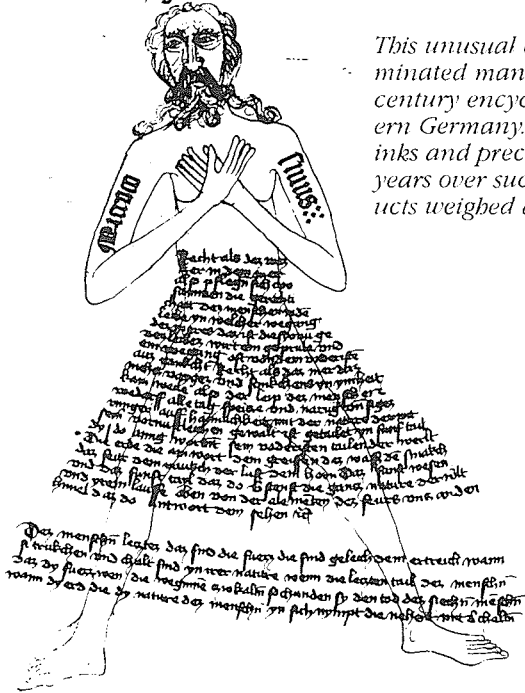
Reading (or writing) in silence, *internalizing* words, is an experience of a very different kind. "To engage the written word," notes New York University's Neil Postman, "means to follow a line of thought. . . . It means to uncover lies, confusions, and overgeneralizations, to detect abuses of logic and common sense. It also means to weigh ideas, to compare and contrast assertions, to connect one generalization to another."

Europe during the Middle Ages was not completely without literacy, but it shared some characteristics with the unlettered Third World tribes that contemporary scholars have studied. Such oral societies, says Ong, "must invest great energy in saying over and over again what has been learned arduously over the ages. This need establishes a highly traditionalist or conser-

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Ein verleich sei vñ ein fleisch  
 ist ein mensche gar



*This unusual example of a hand-illuminated manuscript is part of a 15th-century encyclopedia made in southern Germany. Monks, using colored inks and precious metals, labored for years over such works; the final products weighed as much as 25 pounds.*

vative set of mind that with good reason inhibits intellectual experimentation. . . . By storing knowledge outside the mind, writing and, even more, print downgrade the figures of the wise old man and the wise old woman, repeaters of the past, in favor of younger discoverers of something new."

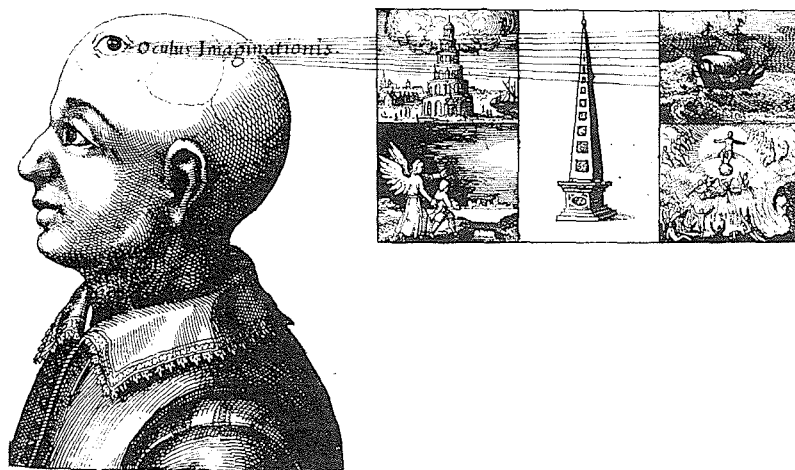
In Europe, the first discoverers of the new appeared in 14th-century Venice, Florence, and other wealthy Italian city-states. Owing to their energetic merchant princes, who bartered and bargained throughout the Mediterranean, these cities had grown large and affluent by European standards of the day. They also harbored distinguished scholarly communities, which the merchant princes favored with ancient Greek and Roman texts retrieved mostly from libraries in Egypt and the Arab world. Urbanization, prosperity, and the rediscovery of ancient works nourished a new skeptical and secular outlook on life, the early Italian Renaissance. Still, the revival might never have spread so quickly beyond Italy without two other developments.

The first was Johannes Gutenberg's invention of the printing press during the 1440s and '50s; it stands alongside the cre-

ation of the alphabet some 2,500 years earlier as a landmark in the long history of the rise of literacy. As in the case of the alphabet, however, human choice was needed to transform a technical invention into a revolutionary device. Within decades of Gutenberg's discovery, Europe felt the first stirrings of the Protestant Reformation, led by Martin Luther (1483–1546). Luther was at first dismayed when the printing press made his famous 95 Theses, nailed to the door of a church in the tiny German village of Wittenberg in 1517, the news of all Europe. But during the ensuing years he broadened his challenge to the Catholic Church, calling for a more direct relationship between Man and his Maker. He insisted that the faithful be able to read God's Word themselves, and in their own "vulgar" languages, not in the Church's Latin. For him, Gutenberg's press was a weapon; printing was "God's highest and extremest act of grace, whereby the business of the Gospel is driven forward."

Printers responded to the new market with an outpouring of Bibles, Books of Days, and other holy works. Religious fervor propelled book sales and literacy rates to unprecedented levels in Protestant lands—Scandinavia, the German states, Holland, and Britain.

One of the most dramatic transformations occurred in 17th-century Sweden, where a Lutheran home-teaching movement swept the countryside. Once a year in Sweden's small towns and



*In preliterate Europe, the "arts of memory"—repetition, proverbs, and rhymed verse—were essential to preserving the past. By the 17th century, the "third eye" of memory was regarded as an aspect of the occult.*

villages, pastors assembled their flocks for public tests of reading and writing: Anyone who failed was forbidden to marry or take communion. Though lacking public schools, Sweden achieved near-universal literacy by the beginning of the 18th century, even before most other Protestant lands.

There is no telling what would have come of Gutenberg's invention without Luther's crusade. In China, an alchemist named Pi Sheng had designed a system of movable type during the 11th century, well before Gutenberg's time. It contributed to the flowering of literature during the later Sung dynasty and to the rise of the powerful Chinese civil service. China outstripped the rest of the world in book production until the end of the 18th century. But China's Confucian-trained scholars and bureaucrats restricted education to the elite, and it was virtually impossible for commoners to learn the tens of thousands of characters of the Chinese language at home. As a result, more than 70 percent of the Chinese population remained mired in illiteracy at the beginning of the 20th century.\*

### A Rearguard Action

Even before literacy reached Europe's common man, the printing press had an enormous effect on the life of the mind. At first, notes the University of Michigan's Elizabeth Eisenstein, the foremost historian of the printing revolution, printers churned out (apart from holy books) countless reproductions of ancient tracts on astrology and alchemy, fragments of "magia and cabala"—a "vast backlog of occult lore." But eventually, more illuminating works were put into print. The spread of reading and books alarmed some of the powerful. Pope Paul V, for example, banned Copernicus's *On the Revolutions of the Celestial Spheres* from Catholic-run presses in 1616.

Printing did for intellectual life what the invention of money thousands of years earlier had done for trade and commerce, spurring an explosive growth in the exchange of information and ideas. Now the astronomers and physicians and philosophers of 16th-century Europe had at their fingertips in book form all the accumulated wisdom of the ancients. When the great works of the past were placed side by side, writes Eisenstein, "contradictions became more visible, divergent traditions more difficult to reconcile. The transmission of received opinion could not proceed smoothly once Arabists were set

\*The Arab world reluctantly adopted the press 300 to 400 years after Gutenberg, preferring instead the magnificent calligraphy and miniature paintings that flourished in books of the 14th, 15th, and 16th centuries. Today, literacy remains spotty throughout the Muslim Middle East, ranging from under 10 percent in countries such as Yemen and Qatar to nearly 30 percent in Saudi Arabia.



### THE THIRD WORLD'S WARS ON ILLITERACY

"Can there be a more moving spectacle than . . . this tall old man with his white beard, his tremulous voice, his unsteady limbs, as he slowly lifts a long bamboo pointer toward the blackboard, and with difficulty tries to pick out the letters on it?"

Such scenes, from French schoolteacher Gerard Tongas's account of a mid-1950s literacy campaign in communist North Vietnam, have been repeated thousands of times in the Third World. With high hopes for spurring economic development, promoting national unity, or indoctrinating the "masses"—and at great expense—dozens of governments have launched efforts to eradicate adult illiteracy.

Progress worldwide has been slow but steady. In 1980, according to the United Nations Educational, Scientific, and Cultural Organization, 28.6 percent of the world's adults were illiterate, down from 32.9 percent in 1970.

The greatest fanfare has accompanied the all-out drives against illiteracy mounted by many communist regimes. In 1961, Fidel Castro sent "an army" of 100,000 literacy *brigadistas* into the hinterlands and later announced to international acclaim that they had taught some 700,000 Cubans to read and write. Cuba now claims a literacy rate of 96 percent; Vietnam, 85 percent; and Nicaragua, after a similar "war," 87 percent. Yet the North Vietnamese campaign, Tongas says, "merely consisted of teaching the illiterate masses to recite 20 or so slogans

against Galenists or Aristotelians against Ptolemaists."

The creation of a market for books also helped writers and thinkers free themselves from the whims of aristocratic patrons. New arguments and discoveries, treatises on theology and philosophy, poetry, fiction, works of outrageous fantasy, all shot through the ranks of the educated like jolts of electricity. The results were momentous. It was the age of Erasmus and Bacon, Shakespeare and Cervantes, Galileo and Leonardo. By 1704, when Jonathan Swift published *The Battle of the Books*, contending that the ancients were superior in wisdom and learning to modern men, he was fighting, as far as the small, educated sector of the English public was concerned, a rearguard action.

Gradually, books made their way into the hands of the common folk.\* The ability to read and write spread slowly through Europe during the 17th and 18th centuries, partly through education. Frederick III, later the first King of Prussia, ordered farmers' children "to school, at least for two hours in the morning"

\*Books were much cheaper than hand-illuminated manuscripts, but they still came dearly. In 16th-century France, for example, the cheapest New Testament cost the equivalent of a whole day's wages for a journeyman carpenter. Still, the popular market for books throughout Europe was huge. A prodigious 22,000 titles rolled off English presses between 1641 and 1662, about one book or pamphlet for every 42 readers.

['Long live President Ho!'] and to copy them more or less legibly." The old man with the pointer, like most of his countrymen, never really learned to read and write for himself. The Cuban story is similar.

Few non-communist lands have claimed results as impressive as Castro does. Even in the West, teaching *adults* to read and write is difficult. The chief obstacle: persuading men and women who have lived into their middle years without literacy that a heavy investment of time and effort will pay off. Most Third World adult literacy campaigns, writes Abdun Noor of the World Bank, "have been uneconomic with a high dropout rate and a high incidence of relapses to illiteracy."

Noor is skeptical of splashy, centrally directed campaigns. Churches and other local organizations are generally best suited to doing the job, he says, and textbooks that teach people practical skills (e.g., animal husbandry) are the most effective tools. Brazil, Uganda, and Tanzania are among the nations where such localized efforts have worked.

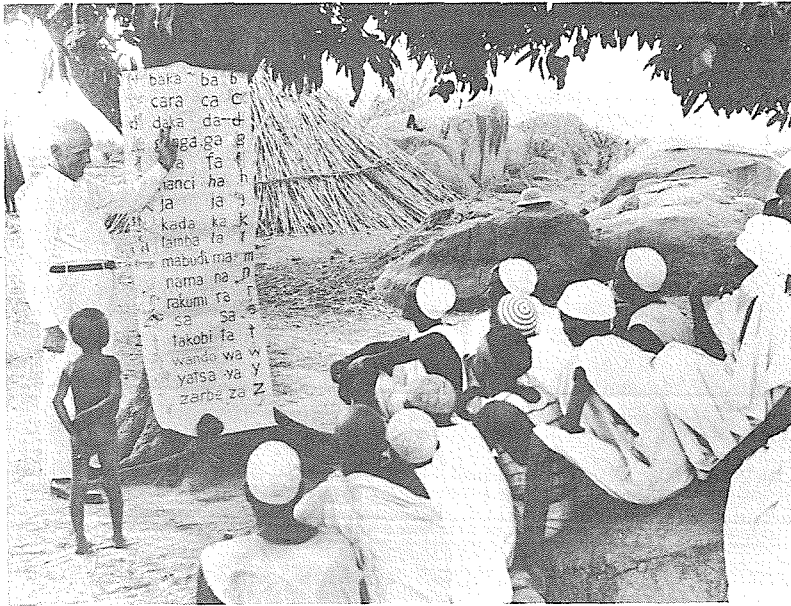
Few specialists predict that more than a minority of the world's 800 million adult illiterates will ever learn to read and write. The best hope may lie with the next generation. Even Africa, with its estimated 60 percent illiteracy rate, now enrolls 78 percent of its children in elementary schools. Asia and Latin America, with far less illiteracy, boast even higher rates of school enrollment.

Literacy alone may not deliver economic progress, enlightened minds, or any of the other benefits that it seems to promise to the Third World, but without it such gains will remain forever out of reach.

in 1698. But, as in 17th-century Sweden, most commoners learned from their literate acquaintances or from primers like preacher Valentin Ickelsamer's *A German grammar—from which one might learn to read for oneself* (1534).

Modern historians have been able to reckon early literacy rates only by digging through parish records, diaries, and deeds, counting men who signed with their names as literate, those who made an X as illiterate. By the end of the 18th century, printing and the spread of schooling had produced relatively high rates of literacy, at least in Protestant countries. The Swiss were 80 percent literate by 1850 (thanks to widespread public education), as were 80 percent of the Prussians and 50 percent of the English. Catholic Italy and Spain, by contrast, suffered much lower rates of literacy—20 and 25 percent respectively. Tsarist Russia, with a vast population of impoverished serfs who "did not see any material benefit" in becoming literate, as a 19th-century Russian priest remarked, still remained 80 percent illiterate at the turn of the 20th century.

Everywhere, the notion of literacy for all remained a distant dream. The well-to-do were more literate than the poor, city-dwellers more literate than farmers. Men, from France to China,



*Youngsters learn to read their native Hausa, one of Nigeria's three major tongues. In many lands, literacy education is hampered by the need to create writing systems from scratch for spoken languages.*

were far more likely to learn their letters than were their wives and sisters. Sweden's highly literate women were among the most fortunate in Europe, where literacy rates for women ranged variously from 20 percent in Italy and Spain to 55 percent in England by the middle of the 19th century.

Often literacy was a gift that unlocked in an individual an enormous potential that in times past would have remained dormant. Historian Margaret Spufford tells the story of Thomas Tryon, son of a poor 17th-century Oxfordshire plasterer, who left school at the age of six having "scarcely learnt to distinguish my letters." At 13, he learned to read from fellow shepherds; later he paid an itinerant teacher to teach him to write (tuition: one sheep). He moved to London, where he spent his wages on books, and before long he was writing them. There were six in all, including *A New Method of Education*, as well as *Averroes Letter to Pythagoras* and *The Good Housewife Made a Doctor*. For most people, however, limitations of social class, circumstance, and native ability tempered the impact of reading and writing. When they took an interest in the printed word, Europe's common folk favored "how-to" pamphlets offering in-

struction in carpentry or farming or home medicine.

Today, it is an article of faith around the world that the appearance of such a rapidly growing, educated reading public (however prosaic its reading) was one of the essential ingredients in sparking the Industrial Revolution. During the 1960s, sociologist C. Arnold Anderson and economist Mary Jean Bowman, both of the University of Chicago, concluded that a national literacy rate of 40 percent is the bare minimum needed to achieve such an industrial "take-off." England during the 1750s had reached the "40 percent threshold."

### **Fearing the Poor**

Yet, as other scholars have since discovered, industrialization had an unexpected effect: In England, the literacy rate stagnated or fell (as it did in France) as factory owners hired young workers away from schools at the age of six or seven. The rate did not turn up again until the 1880s.

Nor did factory owners need great numbers of workers who could read and write. A few agreed with reformers such as Canadian educator Charles Clarke that literacy "has lightened the toil of the laborer [and] increased his productive ability." But as British historian Michael Sanderson writes, the new jobs—furnaceman, cotton cleaner, weaver—in the Yorkshire and Lancashire mills and factories "required even *less* literacy and education than the old ones (wood- and metalworking, for example)." Once a worker learned to operate a loom or a blast furnace, Sanderson argues, he (or in the cotton mills, she) needed to learn no more. A "knack" for things mechanical was more important than book learning.

There is no doubt that the printing press and the book, and the rise of literacy that followed, set the stage for Europe's modernization. They made possible new technology—James Watt's steam engine (1769), Sir Henry Bessemer's converter (1856)—and the educated managers, engineers, and technicians needed to run large factories and distribution networks. Whether *mass* literacy was needed remains an open question.

Indeed, many of the well-to-do of the mid-19th century plainly feared it. In England, as reformers waxed eloquent about the education of the workers, many of the gentry saw instead "the terrible spectre of a literate, politically minded working class," as Cambridge historian J. H. Plumb put it. Sir Joseph Banks, president of the Royal Society in England in 1807, feared that literacy would teach the poor to "despise their lot in life." Instead of burying their noses in harmless popular novels, he fretted, literate English and Scottish workers were reading "sedi-

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tious pamphlets [and] vicious books."

Equally worrisome was the rise of a popular press frequently given to political agitation. During the French Revolution, an event that terrified Europe's aristocrats (and other Europeans as well), the Parisian press had become, in the words of one French observer, "simply a machine of war," educating what the Paris *Globe* called "a new generation . . . smitten with liberty, eager for glory." By 1820, the introduction of new technology slashed the cost of newsprint and sent circulation skyrocketing. Newspapers proliferated in London and the major cities of Europe and the United States, with some claiming up to 30,000 readers. In 1865, Paris's *Petit Journal* was turning out 250,000 copies a day. Years earlier, a little known journalist named Karl Marx had remarked upon the usefulness of newspapers in forging "party spirit" among the workers.

### **Khomeini on Cassettes**

Despite conservatives' fears of mass literacy, most educated Westerners by the end of the 19th century had come to believe that it was the first step on the road to greater progress. Certainly, higher rates of literacy (along with widespread public education) eased the transition to industrial innovation in the United States and Canada. Teaching reading and writing seemed to be the key, as one writer put it, "to instruct[ing] a man how to live and move in the world as befits a civilized being." By the 1930s, state-supported schooling had made near-universal literacy a reality in the West.

Today, the scene of the struggle to achieve basic literacy has shifted to the Third World, where nations such as Ethiopia (with a seven percent literacy rate) and Pakistan (16 percent) have set their sights on the "40 percent threshold." Their leaders are convinced that mass literacy will secure what the Iraqi government once called "the political, economic, and social progression of the country." Maybe so. Yet, as the Cuban example shows (see box, pages 110–11), a literate population alone is not enough to ensure economic progress or political liberty. The Shah of Iran, who made literacy a keystone of his modernization efforts, was toppled by an old man who, from his exile in France, stirred the passions of his zealous followers back home with rousing polemics—tape recorded on audio cassettes.

For all that, no nation that hopes to tap the potential of its people can achieve very much without widespread literacy. Lacking the ability to read and write, the farmer most likely will continue to tend his crops just as his father's father did; his children will not dare to imagine what it is like to build a bridge

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or write an essay; democracy will make as much sense as the theory of relativity.

Even if it is not a magic recipe for personal or national progress, literacy is an essential ingredient. Oddly enough, among the few people who now question that reality are some of the Western scholars who study literacy and related subjects. Literary "deconstructionists," such as Jacques Derrida, view language as a kind of prison that constricts human thought. But at least they acknowledge the power of the written word. Others do not. In the United States, a few education specialists have argued that spoken "black English" ought to be taught in the schools. Among anthropologists, one sometimes finds a certain sentimentality about oral societies—their unsullied traditions, their lively communal storytelling, their free exchange of local news and gossip at gatherings. And, like many other social scientists, literacy specialists tend to expound their views in a style so obtuse that it even makes Washington's federal regulation writers seem like prose artists of the first order.

If understanding our politics, our science, or simply one another is the ultimate purpose of achieving literacy, then the West still has a long way to go. Instead of more reading and writing (and thus, thinking), we have talk, talk, and more talk. The television set, the radio, the telephone, never-ending rounds of conferences and meetings, scholars and businessmen and bureaucrats all produce a continuous, deafening chatter. Marshall McLuhan saw the rise of television as a sign that the West had left the Age of Typography behind. But it may be that, like the medieval monks who read aloud from their handwritten Bibles, we have yet to reach it.

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## KEEPING UP IN AMERICA

by David Harman

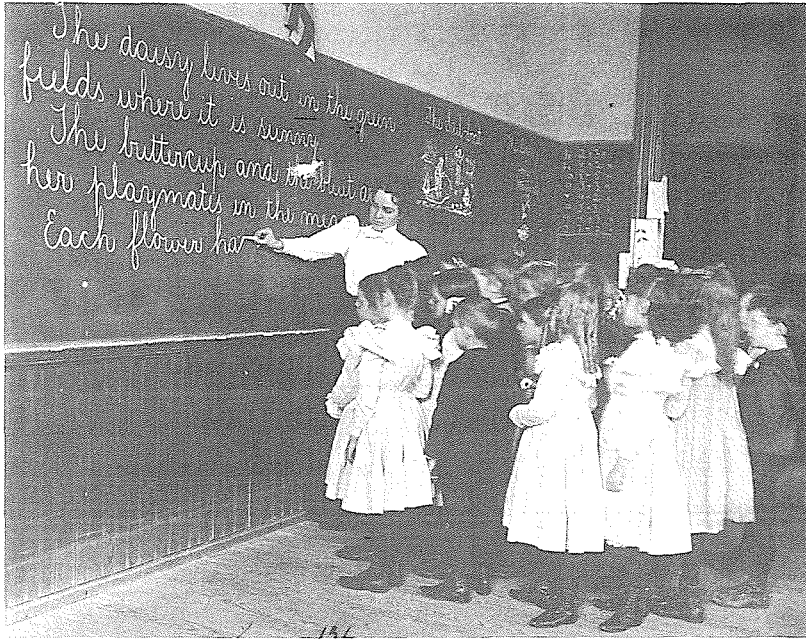
"Learn them to read the Scriptures, and be conversant therein," the Reverend John Cotton urged his Boston parishioners in a 1656 homily on child rearing. "Reading brings much benefit to little Children."

"Benefit" was an understatement. In the harsh moral universe of Cotton's New England Puritans, ignorance was no excuse for sin: A child who died young (as many did) could expect no mercy in the hereafter merely because he had not been able to read the Bible. Massachusetts' colonial authorities had already acted on the fear that parents were not doing enough to protect their children from the "old deluder Satan." In 1647, nine years before Cotton's sermon, they required every township of 50 families or more to provide a teacher for the young.

Satan may be, in this sense, behind us, but the challenge of making Americans literate is not. Almost any adult born in America today can read well enough to satisfy John Cotton; but the preacher set a simple standard. His flock did not need to ponder the meaning of a ballot referendum, or the requirements of a Help Wanted advertisement, or the operating instructions for a word processor—all frequently written by people who may be only semi-literate themselves.

"The ability to understand an unfamiliar text, rather than simply declaim a familiar one," as researchers Daniel P. and Lauren B. Resnick put it, is today's new standard of literacy. That kind of *functional* literacy may seem almost quaint in an age of telephones and TV news, and of computers (with languages of their own) and color-coded cash register keys that make counting or reading almost unnecessary for teen-age clerks at fast-food restaurants. Time after time in the past literacy has seemed, for a brief historical moment, redundant, a luxury, not needed by ordinary folk.

Yet those Americans who could not read and write, then as now, became the servants of those who could; they were sometimes deprived of prosperity and liberty, always of autonomy and knowledge. What will become of today's students who fail to become fluent in the English tongue? Even those who achieve *technological* literacy, staking their futures on a narrow mastery of FORTRAN or UNIX or some other computer lan-



*Reading instruction in turn-of-the-century America. Literacy today is more widespread, yet often shallow. Youngsters who are ill-schooled in history, civics, and science cannot comprehend the words they "decode."*

guage, will be at a disadvantage. Eventually, predicts Robert Pattison of Long Island University, they will wind up working for "English majors from Berkeley and Harvard."

It has been said that we live in an Information Age. The information that is important is not bits and bytes, but ideas and knowledge conveyed in clear English. All this requires a more sophisticated level of literacy. The worker of the future, warns the National Academy of Sciences, must be "able and willing to learn throughout a lifetime." By that new standard, America probably has nearly half the proportion of illiterates among its population in 1986 that it did in Cotton's time.

Traditional literacy spread rapidly in 17th- and 18th-century America, mostly through church-run schools and through informal education—parents teaching their children, masters teaching their apprentices. But it is unclear just how literate colonial America was. As Americans have been painfully reminded in recent years, schooling and literacy are not always synonymous. And in the days before the Revolution, American schoolchildren



probably spent, at most, three years in the classroom.

By counting the number of men who could sign their name to deeds and other public documents as literate (literacy for women was deemed irrelevant in most of the colonies; for slaves, dangerous), historians have reckoned that literacy in America rose from about 60 percent among the first white male colonists to about 75 percent by 1800. That figure masks a great deal of diversity. City-dwellers were more literate than country folk, Northerners more likely to read and write than Southerners and Westerners, the well-to-do better schooled than the poor. Ninety percent of New Englanders could sign their own names by the time the U.S. Constitution was ratified, yet the U.S. Army found in 1800 that only 58 percent of its recruits, drawn from the lower strata of the population, were literate.

And then one must ask *how* literate? The evidence is contradictory. The farmers, blacksmiths, tanners, and shopkeepers of colonial America did not need or possess a very sophisticated understanding of written material. For the vast majority, literacy probably meant reading the Bible, almanacs, and, occasionally, newspapers, but without necessarily being able to make inferences from their reading or to decipher more complicated texts. Historian Carl F. Kaestle of the University of Wisconsin-Madison estimates that perhaps 20 percent of adult male Americans were "sophisticated readers" by the 1760s.

### Heeding James Madison

Lawrence A. Cremin of Columbia University takes a more generous view. Thomas Paine's *Common Sense*, he notes, "sold a hundred thousand copies within three months of its appearance [in 1776] and possibly as many as a half million in all. That means one-fifth of the colonial population bought it and a half or more probably read it or heard it read aloud."

About one thing there is no doubt. From the start, Americans, for various reasons, *valued* the ability to read and write. "A people who mean to be their own governors," James Madison declared, "must arm themselves with the power knowledge gives. A popular government without popular information or the

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means of acquiring it, is but a prologue to a farce or a tragedy, or perhaps both." One Ohio newspaper offered a more mundane rationale in 1839, a variant on the "read to win" theme that nowadays draws thousands of Americans into Evelyn Wood speed-reading courses. A young man who delayed marrying by five years, its editor calculated, would gain 7,300 hours of "mental application," including reading, that would advance his material fortunes later in life. But moral and religious uplift remained the strongest impulse behind the spread of literacy well into the 19th century. As William H. McGuffey warned the young readers of his *Newly Revised Eclectic Second Reader* (1853), "The boys and girls who can not read . . . will never know whether they are on the right road [in life] or the wrong one."

### No More Bare Bones

Almost by accident, America's industrialization during the 19th century helped boost literacy rates. Employers in the United States, as in Europe, preferred to hire factory workers who could read and write: These skills were not always needed on the job, but businessmen believed, not unlike John Cotton, that graduates were superior in "moral character" to their unschooled and unlettered peers. Advocates of public education such as Horace Mann of Massachusetts emphasized primary-school graduates' "greater docility and quickness in applying themselves to work" in arguing for an expansion of schooling. Mann and his allies had their way in part because the growth of densely populated cities and factory towns in New England during the 1830s and '40s made mass schooling more economical.\*

In 1840, when the U.S. Census Bureau first asked adults whether they were literate, all but nine percent said Yes. By 1860, only seven percent admitted to illiteracy. The U.S. Army's records tell another story: They show 35 percent illiteracy among recruits in 1840, declining to seven percent only in 1880. Schooling was showing its effects.

Or so it seemed. It was the U.S. Army that delivered the first shock to the believers in a literate America. By 1917, when the United States mobilized for World War I, the Army had a new way to test the competence of draftees and recruits: standardized intelligence tests, developed by psychologist Robert Yerkes. Yerkes was astonished to find that 30 percent of the young

\*As before, Massachusetts led the way. It had established the first common schools in 1647, but it was not until 1800 that the state allowed local school districts to levy taxes. Most of the existing states followed suit by the time of the Civil War. Compulsory attendance was slower in coming. Massachusetts was the pioneer again, requiring as early as 1852 that parents send their children to school; more than 50 years passed before Mississippi made compulsory education universal. Because schooling was coeducational, the male-female literacy gap quickly closed.



*"I'll wait out here for you, Hal. My generation doesn't read." As this 1984 New Yorker cartoon suggests, many literate younger Americans, reared on TV, never acquire the habit of reading for pleasure.*

men, while ostensibly literate, could not read well enough to understand his Alpha test form. Public reaction was muted by the fact that many of the near-illiterates were Southern blacks, hence ill-schooled, but the stage had been set in America for a new definition of literacy.

Already the "old bare bones" notion of literacy as a matter of knowing your ABCs and the Bible had been stretched. At Ellis Island, more and more immigrants were arriving from the poor countries of southern Europe, illiterate in their own languages, not to mention English. More than ever, the newcomers were also unfamiliar with the workings of democracy. Only then did the nation's political leaders begin to view the Founding Fathers' call for an informed citizenry, literate in English, as a social imperative. "There is no room in this country for hyphenated Americanism," former President Theodore Roosevelt warned in 1915. And steel magnate Andrew Carnegie (1835-1919), convinced that free libraries were "the best agencies for improving the masses of the people," dipped into his vast fortune to help create 2,500 new public libraries.

President Herbert C. Hoover launched a U.S. Advisory Committee on National Illiteracy in 1929 to study and publicize the problem, but, like Hoover himself, it was swamped by the Great Depression. And with "one-third of a nation" ill-fed and ill-clad, more important matters filled Franklin D. Roosevelt's New Deal agenda. It took another world war to bring illiteracy back to the forefront. Early in 1941, before Pearl Harbor, the Army declared that it would reject draftees who failed a fourth-grade equivalency test; within a year 433,000 men otherwise fit for duty were still in civvies thanks to the test. In the summer of 1942, the Army relented, deciding that any illiterate who could understand spoken English and follow basic oral instructions was good enough to wear khakis and serve under the flag.

### 27 Million Functional Illiterates?

After World War II, attention shifted to children's ability to read and write. Rudolf Flesch, an émigré writer and education specialist, designed the first modern "readability" formulas that made it possible to gauge the level of reading ability required by children's textbooks. By measuring the length of words and sentences, Flesch could determine whether they were written for comprehension at a fourth-, fifth-, or sixth-grade level. In 1955, he authored *Why Johnny Can't Read*, a best seller that sparked a debate between advocates of instruction in phonics ("sounding out" words letter-by-letter) and the prevailing "look-say" method (recognizing whole words) that continues today.\* Look-say not only sounded Chinese but required students to learn English (by memorizing whole words) as if it *were* Chinese. "Do you know," Flesch declared, "that the teaching of reading never was a problem anywhere in the world until the United States switched to the present method?"

Only during the past two decades has *adult* illiteracy aroused sustained public concern in peacetime. "Adult literacy seems to present an ever growing challenge," writes Harvard's Jeanne S. Chall, "greater perhaps than the acknowledged challenge of literacy among those still in school."

The U.S. Department of Education estimates that the number of *functional* illiterates grows by 2.3 million every year: some 1.3 million legal and illegal immigrants, 850,000 high school dropouts, and another 150,000 "pushouts" who graduate with inadequate reading and writing skills.

All told, as many as 27 million Americans over age 16—nearly 15 percent of the adult population—may be functionally

\*A dissatisfied Flesch published *Why Johnny Still Can't Read* in 1981, charging that educators are still ignoring phonics. But most U.S. schools today use a mixture of phonics and look-say instruction.

### CHEATING AMERICA'S YOUTH

When the Class of '86 graduates from high school this June, at least 100,000 functionally illiterate youths will receive diplomas. Among their classmates will be hundreds of thousands of "marginally competent" readers, unable to comprehend their own 12th-grade textbooks.

What has gone wrong? The dozens of studies that have been published since Washington sounded the alarm against a "rising tide of mediocrity" in *A Nation at Risk* (1983) agree that television, student drug abuse, and weakened families have all contributed to declining academic achievement. But the most important influence on students' performance is still what goes on inside the classroom. (See "Teaching in America," *The Wilson Quarterly*, New Year's 1984.) And the evidence here is sobering.

Time, one of the most precious commodities in the schools, is often scarce and poorly used. In *A Place Called School* (1983), John I. Goodlad of the University of California, Los Angeles, reports that some schools cram all real teaching into a mere 18.5 hours per week. (In contrast, longer hours and shorter vacations give Japanese students the equivalent of four extra years of instruction by the time they leave high school.)

In elementary schools, American students spend nearly one-third of their class time on writing exercises—but that often means merely filling in the blanks in workbooks. And as students move on to high school, the class time they devote to writing falls by 50 percent.

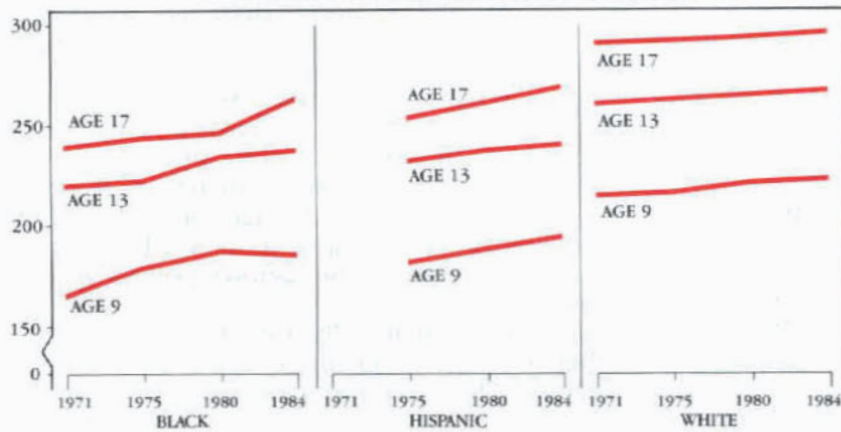
Even more disheartening is Goodlad's discovery that "reading occupies" about six percent of class time at the elementary level, a mere two percent in high school. Students do even less at home. High school sophomores average four hours of homework per week; their Japanese counterparts two hours *every night*.

When students do read in class, they use "dumbed down" textbooks—stripped, says Bill Honig, California's Superintendent of Public Instruction, "of any distinguishing content, style, or point of view" by publishers adhering to rigid "readability" formulas. Honig recalls that a local school district he once headed was forced to buy junior high school history books for fifth-graders "because the reading levels of the [standard fifth grade] series were pitched so low."

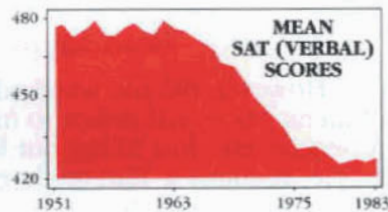
Honig contends that the "reformers" of the 1960s deserve much of the blame. In the name of "relevant" education, they added classes like Marriage Simulation and Baja Whalewatch to the curriculum and eased academic requirements. By the late 1970s, nearly one-half of the nation's high school students were enrolled in lax "general track" programs, up from just 10 percent a decade earlier.

Honig and other analysts see the recent slight upturn in students' scores on standardized tests as a sign that America's public schools have begun a turnaround. But Honig also warns that the damage done to literacy and general learning during two decades of turmoil in the schools will not quickly be undone.

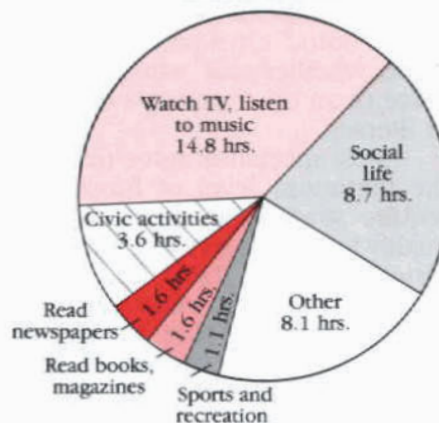
## TRENDS IN READING TEST SCORES, 1971-84



Black and Hispanic youths have made significant gains in reading proficiency since 1971. Yet educators worry about the flat performance among nine-year-olds in all groups since 1980: These youngsters will have difficulty meeting the marks set by their elders. Even among white 17-year-olds, the highest scoring group, more than half cannot comprehend material designed for college-bound students. Student scores on the Scholastic Aptitude Test, a more general measure of academic ability, turned up slightly in 1981. At home, parents do not seem to be setting a good example for their offspring. The average American devotes less than 10 percent of his leisure time to the printed word.



## HOW AMERICANS USE THEIR LEISURE TIME



Sources: National Association of Educational Progress, Education Testing Service, Survey Research Center, College Park, Maryland.

\*Based on 39.5 hours of leisure time per week, in 1981 (excluding sleep).

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illiterate today.\* Another 45 million are "marginally competent," reading below the 12th-grade level. To varying degrees, all are handicapped as citizens, parents, and workers.

More than a decade ago, the U.S. Senate's Select Committee on Equal Educational Opportunity put the cost of such slippage to the U.S. economy—in reduced labor productivity, trimmed tax revenues, higher social welfare outlays—at \$237 billion annually. (Today, the burden of illiteracy in terms of unemployment and welfare benefits alone is about \$12 billion.) What costs Americans pay in terms of the nation's politics and civic life are not measurable.

What does it mean to be "functionally illiterate"? The term is elusive. The number of people who simply cannot read and write today is infinitesimal: The United States is about as literate in these terms as Ivory Soap is pure. Going by the standards of 1840, this represents a smashing success.

### Straining to Read the News

However, the old standards no longer apply. The 1840 sort of literacy does not suffice to master the details of contemporary American life. Just filling out federal income tax forms, for example, requires a 12th-grade education. And, if individuals are to prosper, literacy means more than just getting by. "If we are literate in 20th-century America," writes Harvard's Patricia Albjerg Graham, "we expand the ways in which we can learn, understand, and appreciate the world around us. [Literacy permits] us to become more autonomous individuals, less circumscribed by the conditions of social class, sex, and ethnicity into which we are born." On a practical level, getting ahead in the world of work, whether that world is an insurance company's clerical office or an oil company's executive suite, requires a high level of literacy.

Most specialists agree that an eighth-grade reading ability is the minimum level of functional literacy. Twenty states now require students to pass an eighth-grade competency test to qualify for a high school diploma. This is a modest standard: the *New York Times*, *Time*, and *Newsweek* are written at a 10th- to 12th-grade level. Jeanne Chall cites the case of a notice she received from the New England Telephone Company. In short sentences, it told customers how to determine whether malfunctions originated in the equipment or the telephone line.

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\*Opinion is by no means unanimous. A National Assessment of Educational Progress study due to be published this spring will probably posit a much lower level of functional illiteracy. In *Illiterate America* (1985), teacher-activist Jonathan Kozol endorses an eighth-grade standard but estimates that 60 million adults fail to meet it. Jeanne Chall argues that a 12th-grade level is the minimum acceptable standard: Some 72 million adults fall below it.

Yet, according to Chall's readability formula, a ninth- or 10th-grade level of reading ability was needed to understand the notice. "For about 30 to 40 percent [of the customers] it might as well have been written in Greek or Latin."

Pegging functional literacy to an eighth-grade reading ability leaves many ambiguities. Specialists are not certain, for example, whether the skills that an eighth grader needs to pass a competency test are the same as those that a worker needs on the job. More troublesome is that most estimates of functional illiteracy are based on data on the number of years of schooling adults have completed, not on actual tests of their abilities. And, as educators well know, merely completing the eighth grade does not mean performing thereafter at that level. According to the National Assessment of Educational Progress (NAEP), 35 percent of today's 13-year-olds (mostly in the eighth grade) read just above a "basic" level.

One major study does roughly confirm the estimate of 27 million functional illiterates. After testing 7,500 adults on their ability to accomplish everyday tasks—reading the label of an aspirin bottle, following the directions for cooking a TV dinner, writing a check—University of Texas researchers in 1975 put the number of functional illiterates nationwide at 23 million.

### **Dropping Out**

The majority of these people are poor and/or black or Hispanic, residents of the rural South or Northern cities. The University of Texas researchers found that 44 percent of the blacks they tested and 16 percent of the whites were functionally illiterate. "Eighty-five percent of juveniles who come before the courts are functionally illiterate," writes Jonathan Kozol. "Half the heads of households classified below the poverty line by federal standards cannot read an eighth-grade book. Over one-third of mothers who receive support from welfare are functionally illiterate. Of eight million unemployed adults, four to six million lack the skills to be retrained for hi-tech jobs."

A large number of the nation's functional illiterates are high school dropouts. Among adults over 25, nearly 17 percent of blacks and 31 percent of Hispanics left school before the eighth grade. Millions more stayed in school a few more years but never reached an eighth-grade reading level. In 10 Southern states, more than 40 percent of the adult population, white and black, are dropouts. Happily, overall dropout rates (now about 25 percent) have been falling fast during recent decades, but they remain high among blacks and Hispanics in city schools, auguring ill for the future progress of these minorities.





*"Computer literacy," training the young to program computers, proved to be a short-lived fad. But well over one-half of the nation's elementary schools now use the machines to help teach the three Rs.*

Functional illiteracy tends to be passed from generation to generation—illiterate parents cannot read to their children, help them with their homework, or introduce them to the world of books. The NAEP reports that youngsters whose parents failed to complete high school are nearly twice as likely as their peers to be functionally illiterate.

Reflecting on the U.S. Army's experience with illiterates, an American educator once wrote: "An overwhelming majority of these soldiers had entered school, attended the primary grades where reading is taught, and had been taught to read. Yet, when as adults they were examined, they were unable to read readily such simple material as that of a daily newspaper." The educator was May Ayres Burgess, writing in 1921 about the Army's experience with the Alpha tests of draftees during the First World War. Complaints like hers had been heard before in American history, and they are being repeated today.

In 1986, as we have noted, most of the nation's 2.3 million new adult functional illiterates are either immigrants or drop-outs. But that is not to say that the schools are blameless. According to the NAEP, one million children between the ages of

12 and 17 now read below a fourth-grade level. Among minority groups, the problems are more severe: 41 percent of black 17-year-olds (and eight percent of their white peers) are functionally illiterate, hence not likely to escape from the underclass.

There are signs everywhere that such data understate the extent of the problem, that many more youths—white, black, and Hispanic—do not read well enough to make their own way in American society. Of nearly 1,400 colleges and universities surveyed recently, 84 percent had found it necessary to create remedial reading, writing, and math programs. Big Business spends millions of dollars every year on “job training,” often merely a euphemism for “bonehead” English courses. The American Telephone and Telegraph Company bankrolls \$6 million worth of remedial education for 14,000 employees. The Polaroid Corporation teaches engineers bound for management positions how to read nontechnical material. “They never learned to scan. They don’t know you can read a newspaper differently from a book or that you can read just *parts* of a book,” said a company official.

### Reading Jane Fonda

Mastering the technique of reading is no guarantee of understanding the substance of what is read. That requires *cultural* literacy. Most high school seniors can probably “decode” *Time*, but one wonders how much of it they understand. A 1985 study of 17-year-olds by the National Endowment for the Humanities (NEH) found that one-half did not recognize the names of Josef Stalin or Winston Churchill. One-third could not point to “Great Britain, or France, or West Germany, on a map of Europe.” The NEH did not ask its young subjects whether they knew who Mikhail S. Gorbachev and Margaret Thatcher were, but chances are that the answers would have been discouraging. Daily newspaper circulation has remained stagnant at about 62 million copies since 1970, while the nation’s population has grown. At least one-fourth of America’s 86 million households appear to go without a newspaper.

U.S. book publishers are selling more books per capita than ever before—output totals 3.5 million copies daily—but if Jane Fonda’s best-selling *Workout Book* is any guide, not many of these exercise the mind very much. The book trade’s biggest sellers overall—the Gothic novels and mysteries and romances sold in drugstores and supermarkets—are mostly written at a seventh- or eighth-grade level.

Even with this wide selection of light fare, 29 percent of all 16- to 21-year-olds, according to a survey by the Book Industry

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Study Group, say that they do not read books at all.

Along with functional illiterates, such "aliterates" do manage to scrape by. Most are gainfully employed, active members of society, even if their lives are complicated or their futures dimmed. *Glamour* magazine recently reported the case of a successful 29-year-old female real estate broker hampered by an eighth-grade level reading ability. "I'm constantly with customers who use words that go over my head. I often have to ask them to expand on what they just said. If I can't manipulate them into saying things in words I understand, I'm lost." Her fiancé helped her read letters and contracts.

"You have to be careful not to get into situations where it would leak out or be with people that would—ah—make it show," said an illiterate Vermont farmer. "You always try to act intelligent, act like you knew everything. . . . If somebody give you something to read, you make believe you read it and you must make out like you knew everything that there was on there . . . and most of the time you could. It's kinda like show biz."

"Illiterates become the greatest actors in the world," noted Arthur Colby, president of Literacy Volunteers of America.

### Use It or Lose It

Colby's organization is one of many around the country that try to help functional illiterates. But widespread literacy training for civilian adults is a relatively new phenomenon. President Lyndon B. Johnson, calling functional illiteracy "a national tragedy," got Washington involved when he launched the Adult Basic Education (ABE) program in 1964 as part of his Great Society. Today, Washington spends \$100 million (matched by \$200 million from the states) for several kinds of ABE programs: adult elementary and high school equivalency classes, as well as English as a Second Language instruction. All told, ABE enrolls some 2.6 million adults annually.

In 1970, Commissioner of Education James E. Allen, Jr., launched an ambitious national "Right to Read" effort for illiterates of all ages, but Allen was fired for his public opposition to President Richard Nixon's 1970 incursion into Cambodia; his educational "moonshot for the '70s" never really got off the launch pad. In a September 7, 1983, speech marking International Literacy Day, President Reagan called for "a united effort" to eliminate adult functional illiteracy in America. Yet Washington has not chipped in any more money for the effort so far.

The private sector sponsors hundreds of literacy programs. Literacy Volunteers of America (founded in 1962) and Laubach Literacy International (1930) are the two biggest charitable ef-

### READING, WRITING, AND...TELEVISION

Next to sleeping and working, watching television is the most popular American activity. The average American household turns on the "boob tube" for nearly seven hours every day, and children are the chief audience. In 1982, the National Institute of Mental Health estimated that high school seniors had spent more time in front of the television (15,000 hours) than in the classroom (11,000 hours).

Does passively watching television affect the ability of children to learn to read and write? The National Assessment of Educational Progress (NAEP) reports that children who watch up to two hours of television per day score *above* average on reading tests; but *six* or more hours of television watching is "consistently and strongly related to lower reading proficiency."

Television, however, may not actually be responsible for bad reading skills. "Poor readers," the NAEP says, "may simply choose to watch more television."

Jerome and Dorothy Singer, both Yale psychologists, argue that television viewing *does* have a negative effect. Children who watch TV for 20 to 35 hours a week, they assert, simply have little time to read. Moreover, the TV screen "holds viewer attention by piling up novelty through shifts of scene, content, mixtures of visual movement, music, sound effects, and speech." Bombarded daily by this "cluttered stimulus field," children lose the ability to reflect, relax, and focus their attention.

Other scholars disagree. Educator Susan E. Neuman of Eastern Connecticut State College argues that television is a red herring. In her view, it does not displace reading; it displaces other forms of entertainment. Watching television is just one of many factors—whether a child's parent reads to him, his personality, intelligence, schooling, and socioeconomic status—that affect reading ability.

The specialists are also divided over the much-touted merits of "educational" television. Public television's *Sesame Street* employs jokes, stories, rhymes, and puppets to make learning to read more fun. Some studies suggest that *Sesame Street* helps teach its 10 million preschool viewers to recognize numbers, letters, and words—at home, without fear of failure or embarrassment. The Singers, however, find that *Sesame Street* does more harm than good. Each 60-minute show, they say, includes up to 35 unrelated scenes. The result: "short attention spans." *Sesame Street* watchers are bored by classroom work and the "relatively calm, bland environment of most public schools."

For all that, children may be better off watching public television's *Sesame Street* or *Reading Rainbow* than *Dynasty* or the *A-Team*. Yet watching seven hours a day of *any* kind of TV does not strike most researchers as a recipe for intellectual growth among the young.



*Sesame Street's  
Big Bird*

forts aimed at adult illiterates. They enroll some 75,000 students annually. Community colleges, local public libraries, churches, community-based education and development organizations (with a mixture of private and government support), corporations, and labor unions do substantial work in the field. All told, private and public literacy efforts spend less than \$1 billion annually (versus \$90 billion for higher education) and reach 4.5 to six million people.

Although perhaps one-fifth of America's adult illiterates enroll in these programs every year (not counting those who need help to climb from an eighth- to a 12th-grade level), many will have to stay in for several years to learn to read and write effectively. Dropout rates are often very high—over 50 percent in some classes. And among graduates, there is a disturbing tendency to lapse back into illiteracy, as the ability to read and write atrophies from disuse once classes end.

What works? The American military has the longest experience with combating adult illiteracy, and even it has found no magic formulas. The switch to an all-volunteer Army made the search more desperate: From 10 percent in 1975, the proportion of functionally illiterate recruits jumped to 31 percent in 1981. (By 1985, thanks in part to high civilian unemployment that improved the quality of recruits, the rate dropped back to nine percent.) The Army has achieved its greatest success with efforts like Project FLIT (Functional Literacy Training)—an intensive six-week course using operating manuals and other written material that soldiers actually need to use in the line of duty.

### **The Need to Read**

The same kind of approach seems to work best in the civilian world. Recently, a New York City Teamsters Union local sponsored a 10-week literacy course for card-carrying municipal exterminators. It focused on teaching the students what they needed to know to pass a certification exam and function in their jobs. Perhaps as important, the teachers were exterminators themselves, peers of the students. The result: few dropouts and a 100 percent success rate on the test for the graduates.

Unfortunately, the Teamsters example is the exception rather than the rule. The government's ABE programs and many others typically use middle-class instructors and rather abstract texts. Lower-class students who see few links between what is being taught (using texts like *Memories of East Utica*) and what they consider important (e.g., writing résumés, comparing life insurance policies) often grow discouraged and drop out. Adds McGill University's Rose-Marie Weber, "Teachers [in adult liter-

acy courses] often complain about the students' apparent lack of motivation, their negative attitudes toward learning, and their failure to recognize the long-term value of literacy skills."

Weber's observation suggests why the "all-out literacy war" that some specialists advocate would be unrealistic. Literacy is not just a simple mechanical skill that people can learn and stow away. It is almost a way of life, requiring constant exercise and the acquisition of new knowledge. The x-ray technician or computer repairman who knows how to read but ignores newspapers and books who turns on the television set when he gets home is not going to achieve or sustain a high level of literacy.

Every generation seems to face its own obstacles to literacy. For the Puritans, one barrier was simply the cost and difficulty of reading by candlelight; for 19th-century Americans, the temptation to leave school to go to work. Today, we lack neither light nor leisure, and the "need to read" is stronger than ever. At the very least, every citizen ought to be able to learn *how* to read and to acquire the knowledge to know *what* he is reading.

Improving the quality of U.S. public education is an obvious (albeit expensive) first step: There is no logical reason why tax-supported high schools in America should produce graduates who can not read and write at a 12th-grade level. Continuing to do so merely consigns another generation of youths, especially low-income youths, to the bottom rungs of the economic ladder. Federal backing for successful local, "community based" literacy efforts for adults, like those of the Teamsters, San Antonio's Barrio Education Project, and the Bronx Educational Services Program, is also needed. Yet many realities of modern life—the increasing influx of unlettered immigrants, the rising literacy standards, and television's continuing competition with the printed word for Americans' attention—suggest that functional illiteracy in America can be curbed but not eradicated. The illiterate, like the poor, will always be with us.



## BACKGROUND BOOKS

### LITERACY

"The first and the greatest of European poets," as Greek historian H. D. F. Kitto called Homer in **The Greeks** (Penguin, 1951, cloth; 1984, paper), may not have been the creative genius that most Western academics long assumed him to be. In 1923, classicist Milman Parry, whose work appears in **The Making of Homeric Verse: The Collected Papers of Milman Parry**, (Oxford, 1971; Ayer, 1980), edited by Adam Parry and Richard M. Dorson, shocked his fellow scholars by arguing that the *Iliad* and *Odyssey* had been orally composed and recited by wandering bards for several generations before being written down.

For at least a century, scholars of ancient writing have split hairs over such questions as whether Homer was the sole author of his epics and whether the alphabet spread from a single source or was independently invented in several places. Among the notable works in this tradition are archaeologist Ignace J. Gelb's **A Study of Writing** (Univ. of Chicago, 1952, cloth; 1963, paper), linguist David Diringer's **The Alphabet: A Key to the History of Mankind** (Hutchinson, 1948), and the more readable **A History of Writing** (Scribner's, 1984) by the British Library's Albertine Gaur.

Parry and A. B. Lord, the student who continued Parry's work in **Singer of Tales** (Harvard, 1960, cloth; 1981, paper), may have solved what historians call "the Homeric question," but they also opened the door to a controversy among anthropologists, psychologists, linguists, and classicists.

Was the transformation of the Greek mind between the time of Homer's verse and that of Aristotle's logic *caused* by writing? Does literacy in the modern world change the way

people *think*?

In **Preface to Plato** (Harvard, 1963, 1982) and **The Greek Concept of Justice** (Harvard, 1978), noted classicist Eric A. Havelock answers in the affirmative. The nonliterate mind, according to Havelock, relies on concrete images, rhythmic patterns, and narrative. To put Euclid's abstract notion of an equilateral triangle in "Homeric dress," one would have to say something like: "The triangle stood firm in battle, astride and posed on equal legs." Only someone endowed with the abstract, analytic skills bestowed by literacy could have created the Platonic dialogues.

"Concrete" thought is not the only characteristic attributed to nonliterate. Soviet psychologist A. R. Luria, whose landmark study of Russian peasants during the 1930s, **Cognitive Development** (Harvard, 1976, cloth & paper), has only recently been published in the West, adds that language shapes perception. People who lack separate *words* for "blue" and "green," for example, may confuse those colors.

Likewise, Luria's peasants could not classify objects like a hammer, a saw, and an ax as tools or respond correctly to questions of logic. To the syllogism "In the Far North . . . all bears are white. Novaya Zemlya is in the Far North. . . . What color are the bears?" a peasant replied: "I don't know. Each locality has its own animals."

Language scholar Walter J. Ong, in **Orality and Literacy: The Technologizing of the Word** (Methuen, 1982), and anthropologists in **Literacy in Traditional Societies** (Cambridge, 1968), edited by Cambridge University's Jack Goody, offer other examples from medieval Europe, Af-

rica, and India. Goody and Ian Watt of Stanford University, for instance, write that the Eskimos of Alaska or the Tiv of Nigeria "do not recognize any contradiction between what they say now and what they said 50 years ago" because they lack written records. Myth and history for the nonliterate thus "merge into one."

On the other hand, psychologist Jean Piaget, in **The Development of Thought: Equilibration of Cognitive Structures** (Viking, 1977), and anthropologist Claude Lévi-Strauss, in **The Savage Mind** (Univ. of Chicago, 1967), argue that there are few, if any, differences between the cognitive or intellectual abilities of literate and nonliterate people.

Nonliterate villagers in Africa, North America, or Asia, Lévi-Strauss contends, have their own sophisticated systems of classification and logic that do not depend on writing. The Navaho of old, for example, could identify more than 500 species of desert plants off the top of their heads—a feat that any literate person would be hard-pressed to equal.

"The use of more or less abstract terms," says Lévi-Strauss, "is a function not of greater or lesser intellectual capacity, but of differences in the interests . . . of particular social groups."

Psychologists Sylvia Scribner and Michael Cole make much the same argument in **The Psychology of Literacy** (Harvard, 1981), a report of their

seven-year study among the Vai of Liberia. The two researchers found that nonliterate and literate but self-taught Vai performed equally well on most tests of cognitive ability. Only Vai educated in Western-style schools surpassed their fellows in what Scribner and Cole call "logical functions."

The notion that simply learning the ABCs is not enough would not have surprised the organizers of a major effort, sponsored by Northern Protestant churches and abolitionist societies, to "teach & civilize" illiterate freedmen after the Civil War. Historian Robert C. Morris, in **Reading, 'Riting, and Reconstruction** (Univ. of Chicago, 1976, 1982) describes what W. E. B. Du Bois called "the crusade of the New England schoolma'am."

To the dismay of some white Southerners, the Yankee teachers taught more than 7,000 young blacks in Dixie everything from reading and arithmetic to "John Brown's Body." The schoolma'ams were successful in attracting many of their students to the Republican banner and, during the 1870s and '80s, helped found many of the South's black high schools and colleges.

Today, as Third World governments struggle to make their citizens literate and U.S. colleges and corporations push remedial writing programs, academic specialists in the West continue to debate the impact of literacy on the human condition.

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EDITOR'S NOTE: Many of the titles cited in this essay were suggested by Richard M. Long, Washington representative of the International Reading Association. Related works can be found in WQ's Background Books essays on *The Public Schools* (Autumn 1979), *The Brain* (Summer 1982), *Teaching in America* (New Year's 1984), and *The Mind* (Winter 1984).