

Reading Is Not Natural

Unlike seeing, hearing, and eating, explains Marianne Wolf in *Proust and the Squid*, reading is not something humans do naturally. Our brains are not hard-wired for reading; it must be learned, and it is not easy. It takes many months to master the first baby steps of reading – sound-symbol correspondence.

Oracle bones or clay tablets?

Scholars disagree about where writing began. One theory holds that the first traces of writing can be found in China with scripts carved onto turtle shells in the Chinese Bronze Age. Others believe that writing began in Sumer (modern-day Iraq) with pictograms carved on tokens around 8,000–4,000 BCE. These tokens were small clay tablets, carved with symbols used for accounting and commerce.



Clay accounting tokens from Susa (Iran), Uruk period, circa 3500 BC. Photo © Marie-Lan Nguyen/Wikimedia Commons

Later, around 3,300-3,200 BCE, Sumer began to develop a more complex system of writing that combined pictures (pictograms) and alphabetical symbols (logograms) or cuneiform. Some short time later, Egypt developed a hieroglyphic writing system that was an offshoot of the Sumerian system.



Hieroglyphs from Egypt, typical of the Greco-Roman period, 325 BC – AD 395. Photo: Wikimedia Commons

Around the 9th-8th centuries BCE, the Greeks developed a writing system that used symbols to represent discreet sounds or letters – an alphabet. In an alphabetic system each symbol (or letter) corresponds to a distinct sound; the letters are building blocks that display words ($\alpha \beta \chi \delta \epsilon \phi \gamma \eta \iota \phi$, etc.).

Alphabet-based writing systems are more efficient and elastic than logographic systems. The latter requires many symbols to convey meaning; whereas an alphabet needs far fewer symbols and letters can be grouped and regrouped to form new words. This makes alphabets easier to learn, and new words easier to make and understand.

Socrates says reading is bad for your brain.

Most were pleased with the birth of the alphabet; Socrates was not. He was suspicious of the spread of the inflexibility of the written word, believing it would prove terse and thin when not enriched by gestures, tone, and the contextual understanding a student would gain using traditional oral methods of instruction. He also predicted that the power of our memories would diminish when we no longer carry important learning in our heads. Once written down, we often lose the ability to retrieve information from our memory. We become slaves to our notes and sources. Socrates warns that words and ideas will mean and represent less when they reside outside of us.

Reading is not for everyone.

Learning to read is a happy convergence of circumstances in the brain that requires time, development and patient instruction. The process begins in infancy when the child listens to the speech around him/her. As parents know, reading proficiency does not happen quickly; it is a developmental process that requires years of practice to master. Reading proficiency only happens with proper instruction, prolonged opportunities for guided practice, and proper functioning of the reader's physical and neurological systems. Understanding the biology of reading and its developmental phases helps authors create texts that engage and inform the reader, including readers with limited proficiency.

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