

Letter From the Desk of David Challinor
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While writing my March letter about the evolution of human language, I realized that speaking, although an amazing breakthrough for humans, was but the first step in a series of equally astounding developments: writing and reading. Writing must precede reading, yet our brains seem to be as hardwired to read as they are to speak. This month's letter is about the origins of writing and the consequent spread of reading.

The search for the earliest examples of writing has been most fruitful in the Middle East. In 1984, two small, rectangular clay tablets were discovered at Tel Brak, an archeological site in Syria. Each has a small hole at the top and a simple but distinct animal figure below it. Scientists guess that the hole stands for the number ten, and that one animal figure might be a sheep and the other a goat. If the interpretation is correct, then our written history begins with these tablets, dated about 4,000 B.C. They evidently recorded a transaction which, by the simple act of writing it down, has made the deal almost immortal. Although these two Sumerian tablets are the oldest examples of writing found to date, other kinds of writing developed independently elsewhere. Sumerian writing spread west to Egypt and east to India by about 3,000 B.C.

Most scholars agree that the first writing was confined to symbols that enabled people to communicate. The use of writing to record spoken language arose much later, but pictorial writing was so valuable for storing and transmitting information that it is no wonder that it spread so rapidly. Since we can never be certain of the origin of writing any more than we can of the origin of speech, I will consider only the principal theories. One group of scholars believes that as pictograms became increasingly used, they gradually became recognized as abstract representations of objects and even of people's names. Eventually they evolved into words used in speech – verbs, prepositions, etc. Other archeologists surmise that writing developed directly from the rapid spread of clay tablets among the Sumerians and their successors. For example, probably less than 1,000 years after the two earliest dated tablets previously mentioned, the Sumerians were recording on clay tablets, in 3200 B.C., the ingredients for beer. The initial use of writing in whatever form was confined to record keeping – what rulers received in tribute, how many prisoners were taken, etc. -- and it probably took 500 or 600 years before pictograms began to represent a spoken language.

Most scholars agree that there were three distinct independent writing origins: Sumerian, Chinese and Middle American. However, when we realize today the degree (long underestimated) of long distance travel and commerce thousands of years ago, even Chinese writing, for example, could have borrowed from or been influenced by that of the Phoenicians. The real challenge is to learn how protowriting, such as used for inventory lists, evolved into the writing of spoken languages. This transition must have been slow but was probably helped immeasurably by humans being hardwired to process complicated images. Just as we are programmed to talk if exposed to speech at an early stage of development, we can also very early process images of our parents, siblings, toys, etc. Some can even remember when he/she first

could read. A whole new world then opens! My own memory is of being read stories which I soon memorized. I would then “read” the book by looking at the pictures and babble the story. I cannot remember precisely when something clicked in my mind and the printed words converted to sounds and a bit later to thoughts that I no longer had to say aloud. At that point, I and other children bypassed spoken language and entered the world of the written word. Most of us usually start by reading aloud and later learn to read silently, but either way we are processing images, which convert to language sounds. When reading to ourselves we skip the sounds, but process the thoughts. Although many ancient writings have been discovered, unless we know what sound the symbol represented, the spoken language is forever lost. Fragments of ancient writing retain their secrets unless they can be deciphered, and for this to be done successfully a critical mass of written symbols is needed to determine the pattern and frequency of their use. Such decipherment techniques parallel those used to crack modern codes.

The brain thus has an uncanny ability to arrange and make sense of what we scan when reading. Although we read from left to right, others in the opposite direction, and still others vertically, it makes no difference to our brain. We may think we read relatively smoothly across a line of print, but evidence accumulated 100 years ago shows that our eyes jump about the page 3 or 4 times a second. It is only in the brief intervals between these jumps that we actually process what we see in print. Why the system works this way is still unknown. What you read then is processed for meaning based on what you as the reader have accumulated from your past life experiences. In other words, what you mentally absorb from reading is not a direct transfer from the written page to your mind the way a xerox machine duplicates a text, but rather an almost incomprehensible and confusing series of processes that are both common, in that the process is shared by all readers, and simultaneously intensely personal in that your brain converts what you are reading into the recesses of your mind alone.

To illustrate the brain’s amazing ability to process images and make sense in our minds, I have altered a text so that the only vowel used is the letter “e.” (I am treating “y” as a consonant.)

“Ebserveng the reedeng ef Seent Embrese thet efterneen en 384, Eegestene ceeld herdly heve knewn whet wes before hem.”

Perhaps the hardest word to decipher is the proper name Augustine, but had I completed the full text of the paragraph, the reader would likely have recognized it easily. In other lettering, such as Arabic, vowels are represented below the graceful cursive consonants by small unobtrusive marks. In fact, with a little practice, many sentences in English can be read relatively easily with all vowels omitted. For example:

“Jhn wnt t th rstrnt fr brkfst nd hd rng jc, bcn nd ggs.”

Another common example of the brain's dexterity happens when we watch a foreign language film with English subtitles. By combining the rapid reading of the flashed English text with the actors' facial expressions and actions, we become almost unconscious of the unintelligible speech we are hearing.

According to Alberto Manguel, author of *A History of Reading*, in ancient times people read out loud and only fitfully read silently. The act of reading was an oral experience. Cicero, Caesar, Constantine the Great, and others read out loud. Beginning in the 5th century, Saint Ambrose, a constant reader, began to read silently in order to concentrate more fully on the meaning of scripture. The extraordinary thing about Ambrose was that he never read out loud. Even though instances of silent reading can be traced to earlier dates, not until the 10th century does this manner of reading become common in western Europe. I recommend this book to you as a valuable reference on the subject of reading.

What a wonderful gift it is to read! Although we must learn to do so just as we must learn to talk, once learned we retain the ability for life unless we become brain-damaged. In fact, if so motivated, we can learn to speak and read other languages and be rewarded with new insight into other cultures. It has been said that with each new language, "you gain another soul."

I close this letter with a plea to revel in the joys of reading, either silently or aloud. We live in a marvelous time with endless opportunities to enjoy easily not only the written word, but the spoken one through books on tape. How well do you remember your grandparents' voices, especially those who died before tape recorders were so accessible? I, myself, recorded on tape a short book so that my children and grandchildren would remember, as I do not, their father's and grandfather's voices. Why not record a favorite poem or literary passage as a present to a friend or relative of a subsequent generation. Not only will such a gift represent a personal and unique quality – your voice – but it may also reflect your character even better than a photograph.

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