

The project is funded by the European Commission

## Psychological Foundations of Reading Acquisition

**Spoken language probably emerged some 100,000 years ago** as a consequence of the evolution of the brain and as a function of a critical repositioning of the larynx, which from then on, in principle, enabled the articulation of speech as we know it.

**Written language however is a relatively recent cultural invention which came into existence some 5,000 years ago**, but remained the privilege of only a very small proportion of the human world population until a few hundred years ago.

**Our brains are therefore probably not prepared, through evolution, for learning to read and spell.** Despite this gap between biological and cultural evolutions, there is emerging evidence that the learning of written language takes advantage of the existing neural mechanisms for spoken language even to the point that learning a script permanently changes the speech sound system in our brains. Since our brains are not naturally inclined to learn a script, the biggest surprise is probably that almost 90% of all children learning alphabetic as well as non-alphabetic scripts learn to read and write fluently without obvious problems. This amazing fact may only be possible because we might be recycling older evolutionary mechanisms for new purposes, such as reading and writing.

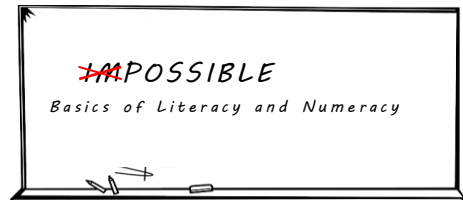
Two other noteworthy phenomena accompany the learning of a script:

1. first, we need to be trained explicitly over longer periods of time before we start to show some reading fluency
2. and second, there is a relatively small but consistent group of children who do not seem to be able to adequately master the basics of an alphabetic script.

Since participation in our modern technology-based society without fluent reading and writing skills may be considered a serious disability potentially leading to dropout at school, to problems attaining and retaining a job, and consequently to economic disadvantages and emotional distress, it is therefore essential to understand **how reading skills emerge, and why some people show persistent difficulties acquiring written language skills despite adequate education, sufficient intelligence and normal sensory functioning.**



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