Currently it is not clear why a particular brain area becomes specialized in a given function such as object recognition or motor planning. We also do not have a good understanding to what extent this specialization is fixed, nor to what extent it can be modified, either through life-changing events such as blindness, or through daily activities such as reading or driving. Due to its highly complex and yet modular organization, the view of the human brain in modern neuroscience has been dominated by terms such as the visual cortex, the somatosensory areas, the auditory cortex and so forth. Accordingly, the standard model of brain function, as exposed in the latest textbooks, describes the human cortex as pre-divided into areas with strictly defined functions. The main goal of the study is to analyze the unique cognitive architecture of a human brain - a reading system. Reading process is undoubtedly one of the most complex skills we humans acquire. Although the process is relatively new and not an innate skill, it is assumed to be a high-level cognitive process. Words can be seen, heard, or read by touch therefore the processes governing reading can provide us with a better insight into the human brain. The words as a stimulus retain their meaning regardless of their sensory characteristics. That makes reading a perfect research tool for gaining the crucial insight into the brain organization. To analyze the specifics of the reading process we are going to examine the congenitally blind, people that are blind from birth, and read via touch. The visual cortex of the blind is the neural analog of "alternative worlds". Metaphorically speaking, it allows us to behold a different neural "world" that has been developing according to a scenario different from ours, a scenario structured around the radically different sensory experience of the blind. The proposed experiments should reveal how the neuronal foundations of a cultural ability – reading – adopt to the unusual condition in which the 30% of the cortical surface bound to become the visual cortex becomes a "no man's land", while words are conveyed by touch. This should allow us to better understand what is constant, and what is malleable in the human brain. The proposed experiments can thus change our understanding of cerebral mechanisms of perception and plasticity. We intend, under the current project, to uncover how Braille script is deciphered by the brains of blind tactile readers and to investigate those regions of the brain triggered by the reading process in congenitally blind subjects. This will allow for the better understanding of how the human brain adopts not only to cultural change but also to sensory deprivation. Recently, it was shown that the reading process has a dedicated part of the brain in the ventral visual stream called Visual Word Form Area. That means that that all sighted people have a particular area in their brain that reads. A key feature of the reading area in sighted subjects is the sensitivity to orthography. It is known that in sighted readers of regular visual script, the VWFA and posterior visual areas form a processing gradient that is sensitive to the orthographic structure of the stimuli. The same activation in posterior visual cortex is triggered either by strings of nonsense letters or real words and the observable gradient extends from the anterior parts up to the VWFA. Such a gradient can be easily observed when the given task consists of stimuli with increasing similarity to real words. Based on the research on the blind, it appears that the congenitally blind read with the exact same area of the brain - VWFA. To investigate whether this area in the blind undergo the same processes and function as in the sighted we intend to measure activation, with special attention given to VWFA, while congenitally blind subjects are reading strings with an increasing similarity to the real words displayed in Braille. Such a research will give us a great opportunity to get insight into the human brain organization and better understand the processes of an enormous plasticity that the human brain undergo under various circumstances.