IS1404 E-READ: Evolution of Reading in the Age of Digitization

Position paper

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WG(s): WG4 *The ergonomics of reading (physiology; haptic & tactile feedback)*

1. **Potential research contribution** in light of, or linked to
A. WG interest and Scientific programme:

Overall, my outlook is based on the biological perspective on the human condition from the angle of whole organism learning and (neuro)-evolutionary constraints on learning in the sense of learning originally being a life-sustaining mechanism. Therefore, my focus addresses the theoretical assumptions that underlie the model: (1) reading as human-technology interaction; and (2) reading as embodied and multisensory. Biologically, reading is to be explained and understood in the context of human (in the sense of species-specific) learning and cognition, hence reading is embodied and multisensory and incorporates and is restricted by ancient (evolutionarily tested) mechanisms. However, the biological conception of learning also accommodates a distinction between bottom-up (automatic and primarily non-conscious) and top-down (voluntary and primarily conscious) control of learning, the latter possibly culturally unfolded to a larger extent than ever before. The bottom-up and top-down dichotomy offers multiple angles on the human-technology interface from the seamless incorporation of different reading platforms as a bodily extension over the necessity of (culturally?) summoning and cultivating metacognitive inhibitory abilities at the individual level as a result of the inherent 'multistability' of digital reading platforms. Thus, my interest seems to draw upon and to some extent transgress all 4 research agendas.

B. Action objectives (pages 7-10 in the MoU):

My potential research contribution is primarily linked to interdisciplinary paradigms for conceptualizing and measuring the impact of digitization on text reading as well as to develop theoretical and methodological innovative research paradigms that shed light on cognitive aspects of tablet use when reading in the overarching evolutionary framework of the human learning condition. My contribution aims at understanding and conceptualising the biological constraints on what has been perceived as the demarcation criterion of human cognition - knowledge propagation of which the reading ability is exemplary.

2. Interest in
A. organizing and/or participating in a short-term scientific mission (STSM).
Optional: pursuing what research questions/projects; where to/with whom; linked to what objective(s) of the Action:

I would like to both organize and participate in a **Short-Term Scientific Mission** to prompt systematic, empirical, interdisciplinary research transcending established boundaries

between scientific disciplines involved in reading research and to facilitate joint scientific publications and new, radically interdisciplinary, collaborative research

projects (esp. across humanities/social sciences and natural sciences).

I am currently especially interested in:

a)   the interaction of neural bottom-up and top-down processes in cognition with special emphasis on the putative top-down (meta cognitive) measures developed by the individual as well as the pedagogical remedies developed by teachers to counteract the (implicitly or explicitly perceived) multistability of digitized reading platforms versus print books when sustaining linear, sequential, verbal text.

b)   Develop theoretical and empirical (preferentially behavioural/ethological) methods to discuss and analyze the versatility of 'smart' technology to afford omnipresent reading compared to print books using for instance GPS measurements, body-language, heart rate indicators and Ecological Momentary Assessments (EMA).

B. organizing and/or participating in a **Training School** (please indicate what kind of training [theoretical; methodological; technical]).

Optional: linked to what objective(s) of the Action:

I would like to both organize and participate in a training school. If I succeed in 2A, it might be feasible to establish a training school encompassing the topics (for instance philosophically) and methodologies raised in a biological perspective (how we behave, navigate, interact with smart technologies when reading linear, sequential, verbal text.