Special Track on Primary Data Entry Introduction

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Igor Val Danilov is a cognitive scientist who studies the essence and modalities of social interaction from the viewpoint of physics, developing academic research of the education environment. In specific, he applies expertise and experience to develop e-learning curriculum and study contactless brain-computer interfaces. Igor Val Danilov is an academician at the Academy Angelica Constantine of Rome, member of Cognitive Science Society, research physicist. Igor Val Danilov and Assoc. Prof. Dr. Sandra Mihailova currently conduct research on the effect of coherent intelligence at the Riga Stradins University (Latvia). He is the researcher at the academic consortium "Academic Center for Coherent Intelligence." His previous job was the director of the research department and director of operation Eastern Europe and India of Marconi International University.

PDE PROBLEM: WHERE DOES SOCIAL KNOWLEDGE COME FROM?

The world for a newborn is like a sentence that appears in front of a reader.

A	R	S	E	W	C	I	P	C	L	B	L	O	!	!	!
O	U	E	H	X	H	O	N	R	O	E	R	I	P	!	!
A	O	R	S	O	A	E	H	T	O	N	S	A	N	O	!
B	C	D	T	E	U	M	T	E	E	V	T	S	I	K	A
A	B	R	A	H	A	L	I	H	R	L	I	A		N	
C	A	D	A	B	E	R	D	N	E	E	L	D	C		–
B	A	R	B	A	O	R	C		E	R	N	I	E	T	
R	O	R	O	R	O			H				T	G	S	
O	R	O	R	O	R	O				O	R			E	
R	O	R	O	R	O	R	O	R	O	R	O	O	R		N

The simple sample of the PDE problem–is a matrix of unfamiliar characters without spaces. For beginners, this is a chaos of stimuli. Even if we assume that the beginner knows the meaning of characters (values of stimulus-consequence pairs), then decoding this message requires the reader's intentionality first to understand where the text's beginning: top or bottom, left side or right, or even in the center. Then the direction of the character sequence is also essential when decoding.

PDE PROBLEM: WHERE DOES SOCIAL KNOWLEDGE COME FROM?

Just one additional color in some letters of the text is enough to help you easily decipher this message.

F	R	S	E	W	C	I	P	C	L	B	L	O	!	!	!
O	U	E	H	X	H	O	N	R	O	E	R	I	P	!	!
A	O	R	S	O	A	E	H	T	O	N	S	A	N	O	!
B	C	D	T	E	U	M	T	E	E	V	T	S	I	K	A
A	B	R	A	H	A	L	I	H	R	L	I	A		N	
C	A	D	A	B	E	R	D	N	E	E	L	D	C		–
B	A	R	B	A	O	R	C		E	R	N	I	E	T	
R	O	R	O	R	O			H				T	G	S	
O	R	O	R	O	R	O				O	R			E	
R	O	R	O	R	O	R	O	R	O	R	O	O	R		N

Let us to assume that beginners somehow solved above mentioned tasks. The next crucial step at the beginning of knowing is to distinguish symbols from each other to understand their meanings. Only after these instructions, can the reader begin to analyze each symbol's usage in step-by-step ostensive iterations. **If you just change this language in the matrix to Tagalog (a Filipino language), for example, then no one will be able to understand this text, except those who speak Tagalog.**

2 MAIN PROBLEMS OF LEARNER BEGINNERS

First: Cognition occurs in comparison

New knowledge can be assimilated by finding links between elements of initial knowledge and new information domains and/or discovering new key relationships between cause and effect within previous knowledge. While after birth, an organism meets with reality, which is transcendental, staying beyond any experience and understanding of this pure reason. “Everything is known in comparison (René Descartes).”

2 MAIN PROBLEMS OF LEARNER BEGINNERS

Second: Even at the very beginning, communication requires abstract thinking,

The appearance of communication requires a shared understanding of the signal's meaning (i.e., uses) within a particular context among a community of users (Wittgenstein, 1973). Therefore communication requires abstract thinking. There is no evidence that at initial stages of development – Sensorimotor (Piaget) or 0-3 Stages of the Model of Hierarchical Complexity (Commons, 2016) – organisms are able to operate abstract phenomena and communicate on their own. Stimulus-consequence pair cannot teach the nervous system in a multi-stimuli environment, because the stimulus-consequence pair shaping is unpredictable due to many stimuli. While social reality consists of symbols, each of which is a combination of many stimulus-consequence pairs.

3 MAIN APPROACHES TO THE STUDY OF MIND:

The academic knowledge on the study of mind historically and conceptually has settled three main approaches within cognitive science:

cognitivism,

connectionism, and

embodied dynamicism.

Many theories of mind combine all three approaches, where they co-exist in various hybrid forms.

The more interesting of them are the Embodied dynamic system, the theory of innate intersubjectiivity and innate foundations of neonatal imitation by J. Delafield-Butt and C. Trevarthen, the theory of natural pedagogy by G. Csibra and G. Gergely, and the theory of sensitivities and expectations S. R. Waxman and E. M. Leddon. While, they leave a gap in knowledge about the beginning–introduction of initial knowledge–Primary Data Entry.

PDE IN EMBODIED DYNAMICISM:

Tomasello (2019), through the study on ontogenesis and phylogenesis, introduced the hypothesis of gradually increasing social bond development in children referred to time slices:

(1) emotion sharing from the birth,

(2) joint intentionality from the nine-month revolution,

(3) collective intentionality at around three years of age,

(4) reason and responsibility.

In such a manner, Tomasello (2019) introduced the beginning of cognition through the newborns' basic motive force of shared intentionality. While the foundation of shared intentionality is still uncertain.

Therefore this special track discuss the gap in knowledge about Primary Data Entry–the ground of shared intentionality.

THE GROUND OF SHARED INTENTIONALITY:

Whether or not protoconversations imply understanding emotional states?

There is no evidence of a genetic mechanism that can link meaning in mind with certain social reality to apply an appropriate emotional pattern to a specific situation. Even if one assumes that the hypothesis of universal emotional expressions proves innate emotional patterns together with their meanings; even if newborns may alone recognize the basic facial expressions of caregivers and the specific situation to apply them; but in this case, newborns do not have time for such a "training course", because they demonstrate their achievements already in the first hours of life.

Our special track discusses two fundamental properties of nervous system:

(i) Cognition begins from separating sensory stimuli;

(ii) Neurons can learn spike-timing-dependent plasticity in social interaction.

PRIMARY DATA ENTRY–THE GROUND OF SHARED INTENTIONALITY:

Sandra Mihailova

Iegor Reznikoff

Igor Val Danilov

This PDE special track papers are:

1) ”The Visual Consciousness Space: A mathematical proof of the irreducibility of consciousness to physical data"

2) "Intentionality VS Chaos: Brain Connectivity through Emotions and Cooperation Levels beyond Sensory Modalities"

3) "New Findings in Education: Primary Data Entry in Shaping Intentionality and Cognition"

We invite you to discuss Primary Data Entry–the ground of shared intentionality–from an integrated perspective: Psychology, Sociology, Neuroscience, and Physics.

We believe that this approach is the basis for the further development of an advanced e-learning curriculum and the study of contactless brain-computer interfaces.

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