The narrative mind. Embodied narratives in the light of conceptualization hypotheses

Balász Kekesi

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Abstract: Narrative psychology claims that autobiographical, verbal narratives are crucial for constructing our selves. In philosophy, Daniel Dennett posits that the Self is a result of narrative activity. The former hardly explains how verbal, autobiographical narratives cause a felt, continuous Self via the psychological world of the human being in direct way. The latter's assumption is that Self is only an abstraction, it does not really exist, but it would have to explain how having a Self can be felt, if it is only a fiction. In my suggestion, the conceptualization hypothesis of the embodied cognition movement can help solve these problems. This hypothesis is combinable with the narrative theory of self, but it claims that if language and thinking is embodied, then verbal narratives must be embodied too. In this approach, narratives come from the organism-environment interaction, and later these narratives as small, bodily stories can assist thinking and give structural basis to understand verbal narratives.

Keywords: Antonio Damasio, George Lakoff, Mark Johnson, Mark Turner, embodied cognition, narratives, cognitive linguistics, simulation semantics, images schemas, philosophy of cognitive science

What is a narrative?
Narratives are usually defined as tools of verbal communication, which are used to serve the expression of events. Narration is based on the ability of language use and they have important role in understanding the events that inevitably happen with us in our everyday, personal lives. Furthermore, narratives give us moral guidance, personal integration and even entertainment and pleasure owing to the huge amount of stories in culture and art, from folk tales to Hollywood movies.

The central thesis of narrative psychology is that the person lives and gives meaning to his life in a narrative way. The person is always in the middle of a life-story, he wants to find his own role in this story and he needs to find the reasons of events happening to him. The autobiographical narratives – where the narrator and the central figure of the narration are inseparable – help understand and build the inner world of the person. In the form of autobiographical narratives, we share stories about our past, our habits, motivations and our anticipated future with each other, therefore this kind of communicational activity points out that narratives have an intersubjective nature. We also use folk psychological narratives to understand the acts and motivations of other persons. All kind of narratives are inseparable from the interpersonal, intersubjective communicational situations unfolding in the relation of infants and caregivers. Around the age of two, during the processes of acquiring language use, infants start to initiate dialogues with the environment, including events and stories.

The famous cognitive psychologist Jerome Bruner claims that the functioning of the mind can be

separated into two parts (Bruner 2001). The first is the paradigmatic part, pertaining to the formal description of the world, operating with abstract concepts and using categorization. The other part, the narrative way of thinking is tied to the world of intents and acts and has a deep connection with the psychological dimensions of human consciousness. Dan P. McAdams shares this view and claims that the Self is not a subject, which is above or beyond the experience, rather, the Self is a result of the narrative way of thinking, which is rooted in the emotional, psychological domains of human beings. McAdams refers at Vaihinger's 'as-if' philosophy, which is among the first fictionalist approaches trying to explain the Self as a result of some kind of narrative activity. Vaihinger claims that human beings structure their lives around ideas, which are empirically unverifiable, but we act like 'as if' they were true. Narratives are certainly among these ideas.

Daniel Dennett has similar position according to the Self. In his famous article, Self as a Center of Narrative Gravity (1992) he determines the Self as an abstract agent, which is the result of narrative activity, but is also a fiction, like the center of gravity in mathematics. There is no center of gravity as an entity in the outer world, but in spite of this fact, mathematicians can calculate with it, 'as-if' it really existed. But it is quite problematic to explain how an abstract agent as a Self can possess felt, phenomenological states if it is only an abstraction. On the other hand, narrative psychologists, like McAdams still have to answer the question: how can the Self set up from the emotions and feelings – the psychological world -, what makes the Self a phenomenologically felt, continuous unity, if it is only an aggregate of – verbal – narratives?

To answer these questions, we need a theory, which is able to blend the verbal and the emotional dimensions of narrativity. In my suggestion, the embodied approach of contemporary cognitive science can give a possible solution to this problem. This kind of approach is complementary to cognitive psychology, it supports the idea that the Self is a result of narrative activity (Damasio 2010, Turner 1996, Gallegher 2006, Gallegher-Zahavi 2008, Lakoff 2008), but it holds that Self is not an abstraction, it is not an abstract agent. Self is an embodied agent, and "Narratives arise directly from the lived experience of the embodied subject."[1]. In the context of embodied cognition, language, thinking, senses, emotions and other aspects of the body are in inseparably tied to each other because they are only aspects of cognition, without any hierarchical distinction. As a result of this approach, verbal narratives are necessarily felt, and feelings and emotions can activate narratives in an ongoing circuitry where the Self emerges within via huge amount of cognitive tasks like problem solving or deliberation, where decision-making is necessary.

The theory of embodied cognition, in brief

Before explaining the theory of the Self as an embodied agent, expanding the connectivity among language, thinking, body and the Self, it is necessary to discuss some details of the embodied cognition theory. The idea of embodied cognition appeared in the 1980's in cognitive science. Lakoff-Johnson's Metaphors We Live By (1980) was one of the forerunners of this view. In the late 1980's, Rodney Brooks's successful innovation in robot moving systems had been based on the embodied, situated approach of cognition, rejecting the standard, computational view. In 1991, Varela, Thompson and Rosch published the book called The embodied mind, which is a grandiose attempt to combine phenomenology and cognitive science in some kind of naturalized phenomenology[2]. This book became the basis of the enactive approach in embodied cognitive science. In the 1990's, Antonio Damasio's works endorsed this view proving that processes of deliberation are inseparably tied to emotions and feelings, in other words, processes of thinking are at least partly based on emotions (somatic marker hypothesis). Then Andy Clark started to develop his philosophical view upon the embodied, situated and extended mind theories. In 1999 Lakoff-Johnson published the Philosophy in the Flesh, which was an attempt to integrate cognitive linguistics, neuroscience and philosophical phenomenology. After the Millennium, philosophers started to systematize the embodied view[3] and discuss its philosophical consequences (Rowlands 2010, Chemero 2009, Shapiro

2011).

The main theoretics of embodiment mostly reject the computational theory of mind, in the sense that the mind operates over amodal symbols. According to this view, cognitive tasks need an information adapting process, which begins with inputs to the brain, carried by the sense organs, that sensory information is transformed to representations and after implementing computational tasks on these, it ends with an output from the brain. That view holds that cognitive science only has to study the brain itself alone, which is the starting and ending point of cognitive tasks, declining to include anything from the world, outside the organism, or even outside the brain (like the other parts of the body). The embodied view of cognition posits that we are situated beings, and our interaction with the environment literally forms and constitutes our cognition. That means our body, which is a vehicle for the mind to act on the word, is represented in the mind, furthermore, these organism-environment interaction patterns play crucial role in the functioning mind. Cognition is rather the prolongation of the body than the obligate product of the brain's own activity. Cognition is not only what brains do, cognition arises from the extended, coupled brain-body-environment system and "its intrinsic dynamics both determines and is determined by the way brain is coupled to the rest of the body and the way the body coupled to the environment."[4] As Lawrence Shapiro nicely puts it: „Cognition is embodied insofar as it emerges not from an intricately unfolding cognitive program, but from a dynamic dance in which body, perception, and world guide each other's steps"[5].

The main tenet of embodied cognition is that body is not peripheral to understand the nature of mind. Mind is not a software which is running on a hardware (body). Bodily aspects, like emotions, feelings, the sensorimotor system are constitutive and literary parts of cognition. As a result of that, cognitive processes cannot be reduced to neural processes, the embodied view rejects this kind of strict reductionism. It reunites the mind with emotions and other aspects of the cognitive system. After all, the view of embodied cognition can still be a computationalist approach, but it tries to replace the amodal representations, which are required to computation, to modal, so called perceptual or action-oriented representations.[6] The effort of this kind of replacement is called wide computationalism (Shapiro 2011). But there are still radical embodied cognitive scientists (like Varela, Thompson, Rosch, Barwise, Perry, Zahavi, Gallegher) holding that there aren't any representations at all and the cognitive system can function without representations. According to Chemero (2009), a possible way to steady this view is to combine the gibsonian theories of affordances[7] and the dynamical stance, which means cognition is a dynamical system and new properties can emerge within it, caused by the ongoing brain-body-environment interactions.

Henceforth, I'm willing to demonstrate an embodied approach on explaining the connection of narratives and the mind. First, I will discuss how the world is represented in the brain, based on Antonio Damasio's works (1996, 1999, 2010). Then I show how Lakoff-Johnson (1999) and Turner (1996) explain narrative, so called literary mind works in the terms of embodied cognitive linguistics. These works explicitly refer to Damasio's books, where Damasio also mentions Lakoff and Johnson as expanders of his view in the field of cognitive linguistics and philosophy.

Body, mind, simulation

Damasio in his book, Self Comes to Mind (2010) presents neuroscientific evidences that all body states (including feelings and emotions and motor activities etc.) are mapped in the brain by neural patterns, or mental images, furthermore the higher levels of consciousness, like problem-solving is able to use these patterns as sources to achieve various goals. Body maps can be defined in terms of modal representations, but – as we will see – higher levels of cognition, like problem solving, or deliberation equally use these maps and they are also constituted by these maps.[8] That means Damasio's cognitive system is close to the dynamical stance, which claims that "the higher-level (i.e. cognitive) entity acts causally on the lower-level (i.e. physical) phenomena that make it up"[9].

Damasio claims that the human brain has very serious map-making addiction. The world can only come into the brain via the body itself and the changes caused in the body by the body-world interaction are inevitably mapped in the brain by neural patterns. The mapped patterns constitute what we have come to know as sounds, touches, smells, tastes, pains, pleasures – in brief: maps, neural patterns or images[10]. The brain does not stop making maps at this level. The brain 'talks to itself': map making addiction leads it to map its own work[11]. The brain's maps of its own doings are the sources of abstract images describing movements of objects, relationships between objects, patterns of occurrence of objects in time and space. These abstractions are in fact consequences of the recurring, simultaneous activation of different modalities. In cognitive linguistics, the image making addiction and multimodal property of perception lead to suppose nonverbal kinds of images, like image schemas (Talmy 1988, Johnson 1987) that help mentally display the concepts that correspond to words as verbal images.

The abstract images of event structures are crucial to understand the bodily base of narratives in the context of embodied cognition. Because we are situated beings, we are always in the middle of some events. For example we have to coordinate our movement or we have to monitor and anticipate possible homeostatic or emotional states. It is true in case of bodily homeostasis (i.e. maintaining the level of blood sugar level) or at higher levels of cognition (involving language and thinking), for example when we vote to a party at an election, which promises better future for us in which we can maintain our sociocultural homeostasis easier. To predict any process it is necessary to deliver it in an event structure. As Damasio puts it, we are always in a story at numerous level: „….storytelling is something brains do, naturally and implicitly. Implicit storytelling has created our selves and it should be no surprise that it pervades the entire fabric of human societies and culture."[12]. The bodily based, implicit storytelling is where embodied narratives come from.

But how can higher levels of consciousness, like problem solving use those maps or images to execute their tasks if not in an old fashioned, computational[13] way? In Six Views of Embodied cognition (2002), Margaret Wilson founds that the strongest claim beside embodied cognition is if we can prove that cognition in 'off-line' mode, decoupled from the environment acts as-if it were actually coupled to the environment: "Mental structures that originally evolved for perception or action appear to be co-opted and run "off-line," decoupled from the physical inputs and outputs that were their original purpose, to assist in thinking and knowing."[14]. Antonio Damasio's 'as-if body loop' hypotheses is supporting this claim: „…the brain can simulate, within somatosensoric regions, certain body states, as if they were occurring, and because our perception of any body state is rooted in the body maps of the somatosensoric regions, we perceive the body state as actually occurring even if it is not".[15] According to Damasio (1996, 2010) deliberation, as a cognitive task is highly based on mental simulation. In the simulation, possible, anticipated, incomplete future situations are flashing, which are results of stories: if I act like this, that is supposed to happen in the future. Damasio's somatic marker hypotheses proves that this kind of narrative imagination is inseparably connected to emotions and feelings, simply because it could't be possible to choose among those competing stories, if we wouldn't feel the result. In other words, we wouldn't be able to decide what is good or bad for us in case of bodily or sociocultural homeostasis either. This view also supports the radical view of embodiment, where „ … cognition is not the representation of a pre-given world by a pre-given mind, but is rather the enactment of a world and a mind on the basis of a history of the variety of actions that a being in the world performs."[16]

To summarize, modal representational theories need to complete with theories of offline simulation to explain how thinking, problem solving, deliberation or language work, how higher levels of cognition use the perceptual representations of bodily systems and the consequences of acting in the world, where we discover categories of similarities (like the image schemas), abilities or limits to perform acts (like the affordances).

Toward embodied narratives

The best evidence beside mental simulation is the theory of mirror neuron circuits. It was discovered by Rizzolatti and his colleagues in the 1990's and it had a fast and loud carrier, although it hasn't become the Holy Grail of cognitive science as several scientists supposed, but it is still a very strong hypothesis, supported by empirical evidences. Ramachandran, who is one of the most influential spokesmen of mirror neuron circuits simply draws up, what is their function: "Anytime you watch someone doing something, the neurons that would use to do the same thing become active – as if you yourself would doing it."[17] If I see someone raise his hand, my sensorimotor domains in connection with hand raising become active. The mirror neurons are connected to the Broca area of the brain, which is also an important domain for language and motor-skills. This activation is inevitably felt, because sensory and motor domains are included. Furthermore, when we are thinking of raising our hand, without experiencing hand-raising in the outer world, the same areas become active as if we actually raised our hands. The latter property of mirror neuron circuits make mental simulation possible decoupled from the physical inputs and outputs and in terms of embodied cognition, where thinking is also embedded in bodily processes, mirror neuron based mental simulation helps accomplish cognitive tasks in a simulative manner. According to Damasio, problem-solving is executed by narrative imagination, which is the off-line simulation of events in the world via mirror neuron circuits. Damasio (1996) claims that during problem solving processes, there are competitive narratives or stories flashing in the background of our consciousness. These stories predict possible states in the future: if I do it this way, that would be the result. But these predicted states must be felt, because the felt dimension of the problem solving process gives us the opportunity to choose from the competing stories. In other words, without predicted, but actually felt emotional states of imagined events, we could not know which state would be salutary or harmful to us.

Let's discuss how cognitive linguistics combine the nonverbal and verbal narratives via mental simulation theory to explain meaning-making. In the embodied cognition based cognitive linguistics, semantics is often defined as a kind of mental simulation (Johnson 2014, Turner 1996) executed in mental spaces Kövecses-Benczes (2010), Fauconnier-Turner (2003). The point is, the simulative thinking processes use some consequences of the brain-body-world interaction. Lakoff-Johnson (1999) claims that the cognitive structures assisting thinking and language making arise from the organism-environment interaction. According to mental simulation, thinking can use those structures in an off-line mode to execute some tasks. The consequences of the brain-body-world interaction are in fact – as we mentioned above – cross-modal abstractions, so called image schemas (Johnson 1987, 2007), or (Talmy 1988). As Johnson describes these hidden structures of cognition: during the recurrent organism-environment interaction, through the brain's ability to interconnect different modalities, bodily stories cause image patterns so called image schemas, for example: blockage, enablement, path, near-far, contact, container etc. If we take a closer look at these schemas we can see that image schemas are built up from several kinds of images through cross-modal connection. Shaping the schema blocking, it is necessary to involve at least seeing, moving, touching including several maps and neural patterns, and the "blocking" experience must have an event structure, because it is a part of a process, which has a beginning and it is headed for something, it has an end, and there are also roles in it. Simply, the experience of blockage is a bodily story and the schema of blockage is the neurally, cross modally realized consequence of the recurrent blockage experiences in the world.

Mark Turner (1996) claims – based on Damasio – that the image schemas are nonverbal narratives that provide basis for understanding narratives as primarily inter-subjective devices that are used to tell stories to others. Turner claims that simple, nonverbal bodily events, like image schemas can be projected onto verbally expressed complex events via cognitive processes. This ability is called 'parabola' by Turner. The connection of nonverbal and verbal narratives is evident in the embodied view of cognitive linguistics, because it holds that cognition is a dynamical system. That means

higher levels of cognition, like language are constituted by lower levels of cognition, and higher levels can use lover level entities that they are consist of[18]. As a result of this approach, in the context of embodied cognitive linguistics, during verbal communication – even interpersonal, or inner speech – verbal narratives always awake nonverbal narratives, which are simulated, 'off line' bodily stories made lived by mirror neurons. This theory is called "conceptualization" hypotheses by Shapiro, citing Lakoff-Johnson: "the peculiar nature of our bodies shapes our very possibilities for conceptualization"[19]. The strongest empirical evidences of it are the mirror neurons of Broca area, which have crucial role in motor-skills and language. This property of this area also implies that language has an evolutionary development starting from the gestures toward verbal ability, but is always based on the ability of mirroring the outer world by mirror neurons (Ramachandran 2011). The embodiment of verbal narratives makes possible that feelings, senses and emotions that the nonverbal narratives awake – insomuch as they are also images, maps or neural patterns belonging to the somatosensory regions – help make up the felt background of every mental instant – which is executed by simulation via mirror neurons.

Let's take a closer look at what we usually think of what thinking is and how we conceptualize this. Lakoff-Johnson (1999) claims that we can't say anything about what the processes of thinking and even thinking itself are without the sense bases and body-world interactions:

THINKING IS SEEING: "I see what you are saying."
THINKING IS SMELLING: "Something doesn't smell quite right here."
THINKING IS TASTING: "Appetite for learning."
THINKING IS HEARING: "Being deaf to what your father tells you."
IDEAS ARE LOCATIONS: "We have arrived at the crucial point in the argument."
UNDERSTANDING IS GRASPING: "He can't grasp the meaning of what you are saying."
THINKING IS MOVING: "My mind wandered for a moment."
INTEREST IN IDEAS IS APPETITE FOR FOOD: "Thirst for knowledge, appetite for learning."

Let's pick up the sentence: "He can't grasp the meaning of what you are saying.", where understanding is grasping, metaphorically. According to Turner (1996), grasping is a nonverbal narrative and also an image schema. We have several experiences in physically grasping something. Grasping is a small, bodily story which is also a consequence as a result of bodily interaction in the world. The story of grasping has various scripts. In case of an unavailing grasp we are not able to reach, hold and manipulate the object of grasping. And that non-success has a felt dimension too: the feeling of failing to grasp and manipulate the object targeted. This is an intentional state that the sentence activates. The activation process is executed in mental spaces, through mental simulation: the utterance awakes the intentional, felt state of unsuccessful grasping. The recipient, hearing this utterance, automatically simulates his own experiences about non-success of grasping via mental simulations, in an off-line mode, with the help of mirror neuron circuits, involving somatosensoric regions. Understanding this sentence is understanding the situation and the one of the various possible events in the situation. Think it over: 'meaning' is an abstraction, it doesn't have physical body, it is impossible to grasp an abstraction. In spite of that, we act like if it was graspable. We express this abstraction with a metaphor, but it is not only a metaphor, it is a cognitive metaphor, where the source domain is always a part of the numberless consequences of bodily interaction in the world. Among these consequences are the nonverbal narratives which, like a hidden hand, help us understand cognitive tasks including verbal narratives, like problem solving, deliberation[20] and the construction of meaning.

Conclusion

The embodied approach of narratives declares that it is not verbal narratives that shape experiences but, rather, it is experiences that structure narratives via interaction with the world: "Narratives

arise directly from the lived experience…”[21]. The results of the latter are the nonverbal narratives, which give basis to understand verbal narratives in the context of conceptualization hypotheses. Cognitive Linguistics is capable to analyze the hidden, body based structures of thinking, which are crucial for understanding: image schemas, cognitive metaphors, conceptual frames, narratives and processes like conceptual blending, mental simulation and the construction of meaning.

In the context of conceptualization hypotheses, narratives are embodied, therefore autobiographical narratives must be embodied too. Our selves consist of autobiographical narratives , but “The self is primarily an embodied consciousness that engages with the world, only later does it attempt to weave together the subjective embodied experiences, intersubjective communication with others and the objective public and shared world in which this all takes place, via narratives.”[22] Menary’s claim implies that the Self can’t be an abstract agent – like Dennett’s Self -, but it is rather an embodied agent. The Self is inseparable from autobiographical narratives and conceptualization hypotheses enlightens that these mostly verbal narratives are partly built up from nonverbal narratives. As a result of that, autobiographical narratives have direct connection with the body, which is constitutive part of the meaning of those narratives. The interconnected relation of verbal and nonverbal narratives means that the narrator and the one, who lives the narration is the same, because without the embodiment of narratives they wouldn’t be lived for the narrator.

In my suggestion, studying the embodiment of narratives has a lot of consequences for moral philosophy – how we make moral decisions -, political philosophy – how we vote at an election – and the philosophy of language – simulation semantics can give new light for theory of meaning. Furthermore, narratives – considered as embodied – give us the opportunity to understand the reason of our own acts, faults, and recurrent problems in our psychological world, because this theory gives a deeper understanding how emotions and rationality affect each other.

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Notes

[1] MENARY, RICHARD: *Embodied Narratives*. Journal of Consciousness Studies, 15 (6): 63-84 , 2008.: 76.

[2] See in: SZIGETI ATTILA: Megtestesült interszubjektivitás. In.: *A testet öltött másik. Kortárs fenomenológiai tanulmányok*. Pro Philosophia, Kolozsvár, 2010.

[3] _ In contemporary philosophy, the embodied approach is often called '4e' cognition, which refers to the four bases of this view: the mind is embodied, embedded, enacted, extended.
[4] _ CHEMERO, ANTHONY: *Radical Embodied Cognitive Science*. A Bradford Book, The MIT Press, Cambridge, Massachusetts, London, England, 2009: 182.
[5] _ SHAPIRO, LAWRENCE: *Embodied Cognition*. Routledge, London, 2011: 61.
[6] _ Andy Clark is one of the spokesman of these kind of representations in philosophy.
[7] _ It is J. J. Gibson's term "for a property of an object that invites opportunities for particular sort of action. A branch affords perching for a bird, but not a pig." (SHAPIRO, LAWRENCE: *Embodied Cognition*. Routledge, London, 2011: 211)
[8] _ Damasio's description of representations makes him get in lane with the spokesman of modal representations. But Damasio's model does not close off amodal representations. In this model, sensory based multimodal representations emerge in the convergence zones of the brain, but it does not close off the possibility of amodal representations of them in higher convergence zones. If Damasio's model wants to reject the existence of amodal representations, it is necessary to reconsider it involving the dynamical stance.
[9] _ CHEMERO, ANTHONY: *Radical Embodied Cognitive Science*. A Bradford Book, The MIT Press, Cambridge, Massachusetts, London, England, 2009: 199.
[10] _ These expressions can be used interchangeably in Damasio's the terminology.
[11] _ This property of the maps as Damasio explains it, also implies that Damasio's describes cognition as a dynamical system.
[12] _ DAMASIO, ANTONIO: *Self Comes to Mind – Constructing The Conscious Brain*. William Heinemann, 2010: 293.
[13] _ Good Old Fashioned Artificial Intelligence, or GOFAI, as Haugeland describes the computational view of early cognitive science.
[14] _ WILSON, MARGARET: *Six views of embodied cognition*. Psychonomic Bulletin & Review, 2002, 9 (4), 625-636: 633.
[15] _ DAMASIO, ANTONIO: *Self Comes to Mind – Constructing The Conscious Brain*. William Heinemann, 2010: 102.
[16] _ VARELA, FRANCISCO J. – THOMPSON, EVAN – ROSCH, ELEANOR: *The embodied mind*. The MIT Press, 1991: 9.
[17] _ RAMACHANDRAN, V. S.: *The Tell-Tale Brain – A Neuroscientist's Quest for What Makes Us Human*. W. W. Norton And Company, New York, 2011.
[18] _ The latter is implemented in the form of mental simulation.
[19] _ LAKOFF, GEORGE – JOHNSON, MARK: *Philosophy in the Flesh*. Basic Books, 1999: 19.
[20] _ George Lakoff in his book, *The Political Mind* (2008) tries to melt the explanation of narratives outlined here with the theories of narrative psychology. This is a very exciting proposition because it points out that narratives are guiding our lives, narratives determine our decisions but narratives are lingual expressions and language is deeply embedded in the body. That means our leading, autobiographical narratives have an emotional structure and when we have to make a decision, we often think that we make it rationally, but we rather make it emotionally, because senses, emotions and feelings are the basis of understanding the world.
[21] _ MENARY, RICHARD: *Embodied Narratives*. Journal of Consciousness Studies, 15 (6):63-84, 2008: 76.
[22] _ MENARY, RICHARD: *Embodied Narratives*. Journal of Consciousness Studies, 15 (6):63-84, 2008: 77.

Kékesi Balázs
Doctoral School of Philosophy, University of Pécs
H-7622 Pécs, Vasvári Pál utca 4.
balazs.kekesi@gmail.com