

Notes on narrative, cognition, and cultural evolution

Marina Grishakova, Siim Sorokin

Institute of Cultural Research and Arts
University of Tartu
Estonia

e-mail: marina.grisakova@ut.ee
alde66_64@hotmail.com

Abstract. Drawing on non-Darwinian cultural-evolutionary approaches, the paper develops a broad, non-representational perspective on narrative, necessary to account for the narrative “ubiquity” hypothesis. It considers narrativity as a feature of intelligent behaviour and as a formative principle of symbolic representation (“narrative proclivity”). The narrative representation retains a relationship with the “primary” pre-symbolic narrativity of the basic orientational-interpretive (semiotic) behaviour affected by perceptually salient objects and “fits” in natural environments. The paper distinguishes between implicit narrativity (as the basic form of perceptual-cognitive mapping) of intelligent behaviour or non-narrative media, and the “narrative” as a symbolic representation. Human perceptual-attentional routines are enhanced by symbolic representations: due to its attention-monitoring and information-gathering function, narrative serves as a cognitive-exploratory tool facilitating cultural dynamics. The rise of new media and mass communication on the Web has thrown the ability of narrative to shape the public sphere through the ongoing process of negotiated sense-making and interpretation in a particularly sharp relief.

Keywords: narrative; cognition; complexity; attention; symbolic representation; cultural evolution; development; post-Darwinism

While Darwinist and neo-Darwinist discourses gained popularity in the humanities in the 19th century (for instance, in Brunetière’s 1890 work that discussed ‘natural selection’ in literary genre systems) and were adopted or contested by many scholars in the 20th century, the ongoing revision of the neo-Darwinian models and the emergence of non-Darwinian approaches that favour developmental (epigenetic, cultural) over evolutionary (genetic) factors remain largely unembraced by the

humanities.¹ The post-Darwinian models of evolution, often combining Darwinian and non-Darwinian aspects (e.g. Kull 1999; Koonin 2011), suggest the opportunity of bridging the biological and sociocultural dynamics, or, rather, seeing biological factors as affordances liable to cultural enhancement, transformation or suppression, and, on the other hand, organisms' embodied-cognitive (interpretive-orientational, semiotic) activity as definitive in both biological and cultural dynamics.

These new approaches stress the necessity to account for the interaction of genetic and cultural systems, highlight the limitations of neo-Darwinism when applied to the study of cultural systems and the ability of cultural systems to assimilate, guide and alter evolutionary processes with whom they are dynamically entwined (the 'assimilate-stretch' principle): "Cultural evolution led to the expansion of the environment as it was perceived by humans, and as a result individuals were faced with more information than they could learn and communicate" (Jablonka, Lamb 2014: 304). Complex cultural processes of learning, invention, regeneration, and construction are not reducible to random variation, selection and adaptation or transmission (heredity), as the neo-Darwinist cultural evolutionists suggest. As Jablonka and Lamb (2014: 223–224) observe, "if one's notion of evolution is based on neo-Darwinian thinking – on selection acting on discrete units that are not altered during the process of transmission and that are random with respect to the factors that affect their generation and subsequent chances of spread – then calling historical cultural changes 'evolution' seems to be a misuse of the term [...]. It is ultimately the agent – individual and a social group – that constructs and generates ideas and practices".

In the ongoing discussion on cultural evolution, a significant place is assigned to language as a symbolic inheritance and information transmission system. In this paper, we discuss the primary role of narrative, another essential part of human

¹ Some theoretical works crossing the boundaries of biosemiotics and cultural studies constitute an exception – see e.g. Wendy Wheeler's *The Whole Creature: Complexity, Biosemiotics and the Evolution of Culture* (2006) and Paul Copley's *Cultural Implications of Biosemiotics* (2016). See also Petitot 2004[1985] on the typological connections between 'dynamical structuralism' in biology, with its focal concept of morphogenesis, and other types of structuralism, including linguistic ones. Whereas "the neo-Darwinian paradigm obscures the intelligibility of morphological phenomena", "reduces them to a by-product of evolutionary chance" (Petitot 2004: 31) and subordinates principles of an organism's internal organization to the external pressures, structuralist biology stresses the importance of self-regulation: the environmental pressures trigger changes (variation, adaptation), but the character of these changes depends also on the organism's structural stability and developmental choices. See also Holenstein on parallels between linguistic and biological structuralism and the non-Darwinian ideas of nomogenesis and teleonomy in Slavic (East- and Central-European) philosophies of nature (Holenstein 1976: 118–120).

equipment, originating in the basic orientational-interpretive *prelinguistic* behaviour patterns translated into various media (acoustic, verbal, graphic, bodily), becoming a crucial part of human cultural toolkit and, thereby, bridging the natural-evolutionary and cultural-developmental dynamics. In our view, non-Darwinian approaches offer a more comprehensive view on the genesis and function of narrative in culture.

The discussion will be structured around certain focal points. We presume that (1) narrativity is contingent on attending to salient features of the environment and basic orientational-interpretive activity; attention, according to Gibson (1979; see the discussion below), bolsters functioning and development of perceptual systems via permanent scooping and shaping of external information; (2) the capacity of monitoring attentional (iconical-indexical) patterns and scooping information from the environment – an ontogenetic ‘narrative affordance’ – is enhanced by symbolic representations, whereas ‘artificial’ narratives (i.e. fictional narrative representations), along with other artefacts, function as attention monitoring devices (see e.g. Carroll and Seeley 2013 on movies as ‘attentional engines’)²: from the cognitive point of view, art, thereby, proves to be a specific perceptual (predicative, pre-conceptual) information-gathering and knowledge-accretion device (see also Grishakova 2014: 201–202)³ and, thereby, an important tool of cultural evolution; (3) due to its knowledge-accretion (epistemic) function, narrative serves also as a cognitive-exploratory tool facilitating sociocultural dynamics.

1. Ubiquity of narrative

Is narrativity, indeed, ubiquitous and pervasive, or was its scope and role overstated in the recent ‘narrative turn’? If it is ubiquitous and pervasive, what are the causes and consequences of its pervasiveness? While acknowledging the prominence of narrative in culture, we find it difficult to support essentialist approaches that reduce narrativity to a prototypical form or function. Without entering extensive polemics, we shall draw further inferences from existent evidence and reasoning on narrative to account

² “Movies function as attentional engines intentionally designed to focus perception on those aspects of the depictive scaffolding of shots and scenes diagnostic for their narrative content and meaning. The information structure of the movie will, therefore, perhaps counterintuitively, closely match the information structure of real-time experience” (Carroll, Seeley 2013: 59).

³ On the basic perceptual level, information may be defined as a sensory input that involves a reaction (response). Knowledge is observer-related and implies sense-making, interpretation. In a wider sense, information covers both meanings: “for something (a source) to contain or carry information there must first be some kind of receiver that reacts to this source and interprets it. The receiver can be an organism, a cell, or a man-made machine. Through its reaction and interpretation, the receiver’s functional state is changed in a way that is related to the form and organization of the source” (Jablonka, Lamb 2014: 54).

for the narrative “ubiquity” hypothesis and to reveal its consequences for theorizing cultural dynamics.

Proponents of verbally or textually oriented narratology and advocates of a narrow definition of narrativity disputed extensions of the concept of narrative to other media as a metaphorical projection of verbal features. On the contrary, from the logical and functionalist perspective, the existence of “the logical structure, underlying the phenomenology of all possible narrative realizations”, as an ideal ‘type’ related to various ‘tokens’ (Meister *et al.* 2005: xiv), sanctions the broad understanding of narrativity and endorses its almost universal presence. Likewise, certain trends in cognitive psychology, linguistics and narratology relate surface linguistic manifestations to the deep-level, subconsciously manipulated mental representations. From the cognitive perspective based on the mentalist hypothesis, narrative is part of human cognitive equipment, a tool for thinking. For Turner, this mental narrative form, the ‘mental instrument’ of parable (Turner 1996: 5–7) is a basic story-generating mechanism made manifest by language.

However, recent critique of computational models of cognition and the rise of non-mentalistic theories (enactivism, process philosophy, embodied cognition) cast doubts on the very existence of mental representations and tend to see the origins of symbolic representation in a specific type of responsive behaviour – human interaction with their environments, specific biocultural ‘couplings’ that stem from recurrent patterns of behaviour (“action coordination routines”, Hutto 2008: 51), and mimetic enaction. The rise of language is considered contingent on these types of behaviour interlocking action, perception and cognition. In these recent approaches, narrative is seen as a sociocultural phenomenon or a kind of evolved and more complex type of linguistic behaviour. According to Hutto’s narrative practice hypothesis, children are to be exposed to “people-focused conversations” and storytelling by their caregivers to get a grasp of other people’s beliefs, desires, thoughts, and perceptions. Another philosopher of narrative, Gregory Currie, while observing that the idea of the biological basis of the evolved preference for narrative information is “not an absurd one” (Currie 2010: 47), contends, however, that, from his own perspective, the preference for the narrative mode of thinking is, rather, sustained by cycles of cultural learning and verbal communication: “The human capacity for linguistic communication co-evolved with a taste for significantly narrativized accounts of people’s behaviour. The elaboration of language made ever more complex narratives possible, while the growing preference for narrative served to dampen the tendency to use language deceptively, by facilitating reliable information flow concerning deceptive behaviour” (Currie 2010: 47).

However, the relation between the ‘simple’ and the ‘complex’ does not always prove to be unidirectional or progressive. From certain perspectives (for instance, complex-systemic approach), the ‘complex’ (as relational) may, on the contrary, precede the emergence of the ‘simple’ (as selected, distinct, separated, autonomic). For example, Varela, in his work

on ‘specious present’, pointed out that the Husserlian idea of ‘complex time’ (past and future inherent in the mobile horizon of the present) has a neural basis (Varela 1999). Or, otherwise, one may say that complexity (the multi-directional and multi-level neural relations of activation and relaxation) is more ‘natural’ and primary as compared with more recent linear or sequential models of time. Another example is linguistic complexity. Data on the simplification and complexification of languages testify that language contacts between adult speakers pursuing practical aims and involved in language learning most often result in simplification (for instance, through pidginization), whereas ‘natural’ linguistic situation based on co-territorial contacts involving child bilingualism leads to complexification (Trudgill 2011: 34). Trudgill relates these regularities to the inability of adult speakers to learn language quickly and efficiently after passing the critical threshold for language acquisition: “Post-threshold learners have less difficulty in coping with regularity and transparency than irregularity and opacity; and loss of redundancy reduces the burden for learner speakers. Highly irregular and non-transparent features are harder to learn and remember – they are, in Carstairs-McCarthy’s nice phrase, ‘cognitive irritants’” (Trudgill 2011: 41). Finally, a recent evolutionary hypothesis of ‘complexity by subtraction’ by Daniel McShea and Wim Hordijk also puts the directional aspect of the Darwinian theory under question and offers an alternative explanation to natural complexity (McShea, Hordijk 2013; Paul 2013⁴).

Similarly, it could be argued that the narrative ‘complexity’ as an evolved embodied orientational-perceptual and patterning capacity precedes ‘simplicity’ of the discrete linguistic forms. Indeed, as Terrence Deacon observes in *The Symbolic Species*, the revolutionizing linguistic capacity that radically separates humans from the animal world (or, broader, the capacity to use symbolic representations – which include also drawings, diagrams, maps and other mixed representations that Deacon, however, fails to mention in his discussion of co-evolution of language and the brain) stems from the ability *to discern and manipulate complex associative iconic-indexical patterns* in a mass of chaotic signals rather than from the referential object-word (sign) matching (Deacon 1997). Arguably, this ability explains the miraculously fast and fluent learning of language by preverbal children – but also the phylogenetic evolution of language. The discovery (by developmental and cognitive psychology) of similar, more or less universal, recognition-expectation-monitoring patterns of behaviour that young children demonstrate across cultures warrants Deacon’s hypothesis. Such patterns include discrimination between animate and inanimate objects, chunking perceived continuous information into more or less discrete ‘blocks’ (events); detecting causal and temporal connections between those blocks, seeing some of these events as

⁴ Paul, Catie 2013. A non-Darwinian theory of evolution proposed. *The Johns Hopkins News-Letter*. April 25, 2013 was accessed at <http://www.jhunewsletter.com/2013/04/25/a-non-darwinian-theory-of-evolution-proposed-22259/> on 2 July 2016.

intentional actions (and, thus, performed by intentional actors), joint attention patterns – see e.g. Currie (2010: xviii): “I suggest that narrative framing occurs by a process of *guided attention* – a notion which generalizes the psychologically crucial concept of joint attention; it is linked to powerful mechanisms of *imitation*. This helps me to define the *standard mode of engagement* with narrative”. It is easy to notice that these patterns of children’s early behaviour are constitutive of narrativity.

2. The role of attention

While philosophers were reluctant to overtly acknowledge the perceptual-orientational, pre-linguistic nature of narrativity,⁵ empirical observation brought developmental and cognitive psychologists (Jeannerod 2006; Trevarthen 1993) to believe that narrative structures are contingent on embodied patterns of perception, cognition, and action. Due to their universality (that becomes variegated in various socio-cultural contexts) and constitutive character as regards narrativity, the ability of detecting and monitoring these complex indexical-iconic patterns may be described as a biocultural affordance or pre-linguistic (pre-symbolic) premise of narrativity. In this connection, it should be noted that the *implicit narrativity* (as the basic form of perceptual-cognitive mapping, orientation and perspective-taking) of intelligent behaviour, music or plastic arts has to be distinguished from ‘*narrative*’, i.e. a symbolic representation with a specific explicit structure (with a beginning and end, peaks or turning points etc., depending on an accepted definition of narrative). In our view, narrative affordances are of dual – cultural and biological (rather than solely cultural) origin, resulting from the co-evolution of human mind and culture. They (rather than a universal logical form or mental representation) account for the pervasiveness of narrative. They stem from animal indexical informational sensitivity to salient (recognitional) elements in the environments⁶ and develop into the *stabilized, shared attentional patterns* in

⁵ See, however, Menary 2008 on the “minimal embodied narrative” that “allows for a subject of experiences (the minimal, embodied, feeling and perceiving self) and, therefore, anchors narratives in the unfolding sequence of embodied and embedded perceptions of an individual” (Menary 2008: 76).

⁶ Hutto (2008: 51) points to the non-representational character of these basic (biosemiotic) forms of cognition: “[...] basic worldly engagements of animals (including ourselves) are not content-involving; they do not involve conceiving of, categorizing, classifying, or otherwise “representing” that which is the focus of such responding [...]. Perceptual sensitivity to specific natural signs prompt action in a quite immediate way and inherited mechanisms drive characteristic responses. Such online informational responsiveness comes in degrees of graded complexity”. The continuum between the natural “response” and “representation” as a complex form of response is captured by the Peircean categories of Firstness, Secondness and Thirdness (see e.g. Menary 2007).

cultural, symbolic communications. Galen Strawson's (2004) refutation of narrativity proves to be futile: narrativity is just there.

Whereas linguists, discourse psychologists and literary scholars studied narrative attention-capturing and -monitoring devices without any relation to evolutionary ideas (e.g. research by Emmott 1997, Miall 2006, and others), psychologists and anthropologists considered aesthetic form as a specific attention-capturing and -monitoring device of crucial significance in the process of co-evolution of human mind and culture. Merlin Donald defines art as a "specific kind of cognitive engineering" based on the reciprocal attention control (Donald 2006: 4). Ellen Dissanayake refers to the function of capturing and holding attention, *making special*, i.e. increasingly protected *salience of certain objects (artifacts) and their components*, as the essential factor in the evolution of art (Dissanayake 1992). Brian Boyd's *On the Origin of Stories* summarizes some ideas developed in evolutionary-psychological and cultural studies and extends them to the narrative form: "[...] we can view art as a kind of cognitive *play*, the set of activities designed to engage human *attention* through their appeal to our preference for inferentially rich and therefore *patterned* information" (Boyd 2009: 85). From the neo-Darwinian perspective, attention works as selective pressure. Arguably, the attended narrative and aesthetic forms are selected and become more prominent and recurrent: "Attention provides the selective mechanism of art. If a work of art fails to earn attention, it dies" (Boyd 2009: 121). The neo-Darwinian approach does not account for the cumulative,⁷ multi-level and asynchronous nature of cultural processes and the ability of symbolic systems to encode latent information that may be activated and transformed by complex systemic factors with a considerable delay (see e.g. Jablonka, Lamb 2014). In the popular neo-Darwinian accounts adopted by literary and cultural studies, an unwarranted shift and extension of perspective occurs: whereas evolutionary psychologists and anthropologists discuss the evolutionary-psychological factors prominent in the origins and development of art at earlier stages of co-evolution of human species and culture, the projection of the neo-Darwinian model onto the field of literary or cultural studies subordinates entire cultural dynamics to a few genetic-evolutionary principles.

Taking into consideration a specific character of cultural dynamics and the complex overlapping of synchronic-diachronic layers in culture as well as its immanent

⁷ "The evolution of culture is quite different from biological evolution, the word 'evolution' may be quite misleading. Biological evolution involves species dying out and natural selection. The researcher finds only living creatures contemporary with him. [...] In the history of art, however, works which come down to us from remote cultural periods continue to play a part in cultural development as living factors. A work of art may 'die' and come alive again [...]. What 'works' is not the most recent temporal section, but the whole packed history of cultural texts" (Lotman 1990: 127).

regularities, the neo-Darwinian projection proves to be oversimplified. Indeed, on the basic perceptual level, attending is a form of response, i.e. (non-intentional) information transmission. Yet cultural dynamics includes a complex interaction of attention attractors and ‘frustrators’ of sociocultural origin, not reducible to biological needs and factors. Certain attention patterns become stabilized (i.e. through learning and cultural competence), others altered or suppressed (e.g. through tabooing). Boyd’s book resonates with linguistic, and discourse-psychological studies by relating specific, attention-capturing patterns in artistic stories to specific formal and thematic features and strategies that violate or modify the reader’s (recipient’s) expectations – “delivering high-intensity social information” (Boyd 2009: 219), plotting obstacles whose overcoming increases the prominence of characters, violating chronology, rhythm and speed of narration through compression, expansion or altering emphases. Indeed, “attention” is a culturally mediated feature of intelligent behaviour. The culturally and aesthetically prominent or attention-capturing is contingent on cultural norms, functions, value judgements, individual intentions, biases and other factors.

Attention appears to be both an important function of living perceptual systems and a cultural tool in James Gibson’s ecological psychology. For Gibson, attention is an operating principle of a perceptual system, or, rather, of its five perceptual modalities (senses that become associated, organized or fused in the process of information pickup), with five respective types of overt attention – the principle that makes a perceptual system “orient, explore, investigate, adjust, optimize, resonate, extract” (Gibson 2015[1979]: 235). Attention “provides the whole input-output loop” between the perceptual system and environment. However, it is also “a skill that can be educated”, susceptible to maturation and learning,⁸ that makes the information increasingly more precise, subtle, and elaborate.

While building on Gibson’s conception, we highlight the self-regulating role of attention, as an informational ‘response’, in maintaining the functioning of perceptual systems – responding to salient features of the environment, scooping information, detecting persistence and change (invariance and flux of information) and shaping information while seeking for a match between environmental ‘fits’ (affordances) and the observer’s needs and intentions – the functions that are ‘stretched’ or modified in cultural processes. Rather than being solely punctual and directed, attention is a flow or a stream (cf. William James’ concept of ‘margins’ of attention or Gibson’s ‘visual world’) and performs the orientational function, i.e. the function of orientation of perceptual systems in the environment. Narratives and artefacts, due to their attention-capturing and monitoring capacity, extend the primary orientational-semiotic activity to culture by facilitating sociocultural dynamics, serving as integrational or exploratory tools. Gibson’s perspective, in contrast to the neo-Darwinian accounts,

⁸ I.e., potentially, a cultural tool – M. G., S. S.

introduces an important cultural-developmental angle into the biological conception of attention: rather than performing solely the function of adaptation of organisms to the environments, attention contributes to the eventual mutual adjustment and development – not only do living systems adapt to the environments, they re-shape their environments in the process of integrating external environmental ‘fits’ and ‘props’ in their cognitive activity and practices and, thereby, building their ‘cultural niche’.

3. Narrative and cultural dynamics

The symbolic narrative representation retains a relationship with the primary pre-symbolic narrativity⁹ as a form of a basic perceptual and cognitive orientation guided by attentional response and information-gathering and affected by salient ‘props’ and ‘fits’ in cultural environments. In culture, narrative structures perform the functions of shaping, (re)organizing, storing and activating information (pre-conceptual knowledge), enabling both its transmission and changeability.

Change, disturbance, transformation, passage from one state of the system to another – otherwise, an attention-capturing *event* – has been considered the definitive feature of narrative by many narrative scholars. Change manifested as a delay, suspense and uncertainty, a gap between the past and the future or cause and effect is the focal component of narrative structure that determines the story’s tellability. The narrative dynamics combines both commonplace and surprise, or, otherwise, intuitive expectations (triggering inferences) – and counter-intuitive assumptions or images with a high attention-demanding potential (Boyer 1994). Narratives are based on a deviation from a predictable course of events and include an element of surprise, yet the effect of surprise is due exactly to the beliefs and expectations that provide the fluent processing of the story, whereas critical attitude and rationality lag behind (see Grishakova 2009). Surprise and deviation from a predictable pattern make both the storyteller and the ‘story-taker’ (recipient) revise their tacit assumptions – what Sanford and Emmott 2012 refer to as *secondary processing* or *double take*, and Kahneman 2011 as *fast* and *slow* thinking.

In this way, attention-capturing narrative devices (see e.g. Sanford, Emmott 2012; Leech, Short 2007, Miall 2006 on various attention controlling strategies), such as linguistic and stylistic complexity, schema interruptions and frustrations, reversed syntactic or temporal order, gaps, intricate or enigmatic elements (e.g. “cruxes”, Abbott 2002: 86) intensify the process of ‘information pickup’ and activate *cognition processes*.

⁹ The distinction between ‘narrativity’ and ‘narrative’ was explored in Section 2. The distinction was introduced by Marie-Laure Ryan (2004). For Ryan, however, narrativity is a cognitive template activated in the observer’s or user’s mind by computer simulations or various life situations. For us, it is the basic form of situational perceptual-cognitive mapping.

In Meir Sternberg's terminology, the narrative dynamics triangulates between curiosity, suspense and surprise (e.g. Sternberg 1990, 1992, 2001). According to Sternberg, suspense arises "from the rival scenarios about the future", a discrepancy between the current information available to the reader and possible happenings. Curiosity arises from the inadequate information and desire to know: "[...] while knowing that we do not know, we go forward with our mind on the gapped antecedents, trying to infer (bridge, compose) them in retrospect" (Sternberg 2001: 117). The effect of surprise occurs when narrative "first unobtrusively gaps or twists its chronology, then unexpectedly discloses to us our misunderstanding and enforces a corrective reading in late recognition" (Sternberg 2001: 117). In Sternberg, the epistemological impulse is subordinated to the dynamics of the double temporality and a discrepancy between the represented and communicative time (arguably, knowledge only becomes possible in retrospective view, as a belated recognition and explanation). For Danto, narrative temporality is, on the contrary, an epistemological category: the dynamics of knowing shapes the time flow. Within the epistemological perspective, any closure is provisional: as Danto puts it, narrative accustoms us to thinking in terms of an open-ended future (Danto 1985). In cognitive terms, narrative dynamics should be defined as interplay between not-knowing and knowing, mediated by the desire-to-know.

To assess the epistemological aspect of narrativity, we introduce *ignorance* as a productive, positive impulse triggering narrative dynamics (on the productive ignorance see e.g. Smithson 1989). From the epistemological perspective, we define curiosity as an epistemological stance, which eggs the reader on projecting herself onto future informational cues and chances for knowledge.¹⁰ Surprise would depend on both the presumption of ignorance and the reader's self-projection: we cannot be surprised by what we know, we can only be surprised by what we ignored. In this connection, the value of ignorance may be encoded in both perceptual and cognitive terms – as attention/inattention or relevance/irrelevance. Instead of indicating a lack of knowledge or distorted knowledge, ignorance may refer to both inattentiveness and irrelevance, as derived from the verb 'ignore' – i.e. fail to attend (cf. the phenomenon of inattentional blindness recently discussed in psychology: inattentional blindness refers to the fact that the observer attends to what she is pre-programmed or asked to see and does not notice a 'critical object' – often a quite salient background object). The function of critical objects in priming is comparable to the role of tacit knowledge in narrative. We cannot be surprised by what we know, but we are led to surprise by what we have known or expected – by a piece of tacit knowledge whose relevance has not been obvious so far. This is where the notion of positive or acknowledged ignorance comes in: it defines the state of undecidability as to relevant or irrelevant information.

¹⁰ We thank Emanuele Bardone for discussing an early draft of this paper with us and introducing us to the concept of chance seeking (see Bardone 2011).

In this way, narratives function as exploratory rather than solely explanatory tools. They are not meant to tame the chaos of reality by channeling it into ready-made causal and temporal forms but, in a forward-looking perspective, to facilitate the recognition of meaningful, information-loaded cues and foster meaningful unfolding of events. Events do not simply exist as givens in the real world but are ‘diagnosed’ by observers. *We attribute value to unanticipated events during their unfolding and explore possibilities for action through our narrative proclivity* (see Ochs, Capps 2001 on narrative proclivity) that facilitates the recognition of affordances, precipitates their connections and experience of events as meaningful yet unfinalized emergences. From this point of view, stories function as *drafts of experience* rather than the Dennettian ‘drafts of consciousness’. In storytelling, a negotiation of meaning occurs via switching or blending of perspectives, distinct types of causation, temporality (with an emphasis of the past, present or future), narrative mediation and modalities. Stories as incomplete drafts of experience introduce only hypothetical or suggestive connections between the events – suggestive timelines, contingencies rather than causalities, tentative evaluations, fuzzy modalities, etc. They display what comes in handy and open up further negotiations for meaning (the openness to sense-making typical of court narratives which emerge as a result of negotiations between many competing narratives; gameplay as narrative with open-ended outcome in videogames; stories arising from interaction with or navigation in the environments, etc.).

The rise of new media and computer-mediated communications on the Web threw the ability of storytelling to shape digital environments and ‘public sphere’ through the ongoing processes of re-mediation, negotiated sense-making, interpretation and misinterpretation in a particularly sharp relief. These processes have been assessed in research on virtual identity (Ensslin, Muse 2011), relationships between fandom, identity and power (Jenkins 1992, 2006; Hills 2002; Gray, Sandvoss, Harrington 2007); digital fiction (Aarseth 1997; Ciccoricco 2007, 2014), and fanfiction (e.g. Hellekson, Busse 2006), storytelling in social networks (Page 2012) and various media (Grishakova, Ryan 2010), narrative activities in digital media wherein the ‘authorship’ becomes contested, and challenged (cf. Gray, Johnson 2013). While maintaining a broad, non-essentialist view on narrativity as an interpretive-orientational tool and process (see above), we do not subscribe to the conception of ‘collective intelligence’ (e.g. Lévy 1997). Instead of taking storytelling as a punctual and compartmentalized collectively created event, we approach it as “an ongoing process pervading different social spaces” (Brockmeier 2013: 263); a composition “fashioning the semblance of meaning and order for experience” (Gubrium, Holstein 1998: 166). In Gubrium and Holstein’s view, different types of narrative environments foster different types of storytelling resulting from the narrative work of activation, linkage, composition, performance, collaboration and control. In new media environments the narrative work becomes an online process that escapes central control and splits into multiple micro-processes.

Herewith, narrative's transformational nature, its core essence of 'becoming-to-be' is evoked, emerging bottom-up from the subjective and communal interpretations and hypothesizing. Storytelling begets transmedial and serialized (Ryan 2013; Kustritz 2014) quality manifested in overarching narrative threads (commentary chains in blogs; threads in forums, or on Twitter) forming particular kinds of 'attention attractors' and informational cues. The online environments explicitly facilitate 'knowledge co-elaboration' (Détienne *et al.* 2012), or, to borrow Siegfried J. Schmidt's argument, therein an instigative, epistemological 'Kommunikat-basis' for the "[constructive] process of perception" becomes formed (Schmidt 1994: 502). In other words, new media environments become a narrative springboard – a proverbial toolbox to deploy and to borrow from, up to and including the build-up of an entirely new 'box'. The core idea here can be summarized as 'stories without borders,' or the process David Boje (2001) describes as 'antenarrating.' As distinct from conventional narrative structure, antenarrative capitalizes on an in-motion 'bet'. Hence, antenarrating appears as a "flow of storytelling [in] lived experiences". It focuses explicitly on the phase prior to narrative 'regulations' (beginnings, middles, endings, coherences); a progressing, ambivalent path whereupon people still "chase [the] story" (Boje 2001: 3–4).

The asynchrony (non-simultaneity) in time and distance in physical space combined with the sense of immediacy and proximity inherent to "overlapping exchanges" (Herring 1999)¹¹ in virtual space facilitate the spread and development of stories across new media environments. These are not merely interactive spaces (such as hypertext fiction, multi-user role playing video games), but the spaces constituted by participatory communications and shaped by narrative practice (Gubrium, Holstein 1998; cf. Ryan 2001). However, online communication may also involve the loss of storytelling control: "[...] when stories are no longer the work of a single teller [...] storytelling is open to misrepresentation and misappropriation" (Page 2012: 164).

As Ananda Mitra (2010) observes, 'digital imprints' such as Facebook status updates or blog comments function as 'narbs' (narrative bits). Narbs advance into larger narrative structures, either as distributed threads and sub-threads or 'reading paths' in forums and blogs or as personalized content (Mitra 2012; Mitra, Mamani 2014). To describe such dynamics further, the term 'beacon' was coined (in Sorokin 2013, 2015¹²) to refer to a structuring principle of online communication, an emergent construct that 'pulls onto' itself all circulating meanings (motifs, attractor-topics)

¹¹ Herring, Susan C. 1999. Interactional Coherence in CMC. *Journal of Computer-mediated Communication* 4(4) was accessed at <http://onlinelibrary.wiley.com/doi/10.1111/j.1083-6101.1999.tb00106.x/full> on 11 October 2016.

¹² Sorokin, Siim 2015. Collaborative sense-making complexities of (for?) *Lost and Breaking Bad*. *Narrative Knowing/Récit et Savoir: Narrative Matters Conference, 2014: Narrative Knowing/Récit et Savoir* can be accessed at https://hal-univ-diderot.archives-ouvertes.fr/NARRATIVE_MATTERS/hal-01086229.

focusing on a particular unresolved problems or contradiction as they arise in online communication, thus creating a co-elaboratively navigatable ‘living’ narrative. The beacon’s function here is to operate as a mobile structuring and contextualizing impulse, throwing its light on interconnected threads of communication.

Recurrent narrative topics and leitmotifs, or ‘narbs’ and ‘beacons’ in online communication – as the emergent supra-discursive constructs on overarching communicative interfaces – may expand to new contexts. While replicated and transmitted (becoming ‘memes’, stereotype templates or scripts), they run the risk of becoming independent of original contexts and ‘parasitic’ (co-evolving or co-extensive) on other contexts. If to go by Richard Dawkins’ argument (2006[1976]: 192), these topics – such as the ‘truther conspiracies’ concerning the 9/11 attack, or ‘Flat Earthers’ – operate as units of cultural transmission (cf., however, Pigden 1995). Consequently, topics that gain the most attraction, that is, those that necessitate further (narrativizing) investment, obtain a particular kind of digital ‘virality’ (see, e.g. Guerini, Strapparava 2014: 444). Cognizant of the danger in turning this term into a ‘fetish object’ (Payne 2013), however, its value affording adjustment for present discussion should not be wholly discarded. Viral topics transmute further in the socially distributed collective memory and sense-making (compare: small-town/village gossip *versus* ‘alternative’ news stories traversing web pages in designing and/or perpetuating peoples’ belief in their ‘truthness’, e.g. manufactured stories on political sites, long since debunked, *versus* the well-known “Game of Telephone”).

A befitting example from Estonia originates from December 2015, when a particular story went viral within the anti-refugee pages/groups on Facebook (e.g. the closed Facebook group *EKRE Sõprade Klubi*). The given story suggested that there were refugees arriving on special red-eye flights to Tallinn Airport from whence they were, thereafter, ‘secretly’ spirited elsewhere. The information supposedly originated from an airport official who did not want to go public out of the fear of losing his/her job. In the interested circles the tale quickly gained momentum and a large number of people further disseminated it via Facebook’s share feature and/or through a ‘retelling’ (copy-pasting the original message/author onto their own Facebook “time line”). Ultimately it picked up the interest of a television news magazine (ETV’s *Pealtnägija*). Consequently, a story from a private, closed ‘narrative environment’ developed a global, transmedial ‘arc’ within the public mainstream media sphere. However, on closer scrutiny, the ‘facts’ were quickly invalidated primarily due to the ‘first-hand witness’ turning out to be someone’s friend’s friend who had read about it on Facebook. Nonetheless, instead of reconsidering their stance, the ‘truthers’ preserved confidence in *their* story whilst the undermining efforts of the ‘propagandist mainstream media’ were rejected out of hand.

Without subscribing to the neo-Darwinian underpinnings of ‘memetics’, we see ‘memes’ as *informational shortcuts* (formulas and frames of stereotype thinking) with high potential for iteration and recycling. The dynamics described above dynamics presents a challenge to the Habermasian ‘rational public sphere’ – the ‘emotional public sphere’ (Richards 2007) as a space of (mis)communication, a ‘leakage space’ perpetuating societal stereotypes, biases and unlimited re-cycling. Debates around global warming and controversial issues such as euthanasia, migration problems etc. may be spontaneously regulated by salient attractors – surfacing viral topics and stories rather than reasoning, argumentation and the regulative negotiation of meanings.

On the positive side, online stories may function as *facilitators and regulators of social and cultural dynamics* and present a challenge to master narratives circulating in society. Temporary communities (e.g. fandoms or grassroots movements) emerge around stories and fall apart because of the rival stories or when these stories become dysfunctional due to the shifting contexts. These social groups range from fandoms (that is, groups of people supporting some fictional narratives by retelling, completing and developing them) to grassroots movements (that is, minority or social change movements, attempting to re-shape master narratives). The groups may aim at a more involved look on social inequality and marginalization – cf. #BlackLivesMatter and #OccupyWallStreet (We are the 99%) movements in the U. S. – or uncovering of some hidden truths and global ‘cover-ups’, cf. e.g. with conspiracy theories, people becoming ‘militants’ for some particular ‘truth’, to adapt Alain Badiou’s notion (Badiou 2007: xiii). In other words, such bottom-up developments facilitate emergence of diverse social groups through narrative practices. By the collaborative, co-elaborative focus on miscellaneous ongoing concerns, the ultimate aim is effecting transformative change on a societal level, of changing or re-structuring dominant master narratives (what-if *versus* reality).

In addition to the global ‘storytelling arc’ (private-to-public), similarly a ‘local arc’ can occur when the antenarrativistic (Boje 2001) tendencies across *operatively* similar environments (i.e. blog commentary chains, forum/Twitter threads) emerging around a narrative artifact (e.g. a TV serial or film) are taken into account. However, where the global arc aspires to modify core (material) power relations (competing ‘truths’ – ‘alternative’ *versus* ‘sanctioned’), the environments inherent to local arc become interlaced through active and creative challenging (and perhaps, overthrowing) of the dominant authority (i.e. narrative text and, by extension, its authors) (cf. Hills 2002). Hence, even in so-called clear-cut cases, users may remain ‘truthers’ due to ‘official’ solutions remaining unconvincing, ‘gappy’.

Put differently, in cases of global and local arcs, the ‘challenge’ is viewed as unanswered (or discredited) by the ‘authorities’. Even so, due to participants building on conformability of thought, the key questions on specific narrative ambiguities and

irregularities (e.g. whodunits, character motivations, narrative logistic errors, etc.) become less about debunking the contributions of co-participants and more about co-elaboration and ‘pooling’ of assumptions. This avails the analyst to observe prolific developments of ‘userly’ narratives. Commenters’ contributions continuously feed into the internal formations of ‘works in progress’ (Hellekson, Busse 2006). Where users become ‘textual poachers’ (Jenkins 1992, cf. Certeau 1984[1988]) or, rather perhaps, active negotiators of the ‘authority’ of the original narrative, the analyst becomes the ‘bridge-builder’ (Mello 2002), someone who is equally a sense-maker, making sense of and circumscribing – by utilizing conceptual-analytical thinking tools such as ‘topic’, or ‘beacon’ – the ‘worlds’ users and their ‘userly narratives’ construct. That is, the analyst ‘tracks’ the Bojesque ‘living stories of becoming’ (throughout multiple interstices) within the archived online data (blogs, forums, etc.). Such ‘agentic’ stories conceivably transcend their own subject/locus dialectics, creating a new kind of tension of meaning which may work towards re-calibrating previous hierarchies of power. Or, perhaps instead, as Nicholas Rescher puts it, “[w]hat is at work in these self-subsistent or subjectless processes are not “agents” but “forces” ... [either] diffusely located ... or lack any real location at all” (Rescher 2001: 5). Perhaps it is the *data* that has become exceedingly more ‘storied’, and narrative *the* tool for the way of knowing and demarcating communal storytelling as such. Hence, across three (or more) separate narrative environments, users end up focusing on similar narrative inconsistencies (either in character, story, or both) through mutual complementation, development and upgrading. Hence incremental, ‘fluid’, and ‘travelling’ stories develop.

Conclusions

Though recent studies on storytelling in knowledge management, digital and conversational storytelling considerably extended the idea of narrativity beyond text-centred and discourse-centred narratology, the established frameworks are not always adequate to describe the emergence and functioning of narrative due to neglecting narrative’s indexical, attention-capturing and knowledge-accretion capacities stemming from basic, prelinguistic perceptual-cognitive mapping patterns as the core of narrativity. Narrative encompasses an observer’s (be it an individual or a group) perspective – an agency at the core of cultural processes. The neo-Darwinian discourses spreading in the humanities are inadequate to account for complexity and diversity of these processes. Due to their attention-capturing and monitoring function, narratives serve as both internal and external cognitive ‘props’ in human activities. They integrate human cultural practices by extending the primary orientational-semiotic activity to culture and thereby facilitating sociocultural dynamics.

In this connection, studies on the role of narratives as orienting (or disorienting) tools in the public space seem to be particularly important. As representations stemming from deep-seated semiotic mechanisms of embodied-cognitive orientation, narrative data may serve as a crucial source of information about the states of societies and individuals, and narrative itself as the source of pre-conceptual, predicative, tacit knowledge and a regulative tool. As an on-stage manifestation of off-stage semiotic processes, narrative reveals a conceptual exigency, a cognitive deficit in public recognition of vulnerabilities and unmanaged disruptions. Whereas the functioning of narrative environments may include a considerable degree of randomness or 'path-dependence', it is also mediated by human agents, performing the roles of 'gatekeepers', moderators, facilitators, etc., whose effort, judgement and rational choice may turn path-dependence (the state of being locked in path-dependence and limited by biases of the past) into path-creation (see Garud *et al.* 2010) via open-ended and reflexive narrative practices.¹³

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Заметки о нарративе, когнитии и культурной эволюции

Опираясь на пост-дарвиновские эволюционные подходы, статья вводит широкое, неэссенциалистское определение нарратива для обоснования гипотезы о его «повсеместности». Нарративность рассматривается и как характеристика поведения, и как формативный принцип символической репрезентации. Нарративная репрезентация сохраняет связь с «первичной» до-символической нарративностью элементарного ориентационно-интерпретативного (семиотического) поведения, направляемого перцептивно заметными объектами и сигналами естественной среды. В статье проводится различие между имплицитной нарративностью поведения и не-нарративных медиа – и нарративом как эксплицитной символической репрезентацией. Расширяя и координируя функции внимания, восприятия и сбора информации, нарратив служит когнитивно-исследующим инструментом культурной динамики. С возникновением новых медиа и коммуникаций особенно отчетливо выявляется способность нарративов формировать процессы смыслообразования и интерпретации в публичной сфере.

Narratiivist, kognitsioonist ja kultuurievolutsioonist

Põhjendamaks hüpoteesi narratiivist kui millestki “kõikjalviibivast”, arendab käesolev artikkel laiapõhjalist ja mitte-essentsialistlikku vaadet narratiivile, mis tõukub postdarwinlikest evolutsioonikäsitlustest. Narratiivsust vaadeldakse nii käitumise tunnusena kui ka sümboolse representatsiooni formatiivse printsiibina. Narratiivne representatsioon säilitab seose “esmasel” eel-sümboolse narratiivsusega (inimeste) põhimises suundmuslik-tõlgenduslikus (semiootilises) käitumises, mida mõjutavad tajumuslikult eenduvad objektid ja “vastavused” loomulikus keskkonnas. Artiklis eristatakse käitumise ja mitte-narratiivse meedia implitsiitset narratiivsust “narratiivist” kui eksplitsiitset sümboolsest representatsioonist. Tähelepanu monitoorivatest ja informatsiooni koguvatest funktsioonidest johtuvalt esineb narratiiv kultuuridünaamika kognitiivse-uuriva instrumendina. Iseäranis silmnähtavaks muutub narratiivi roll avaliku sfääri vormijana tähendusloome ja tõlgendamise protsessides uues meedias.