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INSPIRATIONAL INSIGHTS

'ECOSYSTEMS' AND 'MIND VIRUSES' IN FOLKLORE RESEARCH: DOES FOLKLORISTICS NEED MEMETICS?

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ABSTRACT

The paper deals with applicability of the 'memetic approach' and 'epidemiology of culture' in present day folklore research. These theoretical models could be supplemented by certain ideas and hypotheses borrowed from actor-network theory and the cognitive science of religion. The development of contemporary folkloristic theorising could proceed from a new experimental ethnography that would combine memory and narrative studies, cognitive research and the theory of memes with more common or habitual methods of folklore research and cultural anthropology.

KEYWORDS: folklore theory • memetics • epidemiology of culture • minimal counter-intuitiveness

INTRODUCTION

The lack of grand theories in folkloristics was repeatedly discussed both by insiders and outsiders for several decades. As Dorothy Noyes (2008: 41) put it, folklorists "are better equipped to criticize grand theory than to build it". Yet, even if the very term folklore is nothing but an ideological simulacrum or "a common prescientific category that may need to be replaced with other, causally grounded, scientific categories" (as was said about religion in Boyer and Bergstrom 2008: 112), humble theorising by folklorists could proceed from particular analytical problems that arise from their empirical research. In my opinion, one of the most intriguing analytical challenges for folklorists and anthropologists dealing with various narrative forms is the syntagmatic stability of particular plots transmitted through time and space. Notwithstanding all the possible criticisms of Antti Aarne's tale type system (see Uther 2004), as well as the works of the predecessors and followers of the Finnish scholar, it is obvious that persistent combinations of particular motifs, transmitted both orally and in the written form (as well as by

means of other media more recently), can survive for millennia and spread within large geographical areas. Although the issue was discussed by many folklorists from quite different points of view, it still requires certain theoretical reflection.

Obviously, historical, cultural, and geographical transmission of a particular tale type can be discussed with a focus on several interrelated aspects. On the one hand, oral communication implies, above all, various performative components, i.e. specific verbal and non-verbal modes of interaction between the narrator and the audience, social functions and contexts of communication, the implied meanings of the narrative, etc. Since the 1970s, these issues have been thoroughly analysed by proponents of the performance-centred approach in folklore research. One can also recall in this context the concept of "collective censorship" formulated by Petr Bogatyrev and Roman Jakobson in 1929 (Jakobson 1966: 1–15). Yet, both the study of oral performance and attempts to observe collective censorship ethnographically do not tell us much about long-term transmission of tale types, their diffusion across linguistic and cultural borders, etc. On the other hand, sustained transmission of a particular combinations of motifs must be related to the properties of human memory, i.e., so to speak, individual, or cognitive censorship. To retell a story (albeit with variations) one has to remember it, so we need to deal in this context with social and psychological studies of memory. At the same time, transmission of fairy tales and other narrative forms was not exclusively oral long before modernity, and involved other media such as writing and iconography. In the history of tale types, this suggests that the social and psychological differences between oral, written and 'hybrid' forms of communication, discussed in particular by Walter Ong (2012 [1982]), do not fundamentally change the general mechanics of long-term narrative transmission, although they can certainly be significant in particular cases.

The experiments by Frederic Bartlett (1920) and Walter Anderson (1951), well known to folklorists (more on this and similar research see Dégh 1995: 173–212) focused on linear transmission of narratives and suggested in general that even a relatively short story did not survive repeated "chain transmission", disintegrating rather quickly. Anderson argued that this is proof of his superorganic "law of self-correction". The "hypothesis of multi-conduit transmission" proposed in 1975 by Linda Dégh and Andrew Vázsonyi (Dégh 1995: 173–212) and elaborated by Gary Alan Fine (1979) suggests that narratives circulate in society through specific "information channels" or "conduits" conditioned by "emotional involvement": people who, for a certain reason, find a story important or attractive will try to remember and reproduce it, while others ignore or quickly forget it. From this perspective, the circulation of narratives in any given community is closely related to the existence, formation, or disintegration of "interactive social networks" (ibid.). These observations, however, still do not give us sufficient explanation as to what exactly proves to be the key to the stability of particular tales.

SEMANTICS AND MEMETICS

The influential folkloristic theories of the 20th century do not provide an unambiguous and consistent answer when we look for reasons behind the sustained cultural and historical transmission of tale types and narrative plots. It seems to me that the so-called theory of memes could provide a certain albeit contradictory analytical perspective for

understanding these processes. Let me reiterate that the concept of the meme was proposed in 1976 by the British ethologist and evolutionary theorist Richard Dawkins. In his book *The Selfish Gene*, Dawkins (2006 [1976]) considered it possible to discuss "cultural replicators" similar to the DNA molecule, i.e. units of imitation that survive and spread due to high psychological attractiveness. He argued that examples of memes

> are tunes, ideas, catch-phrases, clothes fashions, ways of making pots or of building arches. Just as genes propagate themselves in the gene pool by leaping from body to body via sperms or eggs, so memes propagate themselves in the meme pool by leaping from brain to brain via a process which, in the broad sense, can be called imitation. (Ibid.: 192)

Dawkins' idea soon gained a notable number of supporters (mainly among psychologists and cognitive researchers) who attempted to analyse and interpret various aspects of social or cultural evolution with the help of meme theory (see Sperber 1996; Blackmore 1999; Aunger 2001; 2002; Distin 2005). The formation of these approaches stimulated a lively discussion and criticism, in particular from the humanities and social sciences (Bloch 2001; Oring 2014a; 2014b). Critics of memetic theory argued that "memeticists were less concerned with applying memetics than showing how memetic theory *might be true*" (Oring 2014b: 455; here and throughout this article the italics are original). Among the main claims against memetics were its metaphorical character, i.e. the invention of a new vocabulary for extant concepts (such as anthropological diffusionism and the historical-geographical school in folklore studies), and its failure to demonstrate that the biological principle of natural selection can be applied to the processes of cultural evolution. The general tone of scepticism towards meme theory is expressed well by Theresa Heyd (2008: 7–8), who argues that "while 'memetics' makes for elegant metaphors, this line of thinking is considered to be of aesthetic rather than scientific value".

Without going into the conceptual detail of this controversy here, I would agree that as a grand theory memetics does not seem to be really efficient. However, it still could have rather important applied meaning for philological and anthropological disciplines, including contemporary folkloristics. First of all, it should be emphasised that memetics radically changes our understanding of the semantics of plot, motif and other forms or units of narrative transmission. If the very existence of a cultural replicator is conditioned by its adaptive potential, the meanings invested in (and extracted from) it by individuals can be extremely (though not absolutely) variable. The human brain in this perspective appears to be only a breeding ground for a self-reproducing unit. Thus, from the point of view of the memetic approach, the viability of certain narratives is not determined by their stable or deep semantics as well as historical roots, but rather by high cognitive adaptability, on the one hand, and high potential for social use, on the other.

More problematic, though, is the application of the Darwinian model of biological evolution and the principles of natural selection to cultural material. As a matter of fact, there is no strict definition of the term meme: it remains unclear how to distinguish between a cultural replicator and its context. All biological organisms are formed according to genetic programming, but are all cultural forms based on memes? Obviously it is not so, and it seems that the evolutionary model remains one of the weakest

aspects of the theory of memes. More significant in this context (or at least, for folklore research) are 'epidemic' and 'ecological' models that discuss the 'viral' spread of particular cultural forms and 'ecosystems' of narratives. Such an approach, however, does not contradict the principle of natural selection in general. Thus, Bill Ellis (2003: 76) suggests that legends can behave "like organisms in an ecosystem, which develop through natural selection to exploit the conditions in which they are passed on".

Obviously, more recent theoretical and empirical research focusing largely on internet memes made memetic theories and approaches even more contradictory and complicated. Although certain researchers agree that "the internet phenomenon known commonly as memes is a type of Dawkinsian meme" (Wiggins 2019: 14), the differences between traditional and digital memes could be observed in a number of analytical contexts. Members of digital participatory culture do recognise semiotic and intertextual nature of internet memes, so the latter can be defined as "remixed, iterated messages that can be rapidly diffused […] for the purpose of satire, parody, critique, or other discursive activity" (ibid.). "Dawkinsian" memes do not necessarily require any explicit intertextual references and obviously provide humans with a wide range of possible meanings proceeding from individual or collective social and cultural competences. In this sense, a contemporary legend spread over online social networks would not be recognised as an internet meme, but its remixed parody (or antilegend) would be. Notwithstanding, Limor Shifman attempted to elaborate the Dawkinsian approach into a model relevant to both digital and non-digital culture. She suggested looking "at diffused units as incorporating several *memetic dimensions* – namely, several aspects that people may imitate" and understanding "memes not as single entities that propagate well, but as *groups of content units* with common characteristics" (Shifman 2014: 39). Proceeding from this point, Shifman isolates

> three dimensions of cultural items that people can potentially imitate: content, form, and stance. The first dimension relates mainly to the *content* of a specific text, referencing to both the ideas and the ideologies conveyed by it. The second dimension relates to *form*: this is the physical incarnation of the message, perceived through our senses. (Ibid.: 39–40)

As with stance, the term is used

> to depict the ways in which addressers position themselves in relation to the text, its linguistic codes, the addressees, and other potential speakers. As with form and content, stance is potentially memetic; when re-creating a text, users can decide to imitate a certain position that they find appealing or use an utterly different discursive orientation. (Ibid.: 40)

Apparently, this approach presents memes as items that are consciously controlled by individuals or social groups rather than a kind of intuitively grasped and reproduced 'mind viruses'. Furthermore, she suggests differentiating between "internet memes" and "virals" focusing once again on the intertextual characteristics of memes – "whereas the viral comprises *a single cultural unit* (such as a video, photo, or joke) that propagates in many copies, an Internet meme *is always a collection of texts*" (ibid.: 56) – recognising at the same time that "we should think of the viral and the memetic as two ends of a dynamic spectrum rather than as a binary dichotomy" (ibid.: 58). It is not clear for me,

however, whether these theoretical models would make enough sense outside digital culture with its particular medial and technical affordances. Obviously, theoretical advancement of the 'epidemic' and 'ecological' approaches to circulation of various cultural items requires comparative analysis of both online and offline communication and narration, so folklorists seem to possess a certain advantage here.

To see how applicable these theoretical models are, let us turn to an empirical example.

LETTERS AND BACTERIA

In 1994, Oliver Goodenough and Dawkins published a short article about the "St Jude letter", a late 20th century type of lucky chain letter. Discussing chain letters as a particular example of mind viruses they noted: "By inducing guilt, fear, greed and piety, it causes susceptible hosts to multiply it 20-fold and transmit the 20 new copies to new potential hosts through the postal vector" (Goodenough and Dawkins 1994: 23). Dawkins and Goodenough also suggested that some "potential hosts" would be "immune" to such viruses, which is proved by the limited circulation of particular forms of chain letter (Goodenough and Dawkins 1994; see also Goodenough 1995).

Without dwelling on the cultural history and folkloristic studies of chain letters now, I would emphasise that this particular genre or textual form is well suited indeed for the application of memetic or sociobiological approaches to the study of culture (cf. Bennet et al. 2003). Chain letters (as with older forms of apotropaic text such as heavenly letters) do resemble computer viruses, if not biological ones: they easily embed themselves in any social, cultural and linguistic environment, adapt to it and encourage or force human beings to reproduce them. Does this example, however, equate to memes to genes? Or are we still dealing with elegant metaphors?

From this perspective, I would like to point out similar cultural phenomena that allow us to discuss a kind of symbiosis between textual memes and biological organisms. I am referring to the practices of disseminating symbiotic bacteria and yeast cultures common in various societies and known in Russia as a "happiness cake" ("Herman cake", "Vatican cake", "St Matrona of Moscow cake", etc.) and "happiness fungus" ("tea fungus", "kombucha")[1] (Borisov 2000; Bessonov 2011). Both substances must "live in the house" and be carefully watched and cooked/fed, and both "bring happiness" (Borisov 2000) to the inhabitants. Along with the populations of bacteria and yeast, the instructions (oral or written) on how to handle them are disseminated. The principle of transmission is based on the same viral model: one must distribute the leaven, from which a ritual pastry or a beverage that brings luck or happiness is prepared, to a certain number of "friends" or "good people". Thus, we face a specific version of a chain letter (although a threat is not necessarily implied for those who break the chain) that ensures dissemination and multiplication of bacterial and fungal populations. It is important to note that these populations are often represented in animistic or even anthropomorphic terms, i.e. as pets or family members possessing agency, subjectivity and human characteristics. A Herman cake lives in the house and can be "nurtured" (Bessonov 2011: 6), while Egyptian herb (i.e. kombucha) must be called "by a name (except the name of the mother)", one has to "talk to her, telling her about life events, both lucky and unlucky", and one has "to take her delivered babies every Sunday" (Borisov 2000).

In terms of expected emotions, the effect of chain letters and happiness cakes or beverages does not seem as unambiguous as it seemed to Dawkins and Goodenough: the replication of such social viruses appears to involve a more or less balanced combination of expectation of danger and safety, fear and hope for happiness. At the same time, researchers suggested that the principal social effect of distributing chain letters could be the formation or "reassembling" of social networks (Smith 2005: 331). Dégh (2001: 191–192), who studied chain letters as a "type of luck legend", remarked that their circulation is at least in part limited to "networks of senders and receivers" who "constitute the context of the legend". Symptomatically, the typical 20th-century form of chain letter transmission was preceded by the practice of "snowball fundraising" ("charity chain letters") and accompanied by postal "pyramid schemes" ("money chain letters") (VanArsdale 2002 [1998]). In this perspective, the communities or networks of luck or happiness created by chain letters are comparable, for example, to the networks of multi-level marketing (MLM), where the viral distribution of branded goods (for example Amway) also creates specific 'communities of success'.

Let us return, however, to the contradictions and methodological perspectives of the theory of memes. It seems to me that the model of dissemination and symbiosis of texts/stories and biological cultures discussed above in a way allows us to argue against criticism of the memetic approach, although in a slightly different theoretical context. I mean the actor-network theory and, more broadly, the ontological turn in social theory of recent decades. Let me reiterate that the principles of interobjectivity formulated by Bruno Latour and his followers endow not only humans, but also nonhumans (living beings, artefacts, etc.) with the full status of actors engaged in relational chains, networks, and assemblages of social action (Latour 1992; 2005: 63–86; Sayes 2014). In our case, the principal actors are written or printed texts, bacteria and yeast, as well as the human beings who distribute them; all together they form a kind of ecosystem of happiness operating with notions of danger, safety, happiness and luck. For folklorists and anthropologists, however, the desire of the social theorists to attribute an equal degree of agency to all objects involved in social action and to speculate in this context on more or less homogeneous framed interactions seems rather mechanistic and not really grounded ethnographically. In fact, any individual or community recognises only certain (material or even non-material) objects as potential partners in communication and social action (Harvey 2006: xi–xvii). Obviously, the conceptual boundary between agent and non-agent in general could be quite blurred and not entirely graspable for a human mind, but we can probably still identify certain criteria here proceeding from the concepts of intuitive ontology and cultural scenarios, and I will refer to these later.

The leaven in question is obviously characterised by a high degree of agency, as it is often anthropomorphised. The case of the chain letter is more complicated: it is a message that includes performative utterances and is mediated by particular material forms. In the context of 'traditional' postal dissemination it is an artefact – a piece of paper (and an envelope) with signs and words written or printed on it. It should therefore be viewed as a mediator or symbol of relations within a network rather than as an independent agent. At the same time, some texts of chain letters also seem to provide a kind of 'fetishistic' notion of agency: the letter has its own life and can be killed by breaking the chain, it travels around or circumnavigates the world a certain number of times. Obviously, interactions within the ecosystems of happiness are rather character-

ised by a high degree of expected agency, which generally seems to be characteristic of ritual contexts. In his cognitive analysis of ritual agency, Jesper Sørensen (2007: 282) argues that

> ritual behaviour, in itself, makes representations of superhuman agents highly relevant as these solve two problems potentially arising in people's comprehension of ritual performance: (1) who specifies the actions performed, i.e. why *those* actions; and (2) how are the actions related to their purported result, i.e. why is *efficacy* ascribed to the actions?

Perhaps the same approach can be relevant for the analysis of chains and networks of luck and happiness discussed above.

It is clear, however, that textual memes turn out to be agents in the eyes of Dawkins and his followers, rather than for those who remember and reproduce particular narratives. As for actor-network theory, it is also debatable whether nonmaterial entities can be considered agents of social action. Where does an oral narrative begin and end? How and why do we separate one message from another? In terms of the memetic approach, there should be particular cultural replicators intuitively recognised by our brains as worthy of attention, remembering, and reproducing. But how, after all, does this recognition work? To try to answer this question, let us return to transmission of tale types.

CONTEMPORARY LEGENDS:
EMOTIONS, MCI, AND CULTURAL SCENARIOS

Contemporary legend[2] is a genre or a narrative type that circulates in oral, printed (books, newspapers, electronic media and networks), and visual (cinema and other video productions) forms and is closely linked to various forms of conspiracy imagination, collective phobia and moral panic. The general folkloristic understanding of legends and their reported information proceeds from an emphasis on what can be labelled "doubtful veracity". Dégh (2001: 97) argued that "short or long, complete or rudimentary, local or global, supernatural, horrible, mysterious, or grotesque, about one's own or someone else's experience, the sounding of contrary opinions is what makes a legend a legend." Similarly, Elliott Oring (2008: 129) noted: "Legends […] make what are perceived to be extraordinary claims. Because legendary narratives tend, regardless of their subject matter, to make such claims, they require the deployment of a rhetoric to allay doubts and foil challenges." In other words, the legend deals with what can theoretically be questioned, what has to be proven or justified from time to time. Gillian Bennett remarked (2005: XII) that

> the information (or misinformation) contained in the legend is challenging in some way; it creates what psychologists call 'cognitive dissonance' […] It creates this dissonance by juxtaposing the world as we know it with something very different or by melding two cultural categories we think of as quite separate. The first sort of clash gives us tales of ghosts, devils, saints, and monsters. The second – by juxtaposing, for example, safety and danger, love and death, children and cruelty – gives us stories of hatchet men, castrated children, parents who kill their children,

women who kill their lovers. Broadly speaking, the first clash tends to result in 'traditional' legends, and the second type of clash tends to give 'contemporary legends'.

The symbolism, themes, and topoi of contemporary legends are entangled by the cultural and political life of contemporary society. On the one hand, they have a significant impact on popular culture. On the other hand, they are clearly conditioned by "collective anxieties" expressed, transmitted or formed by rumours as well as mass panics and political campaigns. A significant part of the narrative corpus of contemporary legends is linked to the notion of hidden, dangerous and pernicious activities of ethnic and social groups, state, secret societies, and individuals. The corpus includes stories of Satanists and religious sectarians practicing ritual murder and sexual abuse, acts of terrorism, drug distribution, medical experiments on people, contamination with deadly diseases, abduction of children to turn them into sex slaves, cannibalism and theft of body parts for transplantation, items and products sold by corporations or retailers, and fast food restaurants that are extremely dangerous to health, etc.

The emotional roots of contemporary legends circulating in different parts of the modern world are often explained by researchers in the context of the psychology of anxiety and deprivation, feelings of fear and powerlessness generated by different social and cultural factors. Some interpretations place the plots of contemporary legends in the context of the sociological concepts of risk society, moral panic, and weapons of the weak. However, what seems to be important for understanding the social setting and efficacy of contemporary legends is that they offer a broad space for public debate on the boundaries of reality, about what can and cannot be. This probably explains why these legends are not only transmitted in narrative forms, but are also often performed according to various modes of "ostensive action" (Dégh 1995: 236–262; Ellis 1989).

Although, unlike chain letters, urban legends are hardly perceived as independent agents by their storytellers and listeners, their plots can also be described as viruses of consciousness. As such, the proliferation of urban legends and other narrative genres has become the subject of experimental analysis in contemporary social and cognitive psychology. The works dealing with this topic are mainly oriented towards two explanatory models, which can be called the emotional and the counter-intuitive.

The hypothesis of emotional selection was formulated by the American psychologists Chip Heath, Chris Bell, and Emily Sternberg in their publication focused on the circulation of contemporary legends. Experiments conducted by these researchers show that when choosing certain stories, or versions of them, to pass on people are guided by increased emotional effect rather than reliability or the practical value of the information: "legends that contained more disgust motifs were more likely to be passed along and were distributed more on Web sites that specialize in contemporary legends" (Heath et al. 2001: 1039). These observations suggest that "if memes are selected for their emotional content, then social systems may sometimes experience *emotional snowballing* – runaway selection for emotional content rather than for information" (ibid.: 1040; see also Eriksson and Coultas 2014). Similar experimental research was reported by Joseph Stubbersfield and his colleagues at Durham University. The results suggest that "material which evokes greater levels of emotion" (including but not limited to disgust)

will be more successful in cultural transmission due to an advantage in cumulative recall. It is expected that, for an urban legend to be successful over other urban legends in the social environment it must evoke a greater degree of emotion. (Stubbersfield et al. 2017: 23)

Scholars proceeding from the constructivist approach to the anthropology of emotion (see Averill 1980) might be sceptical about these research findings. Thus, Anna Kirzyuk (2018: 37) criticises the study by Heath and his colleagues in the following manner:

It implicitly proceeds from the existence of some common 'human nature' which would force people to disseminate stories that evoke the strongest emotions. Meanwhile, representations of the abominable, that is, the set of phenomena and situations that evoke corresponding emotions, can vary considerably from one culture to another. [...] The concept of 'emotional selection' does not answer the question of why a particular story circulates in a given cultural context.

Such a position, however, is also vulnerable. Recognising the role of language and cultural norms in the construction of human emotions does not contradict the neurophysiologic nature of the latter. Social adaptation or cultivation of emotion can hardly be understood and analysed without taking into account the bodily experience, in one way or another related to the biological nature common to all humans (Leavitt 1996). As for particular cultural contexts of "emotional selection", they could be obviously investigated from the perspective of "multi-conduit transmission", discussed by Dégh and Vázsonyi (Dégh 1995: 173–212). In such a context, emotional involvement is not reducible to either purely social or purely biological factors, since cultural transmission of emotional content is always related to social control and cultivation of particular emotional states by means of communicative networks. This brings us back to the idea of "expected emotions" that provide the basis for formation of specific information channels or "emotional communities" (see Rosenwein 2010). The circulation of contemporary legends in electronic media, in a way similar to the circulation of chain letters, employs in particular the rhetoric of anxiety or alarm, since such narratives are usually accompanied by specific formulas calling for attention, vigilance and caution as well as maximum copying and dissemination ("Attention!", "Warning!", "Maximum repost!", etc.).

The second approach in the study of the transmission of legends (and in fact certain other narrative forms and concepts) proceeds from the theory of minimal counter-intuitiveness (MCI) developed by cognitive scientists of religion in recent decades (Boyer 2001; Barrett 2004; 2008; Norenzayan et al. 2006; Porubanova-Norquist et al. 2013; Porubanova and Shaver 2017). According to the theory, most of the ideas and concepts we identify as religious involve "minimal" or "mild"

violations of our intuitive ontological expectations in the domains of folk physics, folk psychology, or folk biology. Such concepts were suggested to be more attention-grabbing and memorable, and possess greater inferential potential than other ideas. This constitutes a 'cognitive optimum', and these concepts are thus more likely to be transmitted. (Porubanova-Norquist et al. 2013: 182)

The MCI effect allows the transmission of socially relevant information or, in terms of meme theory, provides the evolutionary adaptability of particular concepts. "Religious

concepts and norms and the emotions attached to them", argues Pascal Boyer (2001: 329), "seem *designed* to excite the human mind, linger in memory, trigger multiple inferences in the *precise* way that will get people to hold them true and communicate them."

Among other things, the MCI hypothesis could help folklorists and anthropologists dealing with the applicability of the categories of the supernatural or the miraculous in their empirical research. The category of the supernatural can hardly be regarded as emic for premodern and non-Western cultures that did not share the idea of natural order. The footstep of St Paraskeva Friday imprinted in a sacred stone, the forest spirit, or the demon possessing a human body, were obviously just as 'natural' to a 19th century Russian peasant as the people living next door in his or her village. On the other hand, the same peasant was well aware that humans are different from demons and saints: the latter had specific MCI characteristics since they could become invisible, instantly move from one point to another, leave a footprint in a stone, possess another person's body, etc. Narratives about miracle-working images in the vernacular rural culture of northern Russia, for example, demonstrate a number of stable MCI elements: icons (i.e. artificial images of human beings) that miraculously appear in the forest or in springs or wells are ascribed with animal features since they can fly and reside in trees like birds or swim in water like fishes. Accordingly, local people try to catch them and bring to their villages. However, the icons miraculously, counter-intuitively, return to the initial places of their appearance to mark particular sites as sacred and specified for ritual activity (Panchenko 2021: 1249–1250).

However, in terms of folkloristics, MCI concepts discussed by Boyer and others could be regarded as motifs or motifemes, i.e. elementary parts of narratives or tale types or plots that assemble particular sequences of MCI and non-MCI elements as complex structures. Experiments arranged by Ara Norenzayan and his colleagues demonstrated that folktales based on certain combinations of intuitive and MCI elements did appear to be more memorable, i.e. "culturally successful" (Norenzayan et al. 2006: 545–546, 549). What, though, about contemporary legends? Firstly, many of them do not include images and motifs that we might call supernatural. Indeed, formation of the narrative corpus of contemporary legends has precisely involved, so to speak, a gradual loss of 'supernatural' elements. Secondly, the research by Stubbersfield and his group on contemporary narratives about Bloody Mary "suggests that the counterintuitive characters were as stable in transmission as the intuitive characters and, therefore, may not be inherently more memorable as individual concepts" (Stubbersfield and Tehrani 2013: 98). So would it be possible to apply the MCI hypothesis in the study of contemporary legends? Perhaps we need to discuss here not only intuitive ontology, but, so to say, intuitive sociology as well, i.e. human stereotypical expectations and predictions regarding society, places, technologies, artefacts, etc.?

In his recent paper on cognitive factors regulating divinatory practices, Sørensen (2021) suggests that it is possible to distinguish between three types of model involved in understanding signs as indexes. The first type "is based on *intuitive causal reasoning*" and related to the same "intuitive ontology" discussed in the MCI theorising: "from an early age, humans entertain a large number of causal and probabilistic models that guide expectations for events in the world" (ibid.: 129). The second one "is based on *associative learning* relating contiguous features of the environment to each other. This

has been referred to as 'weak' or 'arbitrary' causal knowledge, in contrast to the 'strong' or 'natural' causal knowledge described above" (ibid.). Finally, the third type

> can be described as based on *cultural learning*. Cultural transmission makes it possible not only to transmit models originally established through conditioned learning to an individual not encountering these stimuli, but also to create systems of 'artificial indexes', i.e., indexes based on neither intuitive causal knowledge nor associative learning. (Ibid.: 130)

Although the three "types of mental models all contain indexical signs linking events to 'causal' scenarios that in turn can be used to inform behavior" (ibid.), the last one deals with more complicated systems that could be called cultural or social scenarios. On the other hand, all the models operate as intuitive and, from this point of view, can produce MCI effects. In the case of contemporary legends, we can obviously assume that they involve minimal violation of the associative causal knowledge or intuitive cultural scenarios rather than intuitive physics or biology. The "cognitive dissonance" discussed by Bennett (2005) proceeds from particular violation of the social expectation that informs everyday human behaviour, so the MCI model can be easily applied here: a terrorist, despite his dangerous plans, turns out to a grateful person and saves a human life; a pill that is expected to reduce pain, turns out to be deadly; and the person who went to a shopping mall or theme park, i.e. the site of consumption and entertainment, appears to be the object of consumption him- or herself, as he or she has a kidney stolen for transplantation. In fact, the model is simplified here, since cultural or social scenarios and respective narratives could proceed from more complicated structures and sequences of expectation, but the general principle seem to be relevant for understanding why particular types of legend are memorised and transmitted.

In my opinion, the emotional and MCI models generally do not contradict each other and can be employed and tested together. However, if we turn back to the memetic approach and actor-network theory, we could ask how ecosystems of contemporary legends, their transmitters, and other agents of social action work. In other words, how could we define and analyse the social involvement of contemporary legends? Both proponents of the meme theory and MCI studies have no consensus on the degree of social, so to say, utility of stable units of cultural replication. Many (Boyer among them) have focused more on their parasitic nature: 'viruses of consciousness' spread and survive not because they are needed for something, but because they best fit the human brain. However, if we do talk about ecosystems of social interaction, it may well be assumed that not only do populations of such viruses parasitise human beings, but that humans also use the parasites in some way. In the case of chain letters, as we see, there could be a more or less clear explanation: such memes obviously contribute to the creation, reformatting, and perhaps even the destruction of social networks. Legends, as mentioned, can also probably contribute to the formation of new networks or emotional communities. However, it is also possible to assume that in various social contexts and situations, the functions of the same story can be quite different.

I do not intend to argue that all cultural forms once known as folklore genres could or should be studied as memes or mind viruses. What I tried to explain here is how various cognitive, emotional, and social models can be employed to understand the syntagmatic stability and historical transmission of particular plots or tale types. Despite all possible cultural diversity there might be social scenarios and types of network that remain relevant for many different cultures and human beings. A legend, however, whether 'contemporary' or 'traditional', is a relatively simple narrative that consists of just a few motifs or motifemes. It can be easily understood, remembered and reproduced by almost any adult person. Notwithstanding, it is not obvious whether the approaches discussed could be applied to more complex narrative structures including fairy tales. In recent fairy tale research, the memetic approach has been employed by Jack Zipes (2006; 2008), who suggests that replication of particular tale types must be somehow related to everyday behavioural strategies elaborated by different cultures, while at the same time being genetically determined:

> A folk or fairy tale that becomes a meme is a communication that indicates something significant about our genetically and culturally determined behavior and our adaptive interactions with our environment within a historical process. […] But not every folk or fairy tale is a meme or can become a meme. […] I argue that only when a tale makes itself relevant or is made relevant through human agency, and also fulfills certain basic needs, will it become a meme within a pool of memes or a memeplex. Once it retains a place within a module of our brain, it provides information vital for adapting to the environment. In the case of 'The Frog Prince,' it provides information vital to the process of sexual selection, reproduction, and the evolution of culture. (Zipes 2008: 110–111)

Indeed, one of the central themes of fairy tales is search, choice, avoidance and possible loss of a sexual or marital partner, so the key to the adaptability of such stories should probably be sought in their conformity with intuitive expectations (and their violations) in this domain of human behaviour and sociality. The problem, however, is that we possess insufficient ethnographic data on the oral transmission of fairy tales, since our ideas about these narratives and their contexts are largely determined by their written, often printed, representations, i.e. by a kind of "forced narrativisation" (see Douglas 1995). Yet perhaps it is still possible for folklorists to follow the transmission, mutation, and social and psychological relevance of fairy tale types in the context of the contemporary media forms – books, films, etc. – to which Zipes draws special attention.

If it could be rather problematic to look at fairy tales through the prism of memetic and MCI approaches, the latter seems to be quite applicable in the study of jokes. Oring (2016: 57–80), in particular, compares his own concept of appropriate incongruity with Benign Violation Theory (BVT) proposed by A. Peter McGraw and Caleb Warren as at the same time similar and competing general theories of humour. The former states that humorous effect is related to "the perception of an appropriate interrelationship of elements from domains that are generally regarded as incongruous" (ibid.: 16). The latter

claims that humor depends upon a sense of violation of a moral principle that, at the same time, is regarded as benign, nonthreatening, and consequently acceptable. The violation of a principle can be viewed as benign if there is another principle operating that suggests it is acceptable, there is only weak commitment to the violated principle, or the violation is psychologically distant. […] BVT is an emotional theory of humor. Incongruity theories generally, and appropriate incongruity specifically, are not emotional theories. Humor results from a *cognitive* dissonance. (Ibid.: 57, 60)

Although Oring criticises BVT as requiring additional demonstration of emotional effect, and depending on subjective moral order it is obvious that these competing models are similar to emotional and cognitive models in the study of legend. Here, as with MCI theory, we observe mild or minimal violations of the intuitive moral and cultural expectation that provide the adaptive potential and memorability of a particular joke. Once again, emotional and cognitive theories of humour do not seem to me to contradict each other. In everyday communication, intuitive expectations of individuals performing and memorising a joke might involve both cognitive, moral, and ontological aspects. At any rate, the principle of minimal or mild or benign violation of social, cultural or moral scenarios appears to be of particular importance for the viral circulation of particular plots or motifs.

The applicability of viral and ecological models in the study of structure and transmission of particular narrative types deserves further discussion. Perhaps the most vulnerable aspect of the experiments in social psychology and cognitive science of religion discussed above is that their design is not in fact grounded in thorough ethnographic research. This could provide experimenters with vernacular concepts, narratives, and practices specifically valued, devalued or ignored by a particular group or community. This, in turn, would give us a better understanding of how local ontologies form and are formed by ecosystems that involve humans, non-human actors and narratives. What seems thus important for the development of contemporary folkloristic theorising is new experimental ethnography, which could combine memory and narrative studies, cognitive research and the memetic approach with more common or habitual methods of folklore research and cultural anthropology.

NOTES

1 On kombucha, a beverage that probably originated in the Far East, see Yarbrough 2017.

2 Without going into generic debates, I do not attempt to give a precise definition of legend here and use it as an umbrella term focusing largely on the specific rhetorical apparatus and clashes of motifs characteristic of various legend types.

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