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Naomi Rokotnitz, "Fairy Tales, Folk Psychology, and Learning Intersubjective Competency": 20-39

Fairy Tales, Folk-Psychology, and Learning Intersubjective Competency Through Embodied Resonance: A Contribution to Debates on Cultural Evolution, the Extended Mind, and Morality

Naomi Rokotnitz

Recent work in cognitive psychology suggests that most mental processes and even decision-making take place in a fraction of a second and are determined before they reach conscious awareness (Gladwell; Vandekerckhove and Panksepp, "The Flow"). Logic and analysis may "merely be ways of checking the appropriateness of the choices made by the cognitive unconscious or a means of consolidating what we have learned in long-term memory" (Lutterbie 98). Moreover, as Hugo Mercier and Dan Sperber argue in *The Enigma of Reason*, reason is suspiciously underequipped to ascertain truths and seems more likely to have evolved in order to communicate and persuade. This (highly likely) possibility raises questions with regard to moral agency and how moral preferences are formed and maintained. Cognitive philosophers Mark Johnson and Owen Flanagan, and the scientists, philosophers and theorists who contributed to the collection Flanagan recently co-edited with Gregg Caruso on "neuroexistentialism" have begun to address these questions. Moral agency may be further illuminated, I propose, by cognitive literary criticism. As Johnson has asserted, works of art provide "heightened, intensified and highly integrated experiences of meaning, using all our ordinary resources of meaning-making" and, thus, "we can find no better examples of how meaning happens than by attending to the arts" (*The Meaning* xii-xiii). This article examines fairy tales as examples of moralizing fictions that have become cultural icons to which children are often introduced at a very young age. Given the understanding we now have regarding the preconscious dimensions of cognition, I ask: what can such tales teach us about moral agency today?

Fairy Tales

Folk tales are presumed to have evolved as oral forms of tribal entertainment, education, and moralizing, serving to comment upon and to shape most communities across the globe. The European tradition of fairy tales flourished particularly in the medieval period, when circulating oral tales that already interlaced aspects of myths, legends, fables, and proverbs, were further infused with Christian themes and symbols. Since that time, the tales have been told and retold, collected, embellished, revised, and reconfigured to form "kaleidoscopic variations with distinctly different effects" (Tatar ix). They thus reflect a cumulative collective folk-wisdom, independent of individual authorship. Nonetheless, folklorist Jack Zipes reminds us that, as a literary form, the fairytale only began to emerge in the fourteenth century, and did not settle into a recognizable genre until the seventeenth century:

> Certainly fairytale motifs can be found in ancient Indian, Chinese and Arabic scripts, the Bible, Greek and Roman literature, and there are numerous fairy-tale features and themes in medieval literature. . . . However, there was no distinct and distinguishable genre in literature called the fairy tale until the seventeenth century, first in Italy and more

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> importantly in France, because there was no textual community to cultivate and institutionalize it and because the vernacular language had not yet fully developed into literary languages. (Zipes, *Why Fairy Tales* 20-21)

In the transition from oral to printed material, folk stories about initiation rites, maturation, integration of different aspects of the psyche and other psychological elements of personal, sociocultural and religious importance were revised by male writers in Europe, through their authorial choices. Zipes traces how, for example, Charles Perrault "transformed an oral folk tale about social initiation of a young woman into a narrative about rape in which the heroine is obliged to bear the responsibility for sexual violation," influencing "cultural hegemony" for many years to come (Zipes, *Why Fairy Tales* 28).

Excellent scholarship has already been devoted to identifying and critiquing the co-option of certain tales by various interested parties, whether religious authors promoting their faith, nationalists seeking to define the character of their nation-states, those concerned with the tales' (in)appropriateness for children, and those revising them for political gains (Teverson). The tales have been interpreted by some as promulgating misogyny (Dworking), by others as destabilizing (latterly imposed) gender stereotypes (Lurie; Minard) and encouraging radical subversion (Zipes, *The Art*). They have been hailed by psychoanalysts interested in their intrapsychic and developmental merits (Jung; Bettelhiem; Pincola Estes), deconstructed by feminists (Gilbert and Gubar; Swann Jones) and adapted by postmodern revisionists for either graphic novels, television or cinema (Frus and Williams; Kukkonen).

The tales have also already received some specifically cognitive-literary attention. For instance, in his book *The Great Fairy Tale Tradition* and later in *Why Fairy Tales Stick*, Jack Zipes offers some incisive suggestions for how the genre "formed over thousands of years to stick in our brains in very peculiar ways" (*Why Fairy Tales* xii) and extends his analysis to cover postmodern pastiche, parodies and imaginative extensions of key fairy tales in multiple stories, novels and films. However, he does not attend to the physical dimensions of fictional engagement. The analysis I offer here suggests that the staying power of these ever-evolving tales arises in no small measure from the way the tales convey abstract ideas through concrete images that appeal directly to readers'/listeners' bodies. In addition to their thematic effects, the tales also teach important social and moral lessons by accessing readers'/listeners' sensorimotor mechanisms. The tales thus regularly mobilize what neuropsychologists Marie Vandekerckhove and Jaak Panksepp call our "affective consciousness" ("A Neurocognitive Theory" 2017): a form of pre-reflective reception that arises from bodily experience. Moreover, the tales often also combine this bodily dimension of communication with the overt metanarrative thematization of storytelling itself, thus edging involuntary responses closer to consciousness, and elucidating processes by which the characters in the tales are made aware and are spurred to respond to their predicament not only in thought but in action. These two aspects of fairy tales, which form the locus of my argument here, continue to operate consistently throughout their many evolutions and across the various communities that have recycled and revised them. The tales thereby demonstrate how primal bodily mechanisms, that precede and often preclude conscious intervention, are integral to human understanding; how these bodily mechanisms underlie conscious formulations of experience and the life-stories to which they contribute; and how literature both relies upon and further develops this interchange.

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Intersubjective Competence

It is today largely accepted by scientists, psychologists, and philosophers of mind that the body and the brain are inextricably linked: mind is the product of both. Indeed, "all human processes of perception and response are necessarily a matter of coalition between neural activity and an intricate network of peripheral nervous system pathways that stretch all over our bodies" (Damasio and Meyer 168). The "4Es" view posits the mind to be embodied, embedded, enactive and extended (Johnson; Wheeler; Gallagher and Zahavi; Menary; Colombetti; Rowlands). Holistic views of cognition stretch back, of course, beyond Aristotle, and folktales themselves reveal that the tellers of folktales were, centuries ago, keenly aware of the centrality of bodily sensations to human understanding. This awareness has been interwoven into their very structures. Sociopolitical, geographic and religious specificities produce different conceptual frameworks in different tales. But in this they all cohere: they excite the senses, and call for close attention to bodily phenomena as a means of exploring emotions, mental states and moral preferences.

In this, fairly tales also accord with recent research that demonstrates how certain forms of reception and perception are innate, involuntary, and physical: they can occur without ever surfacing to consciousness (Damasio). Nonetheless, interpretation of such "embodied" activity requires conscious attention (Heidegger termed this "attuned understanding" 240). This is because denial, repression and confabulation are often more salient than the physical evidence of emotion. In other words, "attunement" to one's own body, and to the bodies of others, is a skill that has to be learned. The theoretical challenge is, then, to describe how this learned attunement interlaces with preconscious motor resonances. Before I proceed to do so, it is important to recognize – and this is crucial to the argument that follows – that attunement of this kind requires narrativization to become fully meaningful and integrated into a person's worldview. To make sense of events, we have to be able to tell ourselves a story which includes causal connections, and this use of narrativization is not automatically available to us – it requires centuries of cultural knowhow. How then may we come by this knowhow? One excellent place to start is by engaging with fairy tales, because fairy tales combine two registers of communication: they stimulate the physical resonance made possible by our embodied cognitive infrastructure, further discussed below, and they combine this with socially and culturally mediated knowhow.

I propose to begin by looking at developmental studies, which show three stages in the acquisition of inter-personal understanding: (1) primary intersubjective competence (Trevarthen) – a capacity in place by 18 months, by which we perceive the intentions and feelings of others in their movements, gestures, and actions; (2) secondary intersubjectivity, which is socially and pragmatically contextualized and develops by the age 3 or 4 (Gallagher 14); and (3) "Narrative competency," which builds upon and extends both primary and secondary intersubjectivity, gradually allowing us to recognize other people's circumstances, and to "construct an appropriately nuanced narrative understanding" (Gallagher 21). This "narrative competency," as storytellers and literary critics know well, is then enhanced and refined throughout our lives via engagement with fictions just as much as via real-life experiences. It gradually contributes to the inferential, interpretive competence some call "folk psychology," by which we make sense of other people's actions, feeling and mental states. As a child's brain develops, it is fed, as philosopher Daniel Hutto asserts, by the sociocultural context that bolsters the brain's capacity into a locally successful competence. Hutto claims that:

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> . . . [We] come by the requisite framework for such understanding and master its practical application by being exposed to and engaging in . . . direct encounters with stories about persons who act for reasons. . . . [thus becoming] familiar with both (1) the basic structure of folk psychology and (2) the norm-governed possibilities for wielding it in practice, thus learning both how and when to use it. (Hutto xi)

Fairytales are prime examples of "stories about persons who act for reasons." Because these tales trace and work through psychological, social, and spiritual dimensions of human existence they provide concrete examples growing children need in order to understand the actions of adults within their community. They also help us to reconstruct the way fiction functioned as a social resource before the discipline of psychology was developed, not least because these folk-psychological-narratives assume that learning, and certainly learning from stories, is a social practice.

How are we initiated into this practice? The hermeneutic role of readers/listeners has been described by Mikhail Bakhtin as a dialogue with the text, by Wolfgang Iser as an interaction, and by Louis Rosenblatt as a transaction; it draws upon various interpretative frameworks, including "anticipatory, narrative, hermeneutic, semic, symbolic and referential" codes (Nikolajeva 145). Shakespeare famously thought that we can "By indirections find directions out" (Hamlet II.5) and Kierkegaard favoured the "indirect mode" as a means of stimulating readers to think and feel for themselves, rather than merely accept instruction from above (247). In recent years, cognitive psychologists have devised experiments to confirm that literary fiction improves readers' understanding of other minds and of complex social interactions, and even invites changes in readers' personalities (Djikic et al.; Djikic and Oatley; Oatley and Djikic; Richter et al.). Literary fiction is understood to function as a "simulation of selves in interaction" (Oatley 618) and, as such, improves readers' empathy, social skills and emotional complexity (Kidd and Castano; Bal and Veltkamp; Black and Barnes).

Cognitive literary criticism investigates further the modalities of this dialogic interaction (Richardson and Spolsky; Zunshine). A semiotic account of a tale would stress its conventionalized "codes" (Eco). A narratological discourse analysis approach (Stockwell; Hermann) would study the devices that aid and guide readers' interpretive scope, ascertained by constructing and integrating mental models based upon "everyday probabilities, cultural preconceptions, and generic models readers bring to the text" (Kukkonen 27), and setting "the wheels of meaning making in motion" (27) by comparing, contrasting, rejecting and revising the contingent models arising from engagement with the text and its features. Developing her training in narratology to form a "cognitive narratology" account of fairy tales, Karin Kukkonen has examined the inferential affordances of some postmodern fairy tales. Some of the inferential processes they invite are, she acknowledges, swift and "largely preconscious" (27) and are often assisted by previously ingested "schema" (28) or memory structures, such as recognizable character prototypes (evil witch, innocent maiden, ignorant father), and "iconographic markers" (Cinderella's shoes, the Snow Queen's icicles, a witch's hat), recognizable narrative styles, and even familiar illustration styles, all of which recall "popular cultural memory" associated with the traditional genre (55) and features of a "shared symbolic reservoir" (58). On Kukkonen's model, the reader is likened to a detective reading for clues (30), and

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great emphasis is placed upon readers' logical problem-solving skills and conscious mental work.

There still remains the task of assessing the extent to which this mental work is influenced by manipulations that may well remain unconscious, even when readers consciously strive to evaluate what Kukonnen calls "the propositional and emotional inferences drawn during the reading processes" (31). Clearly, the cultural, historical and personal contexts that inform each reader's interpretive toolkit are germane to any literary engagement. And yet, much of this toolkit is deployed only after the initial impact of bodily affect. In fact, Daniel Dennett argues that our brains are "probably composed of Bayesian networks that are highly competent expectation-generators that don't have to comprehend what they are doing" (175). Like the acquisition of language, which is gradual, so consciousness itself is learned. Dennet holds that the infant (or fetus) is not formed equipped with consciousness but, rather, develops it along with a suite of other talents which evolve over time; and this happens as the human agent "gradually gets occupied by thousands of memes – not just words – that (re)organize the neural connections on which these talents depend" (Dennett 192). This suggests that the bodily registers of the text are of fundamental importance to any interpretation – yet these have only very recently become a focus of increased academic investigation. My analysis of fairy tales thus goes beyond, or perhaps beneath, previous analyses, as it uncovers how susceptible mental models are to physical suggestion.

Many thinkers are averse to questioning the autonomy of the reader in his/her creative approach to the detective work of reading fiction and reality. That is why Richard Dawkins and Daniel Dennett have garnered so much adamant and often venomous opposition. But the more scientists and humanities scholars collaborate, the more evidence accumulates to support the meme hypothesis (which I discuss below) and point to largely-unconscious aspects of the evolution of culture. This does not mean humans are merely automations. It means that scholars would be wise to study carefully evidence of the dynamics by which humans process information and reach conclusions, without assuming these processes must necessarily be governed by conscious choices. Kukkonen does look at bodily features in the texts she discusses, such as gestures and facial expressions that are visually represented in comic-strips, and suggests how these may both contribute to the construction of mental models of the storyworld and of the mental states of the characters, informing readers' "reasoning and coming to decisions" (50). She does not, however, concern herself with the bodily mechanisms that precede the recognition or interpretation of such representations of physical bodies, nor with the possible implications of the largely preconscious bases for much decision-making. My argument here is that alongside – and not always commensurate with – these reasoning processes, occur a host of affective bodily resonances with distinguishable effects that largely direct the course of later conscious reasoning. These will receive detailed attention in the next section.

Although Zipes's analysis is also largely sociocultural and thematic, he adopts an evolutionary stance that differs from Kukkonen's, through creating links with Dawkins's view that many cultural issues are transferred via "memes." Dawkins holds that replication is the most fundamental drive of any biological organism, even the single molecule, and that memes are the equivalent structure to genes when it comes to the transmission of cultural content:

> Memes should be regarded as living structures, not just metaphorically or technically. When you plant a fertile meme in my mind you literally

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> parasitise my brain, turning it into a vehicle for the meme's propagation in just the way that a virus may parasitise the genetic mechanism of a host cell. (Dawkins 192)

Fairy tales, claims Zipes, "often take the form of a meme in our brains, as the input of a public representation, or replicator, and we process it in a module and transmit it in a sociocultural context" (*How Fairy Tales* xiv). Zipes insists further that "a meme must be made relevant to stick" (7), a claim Kukkonen reinforces by citing Jan Assmann's cultural memory theory, which emphasizes the crucial role of Habermas's notion of "contexts of relevance," and she ties this briefly to "cognitive environments." Interestingly, Kukkonen does not find Dawkins's memetics helpful to her analysis as, she explains, she is interested in the agency of authors and publishers as disseminators of culture (194).

Picking up where Kukkonen and Zipes leave off, I find Dawkins and Dennett can help us to trace the pathways by which this agency is qualified, and examine the extent to which we are able to choose our beliefs, or even become sufficiently aware of them in order to choose. It is time to ask: what would be the equivalent of a healthy cultural immune system, which filters potential colonization or parasitization by viruses and by memes over which we have very little control? Zipes finds a moderating gauge, as it were, in Jean-Michel Adam and Ute Heidmann's theory of généricité (genericity). Just as genes cannot function alone and require the cooperation of other genes and myriad other enabling conditions and exchanges, so the "discursive frame and reading interpretation" of any generic category is a "complex process" of "socio-cognitive necessity" that relates texts, contexts and social formations (Adam and Heidmann 62, cited in Zipes, *Why Fairy Tales* 24). Although they do not acknowledge this, it is encouraging to note that this argument comes close to Heidegger's concepts of *Dasein* and *Mitsein*, which contributed to current 4E views (explored at length in Gallagher, Morgan, Rokotnitz).

Having laid the groundwork, I turn in the next section to the variety of means by which fairy tales communicate and manipulate knowledge through descriptions of bodily movements that anchor ideational content in readers'/listeners' bodies, making the texts' (abstract) motifs quite literally tangible. Underpinning my analysis is recent evidence that comprehension of linguistic material stimulates somatotopic activation in the premotor cortex. This means that the same neural circuits recruited for action and emotion recognition are also activated when we engage with language, although not necessarily in an identical fashion (Barsalau and Weimar-Hastings; Gallese and Lakoff). This activation has been shown to occur both while reading (Hauk et al.) and while listening (Tettamanti et al.) to descriptions of actions, and is all the more pronounced when a concrete action verb is combined with a noun denoting a graspable object (Marino et al.). Interestingly, activation occurs only when an explicit semantic representation is required by the task at hand (Sato et al.). The object or movement in question is always perceived (or imagined) in the context in which it appears (in life or the text), and is thus, necessarily, interpreted in relation to that context; that is, it is situated. Note also that such levels of excitation do not seem to be engaged in processing the meaning of behaviours that are not part and cannot be part of human sensorimotor repertoire (Buccino et al.), although other imaginative capacities are called into play (like flying, for instance). This form of "motor resonance" seems to be responsible for understanding the goal of an action (Zwaan and Taylor 1) and contributes to interpretation of its meaning by stimulating the observer's own motor programmes (8). In what follows, I suggest how this is likely to

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influence readers'/listeners' engagement with fairy tales such as "Snow White," whose multilayered richness is exemplary of the genre.

Representing and Inducing Motor Actions as a Learning-Aid: "Snow White"
A cognitive-literary analysis of multiple variants of "Snow White" highlights a salience of motor-imagery that is not specific to a particular translation of a variant tale but, rather, is revealed to be an underlying methodological principle of the fairy tale genre. As Maria Tatar has documented, hundreds of versions of the "Snow White type tale" (Aarne-Thompson type 709) have been collected throughout Europe, Asia, Africa and the Americas. The Grimm Brothers' version of the story is the one most people already know.[1] In it, Snow White confronts many hardships and learns thereby to contain some of her impulses while fostering others; to rely on herself and yet also seek assistance; to value herself and those about her who deserve her affections (due to their honorable behaviour); and to integrate within her community as a productive member of society. All these elements are recurring themes in the majority of European fairytales, and are encoded in a variety of textual effects that teach the archetypal theme of learning how to learn. In "Snow White" these include, for instance, a deconstructing of the good/evil dichotomy: although Snow White's dead mother provides a kind of role-model of industrious, gentle, caregiving, it is, ironically, the step-mother-queen-witch who – by default – acts as the primary teacher. Her evil is instructive, encouraging readers/listeners to refine their critical faculties: attending to detail, validating sources, seeking and weighing up evidence, sifting information and questioning. Another recurring feature of the genre is that the protagonist learns from experiential trial and error. In the case of "Snow White," she is guided by the dwarves and saved by them, time and again, from her own mistakes. But the dwarves do not explicitly teach how to behave – only how not to behave. Similarly, as the tale is not framed by a narrator-persona, it never states openly what it teaches. It mostly describes events, and the characters' responses to them, without intervention or comment. Both characters and readers must therefore learn despite – and due to – experiencing difficulties. Readers/listeners thus practice and hone their folk-psychology skills, learning to differentiate good from bad inferences, not by referring to an external set of pre-given precepts but by seeing the effects of actions in context.

The embodied dimensions of the tale play a leading role in this context. All fairy tales are packed with symbolic referents that a young child or a foreigner, even if fully proficient in reading the language of the tale, would still be underequipped to unpack without the assistance of an adult mediator who is versed in that specific symbolic landscape. However, the gist of the tale and much of its moral teaching can be decoded via the primary, secondary, and narrative skills described above. Such decoding, I propose, is greatly assisted by the way the tales couch socially and culturally mediated knowhow in descriptions of basic motor-actions. For instance, when Snow White is left alone, she is given one prohibitive guideline: "Beware of your step-mother, she will soon know you are here. Let no one into the house" (Tatar 86). Poor child, however, she becomes bored. She does not articulate this dissatisfaction to herself until temptation, quite literally, appears at the door, in the form of the evil-queen disguised as "an old peddler woman" who:

> **knocked** at the door and called out, "Pretty wares for a good price. "
> Snow-white **peeked out** of the window and said, "Good-day, old woman, what do you have for sale?"

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> "Nice things, pretty things," she replied, "staylaces in all kinds of all colors"; and she **took out** a silk lace woven of many colors. (86)

As my bold-font indicates, this passage instantiates the importance of motor-resonance in conveying the moral agenda of the story. I will proceed to draw out seven strategies for instruction this dynamic affords reader/listeners (and in the next section connect them to an eighth).

Instructive Strategy #1 - motor-imagery: experiments show that people glean meaning more readily from actions than from mental terms. Subjects tested for reading comprehension showed "no significant differences" in comprehension between texts listing action-sequences and texts rich in descriptive mental-referents (Gallagher 19). However, while folk-psychological vocabulary proves dispensable for basic narrative understanding, "affective resonance (as represented in expressive movements and gestures)" is essential for "empathic understanding" (19). Indeed, psychologist Susan Goldin Meadow and her colleagues have shown that gestures both enhance and alter our thinking: either supporting linguistic communication or qualifying it, depending on usage (Goldin Meadow; Goldin Meadow and Wagner). Anežka Kuzmičová has found that it is the evocation of human bodily movement, rather than description of the scene, that arouses in the reader/listener "a sense of having physically entered a tangible environment (presence)" ("Presence" 24). This suggests why every stage of "Snow White" is anchored in concrete bodily actions, described and acted out in clearly indicated environments: "she **knocked** at the door;" "**peeked out** of the window;" "**took out**" the silk. Knocking at the door provides a particularly potent example of what Kuzmičová terms a "presence cue" (35), by replicating the experience of motor interaction. Such cues invite motor-resonance: they can cause the activation of the same motor circuits the reader/listener would use in order to perform the same action, in this case reaching out and tapping on the door and also opening it. The text thus co-opts our shared motor schema. We not only read, think and imagine: we physically participate in the tale's action; it thus becomes a form of lived experience.

Instruction Strategy #2 - specific reference to touch: this strategy further links the body to its environment, and bridges the gap between words and experiential involvement, making the tale's teachings tangible. Indeed, experiments indicate that "human observers understand objects touching other objects in terms of being touched themselves" (Zwaan and Taylor 9), further enhancing readers'/listeners' motor resonance. The narrative continues:

> "I can **let** this good woman **in**," Snow White thought to herself, and she **unbolted** the door and bought the pretty lace.
>
> "Oh my child, what a sight you are. Come let me **lace you up** properly."
>
> Snow White wasn't the least bit suspicious. She **stood** in front of the old woman and **let her put on** the new lace. The old woman **laced her up** so quickly and so tightly that Snow White's breath was **cut off**, and she **fell** down as if dead. (86)

Instruction Strategy #3 - there is almost no description of the lace, its texture, length or colour. The absence of detail can be explained as a device that allows readers to relate the tale to their own experiences. But it also coheres with studies that indicate that the "more elaborate a static description of an object, the

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higher the 'risk' of conceptualization and defamiliarization" (Kuzmičová, "Presence" 40). For maximum immediate effect we must know less about the lace and more about its handling. This is not to say, of course, that descriptive forms of literary production are inferior, or that complex uses of language in literature should be dismissed. Not at all. Moreover, not all literary forms have the same goal. What this strategy does indicate is that fairy tales, a genre of storytelling whose chief purpose is to impart cultural and moral instruction, utilize affective manipulation in order to arrest audiences' attentions and stimulate motor resonance as a means of galvanizing support for the moral agenda of the tale.

Instruction Strategy #4 - surprise: the intensity of the tale is increased further by the quality of suddenness, which jolts readers/listeners into attention. Expectations (based on our repertoire of past experiences, as well as that of our ancestors encoded in our DNA) lead us to make predictive probabilistic guesses (Bayesian hierarchical predictive coding, see Clark, *Supersizing*; and Dennett). This hard-wiring to anticipate and prepare for eventualities is often crucial in saving time and effort. It is also sometimes wrong – hence the impact of surprise (Currie; Bae and Young; Tobin). In "Snow White," the protagonist shifts from a relaxed state, looking out of the window and handling soft silk, to suddenly experiencing breathlessness. This alarming situation elicits readers' sympathy by combining an emotionally-valenced plot with physical prompts that elicit surprise.

Instruction Strategy #5 - agitating affective schema: engaging with Snow White's experience of suffocation and panic also activates our respiratory circuitry and other panic-related affective schema. Most readers/listeners over the age of three will, at this point, experience distress. In addition to the multifold significances of this narrative episode, which a mediator – a village elder, a knowing parent, a folklorist or university professor – may aid us in analyzing, this physical excitation also speaks for itself. It is a very effective means of teaching young children about "stranger danger," of alerting older children to the need to be circumspect, and of reminding adults to be vigilant. Readers are at liberty to adopt or object to this attitude, of course, but it is nonetheless communicated directly.

Instruction Strategy #6 - emotions in these tales are almost always couched in physical responses. For instance, when the witch discovers Snow White is still alive, "the blood froze in her veins" (Tatar 87), "she was so struck with surprise that all the blood left her heart." The surprise is located in her body. Moreover, psychologists have shown that "visceral perception plays a role in the experience of the intensity of emotions" (Wiens, Mezzacappa, and Katkin 147) and, specifically, awareness of one's own heart-activity is positively correlated with the intensity of emotional experience (Caracciolo 64). Calling attention to the queen's heart further heightens the emotional impact of this episode. Thus, in addition to the repetition of key phrases, recurring leitmotifs, and iconic symbols, the text directly accesses the readers' bodies, forcing us to take note.

Snow White's next temptation is a comb, and the final one is an apple. Rich in biblical connotations of disobedience, sexuality, knowledge and evil, the episode arrests readers by a mouthwatering description of an appetizing fruit:

> "Are you afraid it is poisoned?" asked the old woman, "Here, I'll cut the apple in two. You eat the red part, I'll eat the white."
>
> The apple had been made so artfully, that only the red part of it was poison. Snow White felt a craving for the beautiful apple, and when she saw the peasant woman was eating it, she could no longer resist. She put

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> her hand out the window took the poisoned half. But no sooner had she taken a bite when she fell down to the ground dead. (Tatar 88)

Instruction Strategy #7 - a multimodal cue. It is not by chance that the symbolic interpretive possibilities of the text are presented to readers/listeners via motor-movements inducing eye-hand-mouth pathways, and vivid colours that excite our aesthetic sense and our taste-buds. These are the "embodied anchors" by which the abstract moral codes of the tale are made tangible. I have, in a previous article, examined in detail how these anchors function both as metaphors and as physical cues that activate readers' preconscious modes of perception, modify cognitive skills and intensify the effects of reading, potentially facilitating profound learning (Rokotnitz "Goosebumps"). In this context, readers/listeners of "Snow White" may (to varying degrees) tease out the metaphoric implications of her fall; but even an uninitiated reader immediately registers its sensorimotor impact: we know this is bad. The tale thus stirs, excites, and motivates. The morality conveyed is one of complex, multimodal, interactive learning, rather than top-down imparting of information. It is therefore fundamentally empowering to readers/listeners (despite well-founded criticism of the Grimm Brothers' attitudes to women). Nonetheless, in the next section I explore other variants of the tale, and suggest how they foreground a key instruction tool which the Grimm Brothers' version only mentions briefly.

"The Young Slave" Variant, Expressing Experience in Words, and Testimonial Narratives

"The Young Slave" variant of the Snow White type tale emphasizes a further instructional dynamic. It is the earliest recorded variant, found in the writings of the Napolitan Giambattista Basile in 1634, and also features elements of the "Sleeping Beauty" (Aarne-Thompson tale-type 410), "Vassilisa the Beautiful" (type 531), and "Blue Beard" (type 312) tales. It begins with a game of leapfrog; a competition between young girls to jump clean over a rose. Lilla, known first as "the Baron's sister," wins the competition by showing physical dexterity, speedy reactions, and some dishonesty:

> . . . she stood back a little and took such a run at it that she jumped right over to the other side of the rose. Nevertheless, one leaf fell, but she was so quick and ready that she picked it up from the ground without anyone noticing and swallowed it, thereby winning the prize. (Tatar 80)

The symbolism is rich and it is not surprising that Lilla finds the leaf has impregnated her. In hiding, she gives birth to "a lovely little girl" whom she names Lisa (80). Due to a curse, at the age of seven Lisa falls dead, or so it seems, while her mother is combing her hair. She is encased in a glass coffin. However, although the mother dies soon after, Lisa continues to grow and becomes a beautiful – if unconscious – young woman, kept safe in a secret chamber in the Baron's castle. When the Baron's jealous wife finds "this lovely creature" she:

> seized the girl by the hair, dragged her out, and in so doing caused the comb to drop out, so that the sleeping Lisa awoke, calling out, "Mother, mother!"
>
> "I'll give you mother, and father too!" cried the Baroness, who was as bitter as a slave, as angry as a bitch with a litter of pups, and as venomous as a snake. She straight away cut off the girl's hair and thrashed

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> her with the tresses, dressed her in rags and every day heaped blows on her head and bruises on her face, blackening her eyes and making her mouth look as if she had eaten raw pigeons. (Tatar 81)

This passage further demonstrates the strategies enumerated earlier: it foregrounds motor-actions to express complex emotions – Strategy #1; it repeatedly refers to touch – Strategy #2. It uses similes to encourage understanding, but very little description – Strategy #3 – thus evoking generic dogs and pups, and generic snakes, but offering no details that individuate such animals, nor any description of Lisa's tresses, except that they were cut off, a violent act of abuse. The text thus agitates affective schema – Strategies #5 and #6. There is also particular focus on the girl's head, face and eyes, highlighting specific body-parts, thereby directing readers' attentions to our shared physiologies. In this case, the effect of the abuse is supposed to stun the maiden's ability to think (head) and see (eyes), and also prevents her from being able to present herself to others (face) as she really is: innocent and beautiful beneath the bruises. And yet, while this abuse disrupts the synchrony between Lisa's inner truth and its outer show, exemplifying the deconstruction of good and evil, the evil baroness' violence is instructive – like the evil witch's. Although her violence is presented as wrongful in no uncertain terms, it also forces Lisa out of sleep (or complacency, or passivity) and contributes to her coming-into-agency. Moreover, Lisa exhibits resourcefulness in response to these injustices, and triumphs over her abuser through her own cleverness. This process of self-affirmation is relayed to readers/listeners as an example of conduct worth emulating.

All these bodily effects, however, must somehow be integrated into the character's and reader's self-understanding, if they are to contribute to positive change. The act of converting sensation and emotions into words allows one to create a narrative that organizes "the emotional effects" of experience as well as the experience itself (Pennebaker 11). Pierre Janet already argued that traumatic memory may be overcome through narrative memory and, still today, treatment of PTSD includes guiding survivors towards an expression of themselves in a narrative. Hence, working through trauma has been defined by Dominick LaCapra as an articulatory practice (42). In particular, a testimonial narrative that describes traumatic events causes events to be "reinscribed, translated, radically rethought and fundamentally worked over" (Felman and Laub xv). Transmitting the story of experience offloads some of its weight, and also entails "a reassertion of the hegemony of reality and a re-externalization of the evil that affected and constrained the trauma victim" (Felman and Laub 69). Stanley Cavell once wrote that telling denotes "reconceiving, reconstituting knowledge, along with the world" (204). Felman and Laub contend that to testify is to accomplish a speech-act. "As a performative speech-act, testimony in effect addresses what in history is action that exceeds any substantialized significance" (Felman and Laub 5; see Rokotnitz, "Dignity"). "The Young Slave" foregrounds this important instruction strategy.

Instruction Strategy #8 - telling her life-story: it is her recounting of her sad tale (to a doll) that allows the Baron to overhear the truth of Lisa's experience. He, in turn, makes Lisa tell him "the story again at greater length" (Tatar 82) and is thereby not only convinced but spurred to act in her defense. Kay Young and Jeffery Saver maintain that "what predominates or fundamentally constitutes our consciousness is the understanding of self and world in story" (Young and Saver 73); and Roger Schank claims that "intelligence is bound up with our ability to tell the right story at the right time" (21). This is precisely what Lisa teaches readers. In the final episode of

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the tale, Lisa tells her story for the third time, this time to the entire household, causing them to weep in sympathy for her, as the wicked baroness is driven from the palace "back to her parents" (an interesting punishment), while Lisa receives "a handsome husband of her own choice" (83).[2]

In the Brothers Grimm version, Snow White is spared by the hunter because she is "so beautiful" (Tatar 84), not because she has managed to convey to him the injustice of her situation. When she weeps he takes pity on her, but he expects that "wild animals will devour" her soon after. He seems mostly motivated to clear his own conscience, feeling "a great weight had been lifted from his heart" (84) when he leaves her to fend for herself in the forest. The dwarves also take pity on her primarily due to her beauty (85). Snow White does articulate her tale for them but her words are not relayed to readers. In response to recounting "how her stepmother had tried to kill her and that the huntsman had spared her life" (85) the dwarves take her in, on the condition that she acts as housemaid, agreeing to forfeit her noble lineage in order to "cook, make beds, wash, sew, knit and keep everything neat and tidy" (85). In exchange they give her what they deem to be "everything you need" (85). They do not, however, either try – or encourage her to try – to clear her name and be vindicated. Snow White, for her part, acquiesces humbly, gratefully. The attitude the Grimm Brothers thereby aim to teach their readers/listeners has been criticized in the latter part of the twentieth century as reflecting their patriarchal values, rather than those of the folktale traditions (Gilbert and Gubar; Zipes, *The Art*; Swann Jones).

In marked contrast, Lisa's storytelling in "The Young Slave," follows folktale lore by empowering her and the readers. It exhibits the level of awareness Stanley Cavell marks as the transition from knowing to acknowledging: expressing one's understanding through "the willingness to subject oneself to words, to make oneself intelligible" (4). This observation prefigures Dennett's claim that many experiences can remain unconscious, and even consciousness does not require comprehension in order to develop. And yet, for comprehension to develop, we often require memes (words, concepts, whole belief systems): these are "the lifeblood of cultural evolution" (Dennett 179). In "The Young Slave," Lisa's conscious engagement with her predicament, and its formulation into a testimonial narrative, effect what Andy Clark terms "a mode of cognition-enhancing self-stimulation" ("Language" 370), reflecting her maturation: her ability to knowingly engage with her "own thoughts, trains of reasoning, and personal cognitive character" (372). She also demonstrates refined intersubjective competence: first by using narrative skills to articulate herself, and then by presenting them, with increasing finesse, to those who may assist her and advance her cause. The story thereby demonstrates just how acknowledgment of the productive interplay between embodied receptiveness and analytical, linguistic assessment create the possibility for knowledge that is "good enough" (a term Cavell borrows from Winnicott; see Spolsky, *Satisfying* 45).[3] Indeed, it coheres with Lakoff and Johnson's assertion that truth is "experiential" (175). As Johnson later remarked: while there is no one Truth yet there are "plenty of human truths," meaning knowledge that arises from the context of human embodied interaction. "Finite, fallible, human truth is all the truth that we have, and all we need" (Johnson, *The Meaning* 80).

There is a great deal more to be said about this variant of the "Snow White" tale but, for the purposes of the present argument, I am focusing upon the salience of two important narrative-features and the strategies through which these are conveyed: descriptions of motor actions and the thematization of storytelling.

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The "Lasair Gheug" and "Gold Tree and Silver Tree" Variants, and The Theme of Assuming Control of One's Life Story

"Lasair Gheug, The King of Ireland's Daughter" is actually a Scottish variant printed in 1891.[4] It includes elements of the "Handless Maiden" (type 706; in this case, the father mutilating his own child by cutting off the ends of her fingers), and introduces into the plot a second wife. In this tale, the evil queen is the mother (not step mother) of Lasair Gheug – or Flaming Branches. She is poisoned by the queen after she weds the Prince, and it is the Prince who encases her in a coffin (of lead) and keeps her in a secret chamber. Presuming she is dead, the Prince remarries, but remains mournful. The Prince's second wife, Lasair Gheug's successor, discovers her, and it is she who recognizes the three splinters that caused the young queen's slumber. The second wife, significantly left unnamed, is the one who brings Lasair Gheug back to consciousness and to her rightful place aside the king, which the two wives decide to share.

So as to continue to focus upon motor actions and storytelling, I will concentrate upon the passage in the story in which Lasair Gheug insists on telling her tale, while actively performing a series of self-directed, meaningful actions. She does this on a Sunday, in a church, while riding a wild boar so as to circumvent the oath forced out of her in her youth by the evil queen. In addition to the many symbolic registers of this act, its brisk action-oriented descriptions are markedly conspicuous:

> She got the wild boar; she got onto the boar's back; went in at one door of the church and out the other door. She called her three unchristened children to her side.
>
> "I am not going to tell my story to anyone at all," said she, "but to you three unchristened children." (Tartar 95)

She defiantly recounts the violent tale of killings and lucky escapes, at the end of which she explains: "they expected that my father would kill me, but he has not killed me yet" (Tatar 95). The tale, in exactly the same words, accompanied by exactly the same actions, is then repeated three times, once for each child, after which the boar is set free. Immediately after that, the evil queen arrives at the church, but she is caught "and burned in the fire" (95). Unceremoniously, we are not even told exactly by whom. The point is that, once Lasair Gheug is sure of her right to tell her tale, to pass it on, to own its meaning and to break the bonds to the queen, that queen is easily disposed of, while the father-King is wed to a new wife, a friend of his daughter. And that daughter lives happily ever after with the Prince and his second wife, her dearest companion.

Finally, I wish to look briefly at another nineteenth century Scottish variant, recorded by Joseph Jacobs in 1892, entitled "Gold Tree and Silver Tree." This tale is very similar in structure to "Lasair Gheug," yet includes less violence against the Snow White character, and gives even greater autonomy, initiative, and successful cooperation and compassion to the two wives – joint vanquishers of despotic evil.[5] This tale further foregrounds, more than any other variant, the power of cooperative action – of shared agency. The final passage of this tale will suffice for the present purposes. Silver Tree, the jealous queen, arrives in her husband's longboat, hoping to poison Gold Tree, her daughter. The Prince is conveniently away:

> The prince was out hunting on the hills. Gold Tree knew her father's ship coming.

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> "Oh!" said she, "my mother is coming, and she will kill me."
>
> "Not at all," said the second wife; "we will go down to meet her."
>
> Silver-Tree came ashore. "Come down, Gold Tree, love," said she, "for your own mother has come to you with a precious drink."
>
> "It is a custom in this country," said the second wife, "that the person who offers a drink takes a draught out of it first."
>
> Silver-Tree put her mouth to it, and the second wife went and struck it so that some of it went down her throat, and she fell dead. They had only to carry her home a dead corpse and bury her.
>
> The prince and his two wives were long alive after this, pleased and peaceful.
>
> I left them there.

Once again, all the eight strategies I have enumerated are co-present in the tale, including the protagonist articulating her story and relating it to others who help her. In addition, a further metafictional element is added at the end, by which the storyteller steps away from the tale and its protagonists, and reminds us that storytelling is part of an oral tradition of cultural transmission. This variant thus accentuates the importance of the art of telling tales – personal and cultural, real and fictional.

Conclusions

Ellen Spolsky has recently argued that it is "not the truth or falsehood of stories but their availability to transformation between abstract ideas and concrete representations that determines their usefulness. . . . on the condition, of course, that we learn how to use them" (*The Contracts* 18). In this article, I have set out a number of strategies for doing just that. My main focus has been the use of motor-imagery, and the thematization of storytelling: two different registers of engagement with cultural texts. The one is unconscious and involuntary, the other conscious, active, and empowering. The interplay between these two (and other) modes of perception and processing is continual – in life, as in reading. The analysis I have offered here, which observes closely how this dynamic is worked out in fairy tales (and extends in interesting ways to other forms of narrative production such as life-stories and testimonies) suggests a number of conclusions, some of which are not new yet have received important confirmation or substantiation, others are quite novel, and all contribute to the moral instruction the genre affords.

First, narratives allow readers/listeners to engage with scenarios, characters, theories and dilemmas to which we would not necessarily otherwise be exposed. But the value of this exposure is not merely in the broadening of our horizons but in the active participation it instigates. This is aided by the motor-resonance stimulated by the tale. The accessibility, popularity, and continuing moral value of fairy tales can thus be accounted for, at least in part, by emphasizing the ways in which they elicit and refine our attunement to the bodily forms of interaction that prove to be effective means of communicating their folk-psychological wisdom. Second, stories teach of choice. Different traditions and authors have framed this choice in differing ways but the theme is inherent to the practice. Tales thus motivate us to act; they do not only "speak out against passivity and exploitation" (Zipes, *The Art* xiii) but enlist us to active response. Indeed, fairy tales, specifically, do not provide clear-cut solutions. Their primary moral value lies in displaying and then suggesting means for negotiating difficulties.

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A further moral value of fairy tales is expressed by demonstrating that learning is a social skill: isolation perpetuates ignorance; knowledge is gained by interaction with other people and the stories they tell. Indeed, learning to tell our personal tale effectively so that others hear and believe it is an essential, sometimes lifesaving, skill. We find value in learning through stories not only in the tales themselves but in the social mediums of their telling and re-telling. The means by which the stories have been transmitted, recycled and redeployed, enact the very precepts the stories themselves thematize regarding storytelling and social learning. In particular, the continuously successful tradition of fairy tales instantiates the natural human predisposition, honed by evolutionary advantage, of cultivating reciprocal interchange. Biology and culture, nature and nurture, work in tandem. From the smallest of genes to the grandest of memes, coalition and cooperation turn out to be our most valuable and most effective inheritance.

The perspective of cognitive literary analysis and the evidence presented here take readers/listeners beyond ourselves into the realm of the extended, embedded, enactive mind and its embodied and shared interactions. Agency is thus reformulated: not as a task an individual can pursue alone but, rather, as the evolving, dynamic product of shared action-into-the-world. This suggests that the basis for moral comportment ought then to be – above any other consideration – focused upon the best means of fostering and maintaining cooperative principles of reciprocity.

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Notes

1. Although some renditions are more poetic, I have chosen to use Tatar's scholarly translation.

2. This is a very progressive conclusion for its time, although the closing moral is bizarre: “Heaven rains favors on us when we least expect it.” This issue is, however, beyond the scope of the present paper.

3. Cavell claims, “it is possible to live an intelligent, satisfying, and even moral life with the mental equipment which is our inheritance” and “recover . . . from the tragically debilitating skepticism that rejects ‘good enough’ knowledge in a vain struggle for an impossible ideal” (Spolsky, *Satisfying* 44–45).

4. Translated by Alan Bruford, narrated by Mrs. Macmillan, and recorded by Lady Evelyn Stewart-Murray in 1891 in Tartar 90-96.

5. There are thousands of postmodern retellings of Snow White and other fairytales. Aside from films that engage with the tale but, arguably, constitute a different generic medium, both Zipes and Kukkonen show that postmodern narratives of the tales are deliberately often testing alternate perspectives (such as Neil Gaiman's “Snow, Glass, Apples” which is told from the point of view of the stepmother and demonizes the daughter). These texts usually deliberately aim to deviate from the familiar versions of the tales, or test aspects of human pathology, rather than aiming to frame a story of initiation, maturation and integration as the older stories did. Of course themes such as murderous jealousy were suggested by the ancient tales, but they were in no way normalized. In contrast, Zipes discusses Tanith Lee's three versions of the tale, “Red Blood“ (1983) which emphasizes “the raw brutality” of the competition between stepmother and daughter; “Snow Drop” (1993), which is in effect a different story that has intertextual connections with the fairy tale so as to extend the theme of uncontrollable instinct and violence; and the novel *White as Snow* (2000) which is just as much a take on the Persephone and Demeter myth (Zipes 136-7). Kukkonen discusses the graphic novel series *Fables* (2002-2015), which transposes fairy tale characters to contemporary New York. These are all valid literary productions, and interesting contemporary social commentaries, but I hesitate to consider them “versions” of the fairy tale. They are, I would argue, creative responses to certain themes, and imaginative extensions of the tales that are far removed from what might be imagined to be the oral folk tale from which “Snow White” emerged. Moreover, they are extended narratives, some a few hundred pages long, and no longer conform to the fable or fairy tale generic brevity. My analysis of the bodily effects of reading can be extended to these texts – and I have shown that appeals to readers’ bodies are, by definition, germane to any fiction that has human characters in interaction (Rokotnitz, “Goosebumps”) – but for the purposes of this inquiry into fairy tales specifically, I shall end this article with a final nineteenth century version.

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