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Enhancing Physician Empathy: Optimizing Learner Potential for Narrative Transportation

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Abstract
This article argues for the pedagogical usefulness of engaging with literary texts in the formal training of physicians and healthcare workers. It suggests that particular "skills" in reading and engaging with narrative are as readily *teachable* to healthcare students as are skills in reading x-rays or in diagnosing symptoms. It focuses on three phenomena associated with literary (and other forms) of narrative – namely, the recognition of characters, vicarious experience, and the experience of fellow feeling – and relates them to three categories in cognitive psychology: Theory of Mind, Narrative Transportation, and Empathy. It presents a survey of empirical studies in cognitive psychology that demonstrates the effectiveness of literary narrative in producing these psychological states, and ends by demonstrating how the teaching of a literary narrative – *Bastard Out of Carolina* – has enhanced these states in students planning on a career in medicine. Such enhancement, the article suggests, are produced by literary features such as imagery, defamiliarization, and patterned organization on the levels of phonology, semantics, and story structure.

Keywords
Narrative medicine; theory of mind; narrative transportation, empathy; medical pedagogy; medical humanities; Dorothy Allison

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In this essay we argue that empathy and the related concept in psychology of Theory of Mind are features of human understanding and behavior that are of great importance to clinical medicine, and, more importantly, that they are *teachable skills* that can and should be part of the professional training of physicians and healthcare workers. In fact, there is good evidence that such skills and behaviors are enhanced by engagements with literary or "art" narratives. Such narratives provoke what has come to be called "narrative transportation," which is a technical term to describe the phenomenon of vicarious experience, an experience that one gains "second hand" through narrative representation. Such *vicarious* experience – like the systematic apprenticeship in the concluding years of medical school and in the subsequent years of residency that entail the *actual* experience of supervised behavior – can be enhanced and taught as part of the curriculum of a medical education. In her important study of the role of narrative in the education of clinical medicine entitled *Narrative Medicine*, Dr. Rita Charon – who earned a Ph.D. in literary studies as well as an MD in internal medicine – argues for the inclusion of the intensive study of narrative within a medical education. "Training for close reading of literary texts," she writes,

> is not unlike training for more clinical kinds of reading that health professionals assimilate. If I were to put a normal chest X-ray up on a view box . . . , any doctor would say something like the following: "This is a well-penetrated, nonrotated film. The inspiration is adequate. The bony structures are unremarkable. The mediastinum is normal. The cardiac silhouette is normal. The lung parenchyma is without consolidation. There are no effusions." The reader has learned to pay attention to various features of the visual text, moving sequentially through a drill of specific aspects so as to capture all the news that the chest X-ray has to offer. (*Narrative Medicine* 113)

In a similar fashion, she argues (in conjunction with other recent studies [e.g., Schleifer and Vannatta]) that people trained in close attention to literary narrative master various features of the discursive text so that they can capture "all the news" that a story has to offer. Such training, we are arguing (as does Dr. Charon) is particularly useful in the context of medical education for a profession that encounters patients' stories every day. Moreover, such training, as recent work in cognitive psychology has demonstrated, systematically develops empathetic responses for those who pursue it.

1. The Making of a Physician: Shifting Ideals throughout History

As life-saving, evidence-based advances in healthcare were made over the past century, the physician ideal was utterly transformed. The figure of a compassionate healer at the bedside, often sitting for hours in peaceful silence or vague discourse with an ill patient or family, became that of a consummate scientist, voraciously engaged in the discovery and implementation of the biological sciences (see Silverman). Indeed, in 1910, the Carnegie Foundation for the Advancement of Teaching commissioned the *Flexner Report*, which set out to redefine medical educational practices based upon standardized scientific rigor and method. It reported that the goal of medicine is "to attempt to fight the battle against disease" (Flexner 21).[1] Nowhere in the 343 page *Report* was mention of the patient-physician relationship. Rather, the new physician role model could most often be found in the classroom or laboratory setting, where the "real" science and learning were taking place. If a physician was noted to have a decent bedside manner, that was considered a plus, but certainly not a requirement. Just as a generation ago, graduate students in the humanities were assumed to become good teachers simply by virtue of the fact that they were trained in research and critical writing, so students in medical school were assumed

[1] In his history of medical education in the United States, Paul Starr describes the impact of the Flexner Report, particularly Bulletin Number Four: "as Flexner saw it, a great discrepancy had opened up between medical science and medical education. While science had progressed, education has lagged behind. . . . Whatever its influence on the public, the Flexner report crystallized a view that proved immensely important in guiding the major foundations' investments in medical care over the next two crucial decades. . . . The assimilation of medical education into the universities drew academic medicine away from private practice. . . . In the twentieth century, academic and private physicians began to diverge and represent distinctive interests and values" (120, 121, 122). The great medical teacher, William Osler "dissented, warning that teacher and student might become wholly absorbed in research and neglect 'those wider interest to which a great hospital must minister.' It would be 'a very good thing for science, but a very bad thing for the profession'" (122-23). Starr concludes that "as American medical education became increasingly dominated by scientists and researchers, doctors came to be trained according to the values and standards of academic specialists. Many have argued that this was a mistake. They would have preferred to see only a few schools like Johns Hopkins training scientists and specialists, while the rest, with more modest programs, turned out general practitioners to take care of the everyday ills that make up the greater part of medical work" (123).

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they would acquire interpersonal skills in working with patients by virtue of their "scientific" medical education. For physicians trained in this manner, in many instances the patients served merely as the various individual body parts and maladies they represented for learning and discovery so that a cancerous pancreas meant the opportunity for investigative surgery; a rare bacterial meningitis meant the possibility of a novel antibiotic.

The first two years of medical school historically have involved an intense immersion in the basic sciences: a focus on the cellular, biochemical, physiological and anatomical processes that can be dissected and rigorously investigated with one clear "right answer" on inevitable multiple choice exams. The prized students were those who excelled on those exams: those who could spontaneously draw the Kreb's Cycle and recite the neural pathways from memory. The students achieving the "A" grade and approval of their teachers and the medical school more generally, according to the established metrics of medical education, were not the ones who wasted time dawdling at the bedside; these less accomplished students seemed unwilling or unable to cut the patient or their family off from their seemingly wayward ramblings, which could inevitably detract from the day's prioritized educational and scholarly tasks.

It is not hard to envision, however, those physicians in training willing to sit by the bedside were often the ones most trusted – and thus most prized – by patients. This patient sentiment continues as the student transitions into independent practice, perhaps best evidenced by the number-one factor contributing to whether or not a physician in a given specialty is likely to be sued for malpractice: not their technical acumen or medical knowledge, but rather their perceived ability to communicate and show concern for their patients (see Moore). Simply put, patients are less likely to sue the physician they like and trust.

More recently, and perhaps with an embarrassing delay by the profession, attention has returned in medical education to focus on the patient-physician relationship. This response is due in part to increasing public demand for transparency in healthcare, including readily available online patient satisfaction scores for each healthcare provider. While many physicians argue these are unfair or unscientifically based assessments, it is clear that healthcare systems are acknowledging and responding to this situation. As it turns out, empathy actually *is* evidence-based, so it would seem perhaps patients in part had it right all along.[2]

[2] "Evidence-based" medicine is a term that developed in the 1990s that promoted strict scientific criteria in the teaching and practice of medicine. As Atul Gawande notes, it entails "the idea that nothing ought to be introduced into [medical] practice unless it has been properly tested and proved effective by research centers, preferably through a double blind, randomized controlled trial" (188). Schleifer and Vannatta note that "in the teaching and practices of medicine [the "scientific" study of medicine] has led to the most notable and explicit expression of this assumption in the pursuit of 'evidence-based medicine,' a term coined in the early 1990s growing out of the work of the Scottish epidemiologist, Archie Cochran, that advocates that systematic, empirical, and quantifiable research – as opposed to 'traditional,' more or less untested medical practices – form the basis of medical practice. Needless to say, the pursuit of evidence-based medicine was and remains a salutary response to often unexamined assumptions about what is effective medical practice, but it also participates in the tacit metaphysical presupposition about what 'counts' as knowledge" (35-36). The psychological studies we cite in this essay fall within the category of "evidence-based" studies, even if the rhetorical analyses of texts we present of necessity do not lend themselves to the strict criteria of scientific judgment. Still, Schleifer and Vannatta note that while "the quantitative measurements used in the sciences" that lend themselves to the rigor of evidence-based medicine are powerful, "we do not want to create the impression that outcomes and consequences of literary studies (or other humanistic studies such as art, history, or ethics) in medical education cannot and should not be measured. Rather, it is possible to 'measure' outcomes and consequence without

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In the context of medical education and medical practice, empathy may be defined as the understanding of experiences, concerns, and perspectives of the patient and the ability to communicate and act on that understanding. This is a definition to which we will return, and it is of the utmost importance: empathy, as this definition suggests, is as much a *cognitive* as an affective response to an interpersonal encounter, and as a combination of understanding and feeling, it lends itself to systematic development within a pedagogical context.[3] Finally, while nobody would argue medical knowledge and technical skills do not play an important role in providing safe, high-quality patient care, studies have independently linked empathy to not only greater patient satisfaction (Kim) and a lower risk of malpractice suits, but also better patient outcomes (Del Canale; Rakel) and increased physician well-being (Shanafelt). What we now know is that empathetic practitioners are better off personally and professionally than their non-empathetic counterparts. Still, however, if the argument for empathy is made, how are we to teach and measure it, as we teach and measure medical knowledge and technical skills?

2. Narrative Medicine and Empathy

To help systematically train medical students in empathetic patient-physician interactions, Dr. Rita Charon proposes that medicine practiced with narrative competence, called *narrative medicine*, is an effective model. Narrative competence requires the ability to "acknowledge, absorb, interpret, and act on the stories and plights of others" (Charon, "The patient-physician relationship" 1897). It is an approach that values the patient's experiences such that the physician is willing to expend the time and energy required to receive the patient's story via one – or more often a combination of – the five senses. The narratively competent physician then conveys to the patient that they understand the effects the narrative is having upon the patient's current (past, future) circumstances, and incorporates that understanding into medical decision making.

This practice, however, can again put the young physician in training at odds with another physician ideal, namely that of the detached, calm, controlled authority figure. In her article, "What is Clinical Empathy," Jodi Halpern MD, PhD, describes the long-standing tension in the physician's role, and argues the importance of physicians' emotional attunement to their patients in order to understand patients' emotions. Empathy may be defined as the understanding of experiences, concerns, and perspectives of the patient and the ability to communicate and act on that understanding. In an interview, Dr. Charon elaborates on this by creating a short narrative:

> Empathy is the method, or the tool, that gets you toward engagement. Empathy is that ability to recognize the plight of another person and to be moved by it. Empathy does not require that I have experienced what the patient is experiencing. It doesn't require that I imagine it happening to myself necessarily. I mean, I can't really say, "I'm a 98-year-old demented woman." That doesn't work, but it does require that I can imagine the whole situation, and if she's 98 and demented, I have to say as I use my imagination, "Well, what

necessarily having to quantify those 'results.' In other words, qualitative as well as quantitative measurement is possible, even when those measurements do not lend themselves to mathematical analysis or formulas" (397).

[3] For a thorough neurological analysis of the relationship between understanding and feeling – cognition and affect – see Antonio Damasio, *The Feeling of What Happens*.

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> does that mean?" Probably she can't do very much cooking in the house if she can't remember where she put the rice, and perhaps that means she can't use the telephone any more, and those very practical things. So, this ability to imagine the predicament or the plight of the patient puts us in a position to treat them all the more effectively.
>
> I think it's worth pointing out, especially to inexperienced doctors, that having empathy does not mean that you are weeping all the time, or it doesn't turn you into a sort of passive, sympathetic observer, do you know? It's rather a very, sort of, lean and muscular thing. Empathy is very muscular; it takes a lot of work, you know? What do you see in a day, twenty patients in your office? And, the conceptual effort, almost the physical effort of doing this twenty times in a day is exhausting. And to always be saying, "Well, if that, then what?" And to enter the world as told by the patient, always sort of looking in the corners, as we said before, trying to hear the unsaid, trying to see the unseen. Man, is it ever exhausting! (in Vannatta, Schleifer, Crow 2005: Chap. 1, screen 35 [video]).

As we shall see, entering "the world as told by the patient" is a definition of "narrative transportation," the vicarious experience that we examine in this essay. Moreover, empathy, as Dr. Charon describes it, belongs to the domain of emotions and narrative *understanding*. It does not spring forth from the logico-scientific study of medicine: rather, empathy is an affective as well as cognitive understanding of another's feelings, pain, or concern. As such, empathy is a skill of great use in medical care. Furthermore, as the scientific work we survey in this essay suggests, empathy is a skill that can be learned and enhanced through engagements with narrative literature.

3. Vicarious Experience and "Narrative Transportation"

How then, does one go about enhancing the ability of medical students to be empathetic, and to be an effective practitioner of Narrative Medicine? How can the medical training process best prepare future physicians to be non-judgmental and aware of unintentional biases while evoking trust and exhibiting cultural humility? How does one begin to understand a patient's situation when there is no existing personal frame of reference upon which to draw from? The majority of medical students do not enter matriculation with firsthand experiences with unexpected death, chronic illness, poverty, racism, substance abuse, domestic abuse, or child maltreatment; they will inevitably be exposed to each of these during their medical training. They will see the worst of human suffering. What will prepare them and protect them through this experience? Can we use stories, in particular works of fiction, to help students understand and empathize with others' narratives to be better physicians? Most medical school curricula now include coursework in the Medical Humanities. A growing movement in medical education says we can use the concept of vicarious experience – a second source of knowledge gained through some means other than direct experience – to enhance empathy. The process is, in part, backed by data, particularly when coupled with concept of "narrative transportation."

"Narrative transportation" is a term devised in literary studies to describe and account for the fact that when people encounter stories – in language, film, and other media – they often experience the feeling, as Dr. Charon noted, of entering the world of the story. R. J. Gerrig coined the term in 1993 in a psychological study of the nature of vicarious experience. We find the spatial metaphor of "transported" movement embedded in the description of a psychological experience a bit troubling precisely in the way that, by asserting a sense of being engulfed in a narrative, it precludes – or at least discourages – analysis of the mechanisms by which storytelling affects the experience of those

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encountering stories. But there is good empirical evidence that such experiences of "losing" oneself in a story is an important aspect of narrative. For this reason, we will designate it as "NT," which, like the scores of acronyms around which medical pedagogy and practice organize themselves, allows us to examine this phenomenon with as little connotative semantic baggage as possible.[4] Thus, despite its semantic shortcomings, NT does ask us to examine the nature of vicarious experience more closely and think of it as going beyond simply the knowledge of others' experiences. NT further proposes that when people lose themselves in a story, their attitudes and intentions change to reflect that story. In this way, the mental state of NT can explain the persuasive effect of stories. According to Gerrig, when people read a fictional narrative, they may become fully immersed into the story, which presents an alternative narrative world that is significantly different from the real world of the reader. Such immersion, Gerrig suggests, invokes the phrase "getting lost in a book." Studies have shown that when readers become immersed in (or "transported" into) a narrative, personal change is more likely to occur (Green and Brock). In a recent review of both experimental and interpretational studies of Transportation Theory, Tom Van Laer et al. succinctly define NT from the point of view of marketing. In this description we have replaced the term "consumers" by "readers."

> Narrative transportation theory proposes that when [readers] lose themselves in a story, their attitudes and intentions change to reflect that story (Green 2008). The mental state of narrative transportation can explain the persuasive effect of stories on [readers] (Gerrig 1993), who may experience narrative transportation when certain contextual and personal preconditions are met, as Green and Brock (2002) postulate for the transportation-imagery model. As we elaborate further subsequently, narrative transportation occurs whenever the [reader] experiences a feeling of entering a world evoked by the narrative because of empathy for the story characters and imagination of the story plot. (798)

The reader is in a state of detachment from the world of origin and, NT suggests, her attitudes and intentions change in relation to the narrative. In this way, NT is dependent upon empathy, theory of mind (discussed below), and the rhetorical features of literary narrative examined at the end of this essay. (See also Appel and Richter for similar findings.)

This makes it seem, then, that immersing students into stories that will invoke strong emotional responses by means of imagery, defamiliarization, and patterned organization on the levels of phonology, semantics, and story structure – all features that are typical of works of "art narrative" (Schleifer and Vannatta 91) – may lead to behavior change in people training to be physicians when they are presented in the future with patients with similar circumstances to those from the story. Thus, this sense of vicarious experience significantly different from a reader's everyday experience encourages educators to select stories with characters who have backgrounds dissimilar from the majority of readers in an effort to invoke empathy in situations where pre-existing biases or simple ignorance

[4] In significant ways, this *abstraction* is the opposite of narrative development. For a good example of such abstraction – i.e., the benefit of the number i rather than "the square root of minus 1," where the number allows for mathematical manipulation without the "baggage" of history and story – see Schleifer 198-200. He argues that the use of the number i, rather than √-1 desemanticizes the term in a manner that allows the formalism of mathematic analysis. Narrative, on the other hand – including what is called "narrative transportation" – *immerses* one in a fully semanticized world. This is certainly what Dr. Charon does with her sketchy story of the 98-year-old woman. In other words, *immersion* rather than *transportation* focuses on experience rather than intellectual analysis.

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may have previously precluded complete understanding. But another sense of NT – here again is a sense that the metaphor of "transportation" somewhat erases – is that NT *reinforces* and more clearly allows for a finer sense of delineation of a reader's everyday experience as well. In this, rather than being "transported" to a "new" context, the person encountering narrative can more fully appreciate the "old" context. As we shall see, this is the work of defamiliarization.

4. Scientific Demonstrations

In the last twenty years there have been many studies, pursued with scientific rigor, that demonstrate the fact that reading literary fiction effects changes in people that increase particular forms of cognition and fellow-feeling. How these effects are brought about has until recently been analyzed and discussed (usually in literary studies) but rarely by means of scientific protocols. Over the past twenty years, however, data have been published, derived from rigorous testing (and often from quantitative measurements), which shed light on this phenomena and indeed allow us to discern a causal relationship between reading fiction and increased empathy and vigorous enactments of what psychologists call "Theory of Mind" (often abbreviated as "ToM"). Just as NT is a concept that allows the systematic – and sometimes quantitative – analysis of the state of mind of "vicarious experience," so ToM allows the systematic analysis of the state of mind of "empathy." Theory of Mind is a technical term in cognitive psychology that describes the ability, in human and other primates, to imagine what another person/cohort thinks or feels. When Dr. Charon imagines the experience of "a 98-year-old demented woman," she is exercising ToM. (As this suggests, "Theory of Other People's Minds" might better describe this phenomenon just as "Narrative Immersion" might be more descriptive of NT.) Technically defined, ToM is the ability to attribute mental states – beliefs, intentions, desires, pretending, knowledge, etc. – to others and to understand that others have beliefs, desires, and intentions that are different from one's own. (As a corollary of this, it is also the ability to attribute mental states to oneself as well.) Experiments have demonstrated that it manifests itself in human beings around the age of four, before which children usually assume any knowledge they have is possessed by others as well. The anthropologist Robin Dunbar asserts that "no living species will ever aspire to producing literature as we have it. This is not simply because no other species has a language capacity that would enable it to do this, but because no other species has a sufficiently well-developed theory of mind to be able to explore the mental worlds of others" (102). Several of the scientific studies we cite demonstrate that engaging with literary narrative enhances and refines this ability to attribute mental states to others.

Some of these studies have shown – by means of the analysis of literary *features* such as we set forth later in this essay – how literary fiction goes about effecting these changes. But besides these "interpretative" analyses, many other studies have demonstrated by means of empirical, quantitative and qualitative research techniques that reading literary fiction leads to enhanced ToM, measurable transportation states (NT), and increased empathy. The exciting development of this data has come about through a confluence of studies involving a number of disciplines including cognitive and social psychology, narratology (including stylistics and linguistics), neuro-imaging specialists, and, as in Schleifer's and Vannatta's *The Chief Concern of Medicine*, literary semiotics and medical pedagogy. In this section, we set forth a short summary of this research by focusing on a small number of these studies that are representative of the wider work of the last two decades.

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Taken as a whole, this work in cognitive and affective science describe how reading literary fiction (variously defined as "writerly," "polyphonic," and "stylistically sophisticated discourse"), creates in the reader the desirable effects of enhanced empathy, more rigorous ToM, and the vicarious experiences that NT analyzes.

In 1994, David Miall, an English professor, and Don Kuiken, a psychology professor, both from Alberta, Canada, demonstrated in a series of experiments utilizing student-readers that "foregrounding" is systematically correlated with increased reading times and changes in affect (emotional response), and it is also correlated with readers' judgment of "strikingness." The term "foregrounding" was coined in the 1930s by Jan Mukařovský, a member of the Prague School of Linguistics. By "foregrounding" he means "the range of stylistic variations that occur in literature, whether at the phonetic level (e.g., alliteration, rhyme), the grammatical level (e.g., inversion, ellipsis), or the semantic level (e.g., metaphor, irony)" (Miall and Kuiken, "Foregrounding, Defamiliarization, and Affect" 390). Later, we examine similar discursive "features" in relation to Dorothy Alison's novel, *Bastard out of Carolina*. While these features can occur in all language uses, Miall and Kuiken argue (following Mukařovský) that they are systematically present in literary texts: foregrounding, they argue, "enables literature to present meaning with an intricacy and complexity that ordinary language does not normally allow" ("Foregrounding, Defamiliarization, and Affect" 390). One such measure is the ability of literature to "defamiliarize" experience and make it new. "Defamiliarization," as we will see, allows for the systematic study of the ways that discursive art – literary narrative – provokes effects and responses in readers/listeners. Miall and Kuiken measured the effects of foregrounding in four formal studies of readers that measure the "strikingness" of literature (i.e., the attention it arrests by means of defamiliarization), the provocation of feeling (affect), and the ways that foregrounding increases reading time.

Related systematic studies often focus on the emotive responses to reading literary fiction. In 2002, Miall and Kuiken published an innovative research paper that showed that readers of literary fiction were moved emotionally by certain passages, and when they reflected on that emotion they discovered that the passages and attendant emotion had stimulated reflections in their real world lives or in encounters with other texts. Furthermore, they found that the reflections stimulated "boundary crossing." Specifically, they demonstrate that "the experience of feelings in one situation leads to the re-experiencing of those feelings in situations that are similar" ("A Feeling for Fiction" 226). In a more general essay, in 2011 Raymond Mar et al. reviewed the literature on emotion and narrative fiction in which he and his colleagues examine in fine detail *empirical* studies that demonstrate the evocation and transformation of readers' emotions, how these emotions affect readers' experiences of narrative, and, finally, the consequences of these experiences in readers' subsequent lives well after closing the book.

As we have already suggested, much of the work on how literary narrative does its work to enhance empathy focuses on NT. These studies demonstrate that literary fiction is more effective in producing its cognitive and affective responses when the reader is immersed in – "transported" into – the story. This transportation is an integrative melding of attention, imagery, and feelings, such as Miall and Kuiken describe under the category of "foregrounding." In 2002, Green used a validated measure of transportation to demonstrate that NT is positively correlated with perceived realism, and that readers already familiar with themes in a story (e.g. homosexuality) had a higher degree of NT.

In the last two or three years studies have appeared that looked at reading literary fiction and its effect on ToM. In 2013 David Kidd and Emanuele Castano reported in *Science* a

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randomized control trial of the effects on ToM of reading fiction vs. non-fiction. They found that literary fiction was statistically more effective at increasing performance on advanced ToM tests. They also found a difference in ToM testing when comparing literary fiction with popular fiction. Finally in this short survey, in their 2013 article "How Does Fiction Reading Influence Empathy? An Experimental Investigation on the role of Emotional Transportation," Matthijs Bal and Martijn Veltkamp, in a very interesting study, investigated whether fiction experiences change empathy of the reader. Based on transportation theory, the experiment predicted that when people read fiction and are emotionally transported into the story, they become more empathic. Two experiments showed that empathy was influenced over a period of one week for people who read a fictional story, but only when they were emotionally transported into the story. No transportation led to lower empathy in both studies, while study 1 showed that high transportation led to higher empathy among fiction readers. These effects were not found for people in the control condition where people read non-fiction. The study showed that fiction influences empathy of the reader, but only under the condition of low or high emotional transportation into the story (Bal and Veltkamp).

NT seems to be more unintentionally affective than intentionally cognitive in nature. This way of processing leads to potentially increasing and long-lasting persuasive effects. Appel and Richter use the term "sleeper effect" to describe this paradoxical property of NT over time, which consists of a more pronounced change in attitudes and intentions and a greater certainty that these attitudes and intentions are correct. This is in opposition to simply reading a work of non-fiction or fiction that does not invoke NT – the effects in these instances are more poorly recalled over time. One possible explanation is that language's articulation in narrative format is capable not only of mirroring reality but also of constructing it. When stories transport story receivers, not only do they present a narrative world but, by reframing the story receiver's language, they also durably change the world to which the story receiver returns after the transportation experience (Appel and Richter). These are just a sampling of a large number of rigorous scientific studies demonstrating that engagement with fiction produces effects in readers that contribute to skills and attitudes that create more efficient, precise, and fulfilling engagements between physicians and patients. When this research is considered as a whole, it seems reasonable to infer that there exists a causal relationship that can help shape medical pedagogy.

5. Teaching Methods and Selection of Materials

The cognitive experiments we have described seem to suggest that NT is by itself a solitary sport, that it involves only the work of fiction and its increasingly immersed, emotional reader. In fact, however, a pedagogical environment with discussion, leading questions, and simply people bringing different familiarities to the shared experience of reading the same texts creates stronger engagements with ToM and NT. Thus, as part of an established curriculum, NT can be enhanced by teaching styles, directed reflections on and discussion of the work selected, and of course, the work itself. The authors of this article, who bring different "familiarities" to shared discussion – as a woman and man, a physician and literary scholar, a younger and an older person – teach a "Literature and Medicine" course at the undergraduate level at to Honors pre-medical junior and seniors at the University of Oklahoma. Professor Schleifer has been teaching the course for sixteen years while Dr. Hester, who has experience teaching workshops for medical students, residents, and physicians in professionalization, has only taught the course twice. While the curriculum

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has been previously published (see Vannatta and Schleifer), we can briefly describe it here: following the assigned readings students are required to produce a written response to the daily readings that follow an assigned prompt encouraging students to focus on one particular aspect of the reading. If students are moved during the reading to write about something entirely different from the prompt, they are encouraged to do so. But of course at the heart of the class is communal engagements with literary – and sometimes with non-literary patient narratives ("history of present illness") – to the ends of understanding and enhancing ToM and NT.[5]

6. The Rhetoric of NT

We end, then, with an example and analysis of a pedagogical focus that can promote these goals for people committed to a career in healthcare. Consider the following example:

> A medical student considers himself to be quite caring and compassionate. He has volunteered at animal shelters and other local community events. As the son of a physician and schoolteacher, he has never previously been personally exposed to poverty, domestic violence, or substance abuse; in fact, his parents sought to protect him from such things. He has successfully navigated the first two years of rigorous scientific study, and is now on the Family Medicine service and presented with an 11-year-old girl in clinic. The girl is brought in by her worn down mother, who says nothing is wrong; rather, the girl just needs shots so she can get back into school. The child is dirty, avoids making eye contact – including with her mother – and is markedly resistant to being examined. The student immediately feels ill at the smell in the room: what *is* that smell? *Feet*? *Menstruation*? *Fear*? After failing to engage the mother in answering any pointed medical questions – "We are just here for shots, I told ya," she says – and several failed attempts to coax the increasingly violent girl to lift her shirt up so that he may listen to her heart, he begins to feel frustration, anger and disdain, as well as guilt for even having those feelings. He feels a compulsion to *just get out of there*, and quickly finishes the exam – on the outside of her shirt – and asks the nurse outside the room to give the shots. When the nurse enters the room, the medical student sneaks up front to ask the clerk to do him a favor and not book this particular family with him again.

Consider now that, had this student read Dorothy Allison's *Bastard out of Carolina* (1993) and experienced NT, he might have had a different reaction and response to this family. He might have remembered waif-like but strong-spirited Bone – the early-teenage protagonist in the book and the target of physical and sexual abuse by her stepfather – who was ashamed of her illegitimacy. Bone's desire to have her mother stand up for her against her stepfather, and her mother's ultimate betrayal, we have seen teaching this novel to pre-med students, consistently provokes emotional responses in readers. For the hypothetical medical student we are describing the narrative encounter with *Bastard out of Carolina* would

[5] Recently, Mubeen Shakir – a former student in their course now in medical school – Dr. Vannatta, and Professor Schleifer conducted a study, via semi-structured interviews, which examines the effects of the class on previous students who are now practicing physician. Responses were categorized for themes, which included Treating the Patient as a Whole, with subthemes of vicarious experience, empathy, listening skills and communication, and death & dying: end of life care (see Shakir et al., unpublished ms.). One respondent noted that "several books discussed cultural differences. I took away so much from that. I think that it demonstrated how the care that we provide is influenced by language and race and culture and ethnicity. We don't provide good care to someone who we can't communicate with."

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allow him to always look for the "Bone" hidden among his patients, the fiercely independent child who desperately wanted someone to love her and protect her obscured beneath a veil of spite, poverty, and filth. He might have had the patience to consider alternative narratives beyond stereotype – "hateful child and unhelpful mother" – and take meaningful action to promote the trust of his patient and her mother. (In another text we read in class, Dr. William Carlos Williams describes the work of both doctoring and poetry as the transformation of "stereotype . . . [into] a moment of insight"; 359).[6]

In the novel, Bone is abused by her stepfather, "Daddy Glen." Daddy Glen beats her and inappropriately touches her again and again, and one exhibition of what we have called the patterned organization of semantics and story structure in *Bastard out of Carolina* is the repeated focus on hands in the novel.

> If I went home when he was there and Mama wasn't, he was always finding something I'd done, something I had to be told, something he just had to do because he loved me. And he did love me. He told me so over and over again, holding my body tight to his, his hands shaking as they moved restlessly, endlessly, over my belly, ass, and thighs.
>
> "You're just like your mama," he'd say, and press his stubbly cheek to mine.
>
> I would stand rigid, ashamed but unable to pull away, afraid of making him angry, afraid of what he might tell Mama, and at the same time, afraid of hurting his feelings. "Daddy," I would start to whisper, and he would whisper back, "Don't you know how I love you?" And I would recoil. No, I did not know.
>
> He never said "Don't tell your mama." He never had to say it. I did not know how to tell anyone what I felt, what scared me and shamed me and still made me stand, unmoving and desperate, while he rubbed against me and ground his face into my neck. I could not tell Mama. I would not have known how to explain why I stood there and let him touch me. It wasn't sex, not like a man and woman pushing their naked bodies into each other, but then, it was something like sex, something powerful and frightening that he wanted badly and I did not understand at all. Worse, when Daddy Glen held me that way, it was the only time his hands were gentle, and when he let me go, I would rock on uncertain feet. (108-09)

This passage – and the novel is full of such passages – presents the features of literary narrative that, we have argued, promote ToM, NT, and empathy: imagery, defamiliarization, and patterned organization on the levels of phonology, semantics, and story structure. The image of Daddy Glen's stubbly face creates a sense of reality that *transports* the reader into the scene, immerses him, if he is the medical student we are describing, into an experience that is both foreign and familiar, how a young girl ambivalently feels the combination of what she takes to be love and violation. This works as well if the medical student is a woman, although here the familiarity of ambiguous professions of love might be more pronounced. Similarly, the patterned organization of the novel as a whole, with its repeated focus on Daddy Glen's and Bone's hands, creates discursive repetition that provokes immersion: "people talked about Glen's temper and his hands. . . . They hung like baseball mitts at the end of his short, tight-muscled arms. On his slender small-boned frame, they were startling, incongruous constantly in motion, and the only evidence of just how strong he was" (35); "it wasn't Daddy Glen's sex that made me nervous. It was those hands, the

[6] Let us add Williams' fuller description: "The physician enjoys a wonderful opportunity actually to witness the words being born. Their actual colors and shapes are laid before him carrying their tiny burdens which he is privileged to take into his care with their unspoiled newness. He may see the difficulty with which they have been born and what they are destined to do. No one else is present but the speaker and ourselves, we have been the words' very parents. Nothing is more moving" (361).

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restless way the fingers would flex and curl while he watched me lean close to Mama" (62); "no matter what the size, I told myself, one day my hands would be a match for his" (109).

Perhaps a key literary strategy is "defamiliarization," a strictly literary technique first articulated by literary scholars in Russia in the early twentieth century who were seeking to describe a particular feature of literary discourse that distinguishes it from non-literary discourse. The Russian Formalists, as they were called, wanted to isolate the quality of "literariness" that can be found in literature. They claimed that one function of literature is to renew readers' sense of the newness of experience by disrupting habitual ways of reacting to or perceiving experience. Such disruption works to undo habitual *familiar* responses to the world: it *de-familiarizes* experience and transforms stereotype into insight. Thus, Viktor Shklovsky, who explicitly argued for this idea, notes that perception "becomes habitual, it becomes automatic" (58). To be made new and poetically useful, language must be "defamiliarized" and "made strange," as Shklovsky says, through linguistic displacement, which means deploying language in an unusual context or effecting its presentation in a novel way in order to "foreground" language use (Miall and Kuiken "Foregrounding, Defamiliarization, and Affect"). A good example of defamiliarization in Alison is her description of Daddy Glen "grinding" his face into Bone's neck. There, she changes the stereotypical "form" of description by no longer using the vocabulary of sexual acts while emphasizing – and making "strange" – the physical act by means of its mechanical description. More generally, though, attention to the *quality* of linguistic description – here the term "grinding," which hovers between metaphorical and literal description – gives rise to insight and emotion.

The "linguistic displacement" we are describing is another form of the "transportation" metaphor Gerrig and others use to describe the power of literary discourse to create a sense of characters as other people (theory of mind), a sense of sharing, cognitively and affectively, the experience of others (empathy), and a sense of inhabiting a world different from one's own (narrative transportation). Such senses, we are arguing, are aspects of medical care that are just as vital as knowledge of physiology, disease, and treatment. What they create are possibilities of shared *caring* in the practice of medicine. Finally, these phenomena of theory of mind, empathy, and NT can be taught to people seeking to devote themselves to a career of caring for others.

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