This issue of JLTA ventures into an unusual but exciting academic area, a discipline known as medical humanities. Many educators interested in the integration of humanities and arts into various learning venues nevertheless remain unaware that this process also has found expression in medical education. (Even some physicians are ignorant of this development!).

Yet, for four decades, the medical humanities has been a flourishing interdisciplinary field for scholarship and pedagogy. Medical humanities is a broad umbrella under which can be sheltered a range of academic studies ranging from literature (prose and poetry) and history to the visual (painting, sculpture) and performing arts (theater, cinema, music, and dance). The common unifying thread is the relationship of these various forms of creativity and self-expression to patients, doctors, medicine, and clinical practice. The result has been serious and exciting scholarship in journals such as *Literature and Medicine* and *Journal of Medical Humanities*, and the on-line journal *Medical Humanities*, as well as major medical journals such as *JAMA, Lancet*, and *Academic Medicine.* Interested readers can find additional information at the Literature, Arts, & Medicine database (http://litmed.med.nyu.edu) and Society for the Arts in Healthcare (http://www.thesah.org).

The use of the humanities and arts in medical education has also grown in the last 40 years, to the extent that over half to three-quarters of all U.S. and Canadian medical schools (depending on one's definition) have some sort of curricular offering in the medical humanities (1,2). The purposes and goals of such endeavors are various, but include a desire to educate medical students and residents more broadly about the human condition; help them to understand different points of view and thus to develop clinical

empathy; stimulate reflection and critical thinking; better tolerate ambiguity and uncertainty; and reconnect them with aspects of awe and mystery in the practice of medicine (3, 4).

Courses in the medical humanities may be either required or elective. They may occur during the preclinical years (when students take gross anatomy and basic science courses such as genetics, immunology, histology, physiology, and pathology) and/or the clinical phase of training (when students have regular patient contact during a variety of clinical services such as internal medicine, obstetrics-gynecology, pediatrics, family medicine, surgery, and psychiatry). The content of such coursework is variable, but can address historical topics, such as gender and race in the profession of medicine; the doctor-patient relationship; the patient's experience of illness; and issues such as death and dying, difficult patient-physician interactions, breaking bad news, cross-cultural medicine, and similar topics that are difficult to fully apprehend from purely didactic instruction (5).

This special issue of *JLTA* provides an introduction to a sampling of the vast and thought-provoking field of medical humanities, primarily as it relates to medical education. The nineteen articles included are written by physicians from many specialties (family medicine, pediatrics, anesthesiology, and psychiatry), psychologists, a medical anthropologist, and professors of literature and theater, often in collaboration with each other. The articles represent many regions of the U.S., as well as the United Kingdom and Brazil. Almost all of them are related directly or indirectly to medical education. Most describe curricular experiments using poetry and prose, readers' theater, movies, music, or multimedia approaches to enrich and expand medical learners'

understanding of medicine. Several articles discuss the active creation of poetry and art by medical students and residents as part of the learning process, some of which include personal poetry that illustrates or clarifies a teaching point. To help guide the reader, we have organized the articles according to the type of humanities/arts intervention described.

Narrative and storytelling. The first grouping of articles focuses on the use of narratives and storytelling. Narratology teaches us that the dominant stories found in the discourse of institutions and societies are generally used to maintain power and control (6, 7). But stories can also enable exploration and freedom (8), and this potential for stimulating reflection and changing perspective provides a positive rationale for integrating other voices and counterhegemonic narratives into medical training. Stories about patients and doctors serve many interrelated purposes, including reflection (9), healing (10), and transformation (11). Individual, as opposed to institutional, narratives are necessarily dynamic, constantly in flux with both the demands and limitations of the culture repertoire (12). They adopt, manipulate, resist, and expand upon those norms as they develop their own stories. They tell dominant narratives, but, at the same time, tell conflicting narratives of less resolution, more confusion, ongoing loss and suffering. These story-lines compete and conflict (13). It is this dynamism and fluctuation that encourages their use in medical education.

Warren Holleman teaches a large required class for beginning medical students, which he

describes in “Creating Conversations: Finding Ways to Promote Humanities in Large Medical School Courses.” Students read various narratives, both fiction and non-fiction,

to gain insight into the experience of being a doctor or a patient. But this is just the beginning of an intricate reflective process. The students write essays about the books they have read; then they participate in conversations about the books with the professor, each other, and even the authors. Holleman includes in an appendix movingly written testimonies of how students were profoundly affected by these experiences.

In "Medicine and the Silent Oracle: An Exercise in Uncertainty," Catherine Belling describes an ingenious experiment in which she has students interpret a first person narrative while withholding the ending, in which the identity of the narrator is revealed (or at least suggested). Through this approach, she compels students to confront assumptions and reveals the importance of perspective and the inherent uncertainty in medicine. She also demonstrates how elements of textual analysis, such as context, voice, temporality, plot, and desire are critical to understanding the stories of patients.

Joanne Wilkinson uses narrative to help develop family medicine residents' sensitivity to understanding and empathizing with different points of view. Her learners are encouraged to construct narratives about difficult clinical encounters adopting first their own, and then the patient's, perspective. Wilkinson emphasizes that not only does such an application of the humanities make learners "feel better," but it also enables them to uncover hidden biases and help them gain better understanding of their own emotions.

Pamela Schaff contextualizes her incorporation of humanities into the Clinical Medicine program at the Keck School of Medicine within a discussion of medical professionalism (14). The Professionalism and the Practice of Medicine course she oversees uses medically-related short stories to trigger small group discussions, as well as student essays, often written from the point of view of the patient. These are

supplemented by weekly reflective journal entries. Schaff notes self-reported positive changes in students in terms of greater opportunity to process their emotions, build community with their peers, and cultivate greater insight regarding their clinical encounters. She argues that such an approach is an important way to build professional integrity and commitment.

Jo Marie Reilly and Jeffrey Ring, representing a collaboration between physician and behavioral scientist, take a somewhat different look at narrative in the form of a literary newsletter published by their family medicine residency program. Here, residents and faculty can tell their stories through first-person accounts, interviews, essays, short stories, and poetry. They can reflect on patients and on their own lives as physicians and human beings. The newsletter is unique in its emphasis on medical experiences across cultures; and some of its work is published in Spanish.

In this section we also encounter storytelling in its oldest form – the oral tradition. A group of physicians from Brazil, Maria Auxiliadora Craice de Benedetto, Ariane Gianfelice de Castro, Elsi de Carvalho, and Pablo González Blasco report on an annual conference that opens with a presentation of medical student, resident, and physician narratives in the charmingly titled piece, “Once Upon a Time.” In the year described, the theme is *The Arabian Nights*. A medical student costumed as Scheherazade introduces the presenters, each of whom tells his or her story of suffering, transformation, and redemption. The article analyzes these stories of physicians in terms of a typology of patient stories created by the medical sociologist, Arthur Frank (15), and demonstrates that the stories of patients and physicians are often not far apart.

Many articles describing curricular innovations in the medical humanities note rapturous feedback from learners; and it is probably true that the majority of students, especially those participating in elective classes, find them enjoyable and worthwhile. Nevertheless, the medical humanities is not met with universal accolades. Delese Wear, a professor of behavioral science, and Joseph Zarconi, her physician colleague, dare to explore a little-mentioned subject: why some students in required humanities classes react with annoyance and even hostility to such exposure. Like Schaff's article, the thoughtful observations contained herein speak directly to issues of medical professionalism. They also offer valuable food for thought about how to make humanities teaching more accessible and acceptable to medical students.

Poetry. The next section specifically considers the use of poetry in medical education. For some medical educators, poetry is a particularly attractive form for both teaching and self-expression. Poetry in all its allusiveness, brevity, ellipticism and indirection is more like actual unruly human narrative than the smoothed and polished narratives we construct when writing prose (16,17). Everyday stories that real people tell are fragmentary, undeveloped, fragile, incomplete, inconsistent, full of fragments of speech, abrupt figurations and shifts (18) that are more like poetry than we'd like to admit (18,19).

Poetry is an especially rich and attractive form of writing, because it does not rely entirely on ordinary logic, the preferred method of thinking in which medical students are trained (20). Poetry addresses things that cannot be said directly, that perhaps are only sensed intuitively rather than logically apprehended (21,22). Poetry may engage in a kind of mythic thinking (23). It has perhaps greater potential than prose in tapping into depth

meanings that transcend the limits of what can be known through ordinary thinking (24). Poetry is less governed by the conventions, rules, and social codes of conversational language/communication than other forms of writing (25). Thus it is more likely to be authentic and revealing than a carefully crafted story that too easily slips into linguistic and discourse practices and canon. Finally, poetry is usually short, and therefore lends itself readily to the significant time constraints that exist in teaching medical humanities (5).

The article by Caroline Wellbery, “On the Use of Poetry in Medical Education”, explores both the advantages and limitations of integrating poetry into the education of medical learners. The article observes that reading poetry can help medical learners connect to intense emotion, develop sensitivity to nuance, ambiguity, and multiple meanings, and appreciate the richness, power, and complexity of language in ways that are otherwise difficult to create. She includes a close reading of several poems to illustrate their relevance to the medical profession and the human condition.

Howard Stein, a distinguished medical anthropologist and poet, discusses how writing poems about their experiences as physicians can provide rich insight for residents. He describes a fascinating “poetic dialogue” in which he first listens to (in the deep sense of witnessing [26]) residents discussing difficult patients and clinical situations. He then writes a poem attempting to capture the emotional dimensions of these experiences. Sharing these poems with the residents stimulates additional reflection on the event. Finally, residents attempt their own poetry. Stein also provides a solid psychoanalytic theoretical framework (27) for interpreting what happens, and why, in these unusual dialogues.

Deborah Kasman writes a brave and bold article drawing on her personal experiences as family physician, medical ethicist, wife, and mother. She shares how the doubts and uncertainties, the loss of self that plagued her during medical training, came to a head during an unexpected divorce. Literally, Kasman wrote to save her life. Her poems are poignant, insightful, raw, and powerful. And they come full cycle, helping us to understand at an emotional as well as an intellectual level how physicians need to come to peace with their personal and internal challenges in order to be the best physicians possible to their patients. She shares her personal journey through poetry and the arts as a way of making sense of and revitalizing her career and life.

Performing arts. The next three articles examine the relationship between performing arts and medical education in various ways. The performing arts introduce a certain dimensionality to medical education (28). In an active sense, as when medical students participate in live theater, video-making, or even musical performance, they are invited to reflect upon medicine as a performative art (29). As a practice profession (30), medicine is obviously not simply about reflection, but, indeed, is primarily about action. Performing arts give learners the opportunity, from a radically new perspective, to pay attention to how they "perform" as physicians – how issues like verbal and nonverbal expression (timing, movement, position in space, physical contact, tone, pitch), technical skill, artistic interpretation, and intended audience all influence their enactment of their "art" (31,32). Even in the more passive version, where they merely observe rather than directly participate in the performing arts, dimensionality has a powerful concretizing effect. No longer entirely in the realm of the imagination, live actors, singers, and musicians overtly model performance, which can provide profound insights into how to

understand the doctor-patient encounter as a stage play, a film, or even a musical performance (33,34).

The first article in this section, "Moral Imagination Takes the Stage: Readers' Theater in a Medical Context," illustrates the use of Readers' Theater in medical education. Medical readers' theater was pioneered by Savitt (35). Case and Mico recount an exciting and unique twist in which the groups of learners themselves are interdisciplinary (both students of medicine and students of the arts participate), and eventually the program engages the audience (in this case, elders from residential facilities) as participants as well. This breaking of the boundary between "healers" and "healed" leads to some surprising, and wonderful, results.

Alexander, Waxman, and White contribute a clever article representing the growing field of cinemeducation (36), in which film and cinema are used to teach medical learners about various aspects of clinical medicine. In this article, Alexander et al. interpret the movie *What's Eating Gilbert Grape?* as a medical case, using learners' observations of the film to formulate a history of present illness, medical history, social history, review of systems, and recommendations for treatment. The film offers an innovative and enjoyable way for residents to learn about chronic back pain, depression, and family dynamics.

Music is less often included in medical humanities' curricula (37), which makes the Van Roessel and Shafer contribution particularly fascinating. Here the authors indicate how exposure to music can strengthen and inform basic clinical skills of careful listening, including understanding how emotion is conveyed through tone, separating out different, yet intertwined strands of communication, identifying contradictory and

complementary themes. They also argue that music not only enhances listening skills, but gives medical students an opportunity to understand the practice of medicine as a performance art.

Multimedia approaches. The next section contains a variety of articles, unified by their use of "multimedia" approaches to integrating the humanities into medical education. In these cases, the interdisciplinary nature of medical humanities becomes more interdisciplinary still, as physicians and scholars from the arts and humanities learn to work together to integrate multiple art forms in one course. Lander, an arts-based researcher, and Graham-Pole, a pediatric oncologist and poet, carry their interdisciplinary teamwork into the content of the work itself in the article "Appreciative Pedagogy in Palliative Care." Using the conceptual model of Appreciative Inquiry (38,39), to elicit "the best of what is, they explore how poetry, storytelling, and movement can help medical students and staff working in palliative care settings explore some of their deepest concerns about death, dying, loss, and healing.

Lucille Marchand, a family physician, nurse, and certified palliative care expert, who collaborates extensively in the field of death and dying with artists, poets, and musicians, uses a developmental framework emphasizing emotional growth and transformation (40) to develop a multimedia approach in teaching residents about death pronouncements, death and dying, loss and grief. In her article, "Incorporating the Arts and Humanities in Palliative Medicine Education," she integrates her own poetry, collage, a wide range of first-person narratives and fictional accounts of death and dying, and, most important, the ritual of more experienced residents sharing their personal stories with less experienced residents. Through this immersion experience, we see death

and dying as whole person processes that require engagement of all dimensions of the care provider.

Marjorie Sirridge, who initiated one of the earliest medical humanities courses in the U.S., and her colleague Jennifer Martin, a professor of theater, present their program in the article, "Healing and the Arts: A Powerful Metaphor for Teaching about Healing or for Teaching Medical Humanities." This program includes exposing students to literature, art, music, and plays, and encourages active participation by attending performances and visiting museums. The course focuses on the healing potential of the arts for patients, physicians, and even society as a whole, as witnessed by an examination of post-9/11 art.

Owen Dempsey, a British physician, and Beverly Lucas, a research fellow in the arts, collaborate to describe their own humanities modules for medical students in "Critical thinking and synergism in an innovative medical humanities module." Coming from a Marxist philosophical perspective (41), Dempsey and Lucas show how exposure to arts, film, and advertising can lead learners to challenge dominant discourses in the field of health. The article includes a valuable analysis of how cross-disciplinary teaching, particularly engaging the unconditional positive regard of therapeutic approaches and the more analytic, competency-based emphasis of vocational methods, both challenges and enriches the instructors.

Research directions. To compete successfully for precious curricular time, the medical humanities needs to demonstrate its efficacy (42). Educational and evaluation research in this field is still in its infancy, perhaps because research in the humanities and arts has a very different definition inform that of the basic and social sciences. Most published research relies on small samples and learner self-reports (43-45), and does not

yet address more complex, but possibly more relevant, questions, such as whether students are able to sustain self-perceived positive change; whether such change is apparent to objective observers; and most important, whether change in learners translates into better clinical performance as assessed by patients themselves. The final two articles provide two examples of research with implications for the field of medical humanities, and suggest very different, but not contradictory, paths of scientific investigation that researchers might usefully follow. Both of these articles, like the Lander and Graham-Pole article which suggests "evidence" in medicine may be a poem as well as a lab result, invite us to expand our assumptions about what constitutes relevant data in clinical medicine (46).

The first article reminds us that basic science research is not incompatible with the humanities. Here, researcher and educator Robert Beck and colleagues Gottfried, Hall, Cisler, and Bozeman explore the effect of performative singing on various stress blood markers in their article, "Supporting the Health of College Solo Singers: The Relationship of Positive Emotions and Stress to Changes in Salivary IgA and Cortisol during Singing." Their findings, which are complex, provide preliminary confirmation for a healing component to singing. This has implications both for patients who may express themselves through this musical form; and for physicians who, surprising as it sounds, may sometimes choose to sing to their patients when no other form of healing is available (47).

The final article, "The Use of Creative Projects in a Gross Anatomy Class," by Shapiro, Nguyen, Mourra, Ross, Thai, and Leonard, describes a qualitative methodology including content analysis and hermeneutic interpretation conducted by an

interdisciplinary research team and applied to the creative projects carried out by first year medical students during their gross anatomy course. The study also reports findings from interviews conducted with both students who completed projects and those who chose not to do so. In addition to gaining valuable insights about the kinds of issues that preoccupy students during this phase of their training, we explore the meaning of the stress response to anatomy lab and speculate that dealing with anxiety associated with exposure to the anatomy experience through art and creative writing may be psychologically healthier than current approaches of desensitization and suppression.

Conclusion. Looking over this diverse and thought-provoking collection of work, three broad conclusions emerge. The first is the power of the humanities to engender reflection in learners by incorporating radically different perspectives from those normally represented in medicine for apprehending and interpreting the world. The second is that the concept that clinical medicine is performative contains exciting, and by and large still unexplored implications, for the profession. Third is the realization, or at least the possibility, that clinical medicine is a profoundly cross-disciplinary experience; and that in preparing students for their future roles as physicians, it behooves us to draw on many fields of knowledge, not only the basic sciences and clinical medicine, but also the arts and humanities. The editors of this special issue are hopeful that these articles will expand awareness of the important work being done in the medical humanities and stimulate increased cross-disciplinary theoretical and practical efforts to bring together the arts and education.

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