

# The Powers of a Fish: Clinical Thinking, Humanistic Thinking, and Different Ways of Knowing

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## Abstract

How are ways of knowing similar between clinical reasoning and the humanities, and can the latter be used to elucidate the former? This commentary considers a conceptual model proposed by Prince and colleagues in this issue to explore the different ways of knowing in art and medicine. Their proposed model links 2 approaches to clinical reasoning with an analytic approach said to be characteristic of the humanities—visual thinking strategies (VTS)—to teach skills in clinical reasoning. They suggest that the VTS approach aligns well with the 2

clinical reasoning approaches and use this relationship to argue for the introduction of the humanities into graduate medical education. However, is VTS truly an exemplar of analytic approaches used in the humanities? The approach to clinical decision making is a version of what Donald A. Schön calls technical rationality, but what is the epistemology used in the humanities and art? This commentary explores this question through the perspective of hermeneutics, a branch of philosophy that centers on an interpretive understanding of art, and through

art, a way of knowing the self, others, and the world. In contrast to limiting the focus of the humanities in medical education to sharpening the powers of observation and analytical thinking, the author argues that art also offers a way to explore the challenges and triumphs of providing care to those in need and to explore the meanings, feelings, and experiences of living and dying. It offers a way of understanding and expressing the moral dilemmas of our time that aspires toward the aesthetic, philosophical, and existential truths of a life in medicine.

*Editor's Note: This is an Invited Commentary on Prince G, Osipov R, Mazzella AJ, Chelminski PR. Linking the humanities with clinical reasoning: Proposing an integrative conceptual model for a graduate medical education humanities curriculum. Acad Med. 2022;97:1151–1157.*

Thinking is judged by a standard that doesn't measure up to it. Such judgment may be compared to the procedure of trying to evaluate the essence and powers of a fish by seeing how long it can live on dry land.

—Martin Heidegger<sup>1</sup>

**E**ven to the casual observer, it is evident that there are different ways of knowing the world. One can know a fact or a skill or a preference. These types of knowledge are different than an ethical conviction. Knowing about something is different than knowing how to do something; knowing that something is preferred is different than knowing

something is morally right. We use different ways of knowing to discover new aspects of ourselves, others, and the world we live in.

Medicine is no exception. Medicine is often erroneously characterized as a science, one that is ruled by precise rules, rigorous analysis, and clear answers. On the contrary, as Kathryn Montgomery has pointed out,<sup>2</sup> medicine is not a science but rather a science-using profession. Medicine too has different ways of knowing. It does not solely inhabit what Donald A. Schön describes as the “high hard ground” of epistemic purity but instead teaches us to work in what he refers to as the “swampy lowlands” of actual practice.<sup>3(p42)</sup> But what are the different ways of knowing that we use in providing care to human beings during moments of great vulnerability and loss? Furthermore, how do we engage different epistemological approaches in learning to practice medicine with excellence, compassion, and justice? This is a question that educators like Montgomery have asked over the years.<sup>2,4,5</sup> In this issue, Prince and colleagues extend this question to the use of a conceptual model to teach clinical reasoning using the humanities.<sup>6</sup>

Prince and colleagues compare methods of clinical reasoning with what they term the “analytic epistemology”

of the humanities.<sup>6</sup> As conceptual exemplars of clinical reasoning, they use the complementary approaches of Judith L. Bowen's model of diagnostic reasoning based on individual cases (data acquisition, problem representation, hypothesis generation, and illness scripts)<sup>7</sup> and Louis Pangaro's RIME (Reporter, Interpreter, Manager, Educator) framework.<sup>8</sup> For the analytic approach of the humanities, the authors propose the exercise of visual thinking strategies (VTS), an educational technique that is increasingly used in incorporating the arts into health professions education.<sup>9</sup> In VTS, students are asked to study an object of art, such as a painting or sculpture and are led in their thinking through a progressive series of guiding questions aimed at stimulating critical analysis—questions such as “What is going on in this image?” “What do you see that makes you say that?” and “What more can you find?” In the authors' application of VTS, an open exchange of impressions and ideas is conducted until a “closing reveal” is presented in which “accepted and/or proposed” interpretations of the work at hand are unveiled (see Figure 2 in Prince and colleagues<sup>6</sup>). The authors suggest that the VTS approach, which they regard as an example of analytic approaches in the humanities, aligns well with conceptual frameworks of clinical reasoning and, thus, the introduction of the humanities

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and humanities analysis may be used to enhance clinical reasoning in graduate medical education.

However, 2 questions arise. First, is VTS truly an example of epistemological analysis in the humanities? And second, what are the different ways of knowing in the humanities? In *The Reflective Practitioner: How Professionals Think in Action*, Schön argues that the model of technical rationality dominates the approaches in professions, such as law, medicine, architecture, and business, as well as in research, education, and practice.<sup>3(p21)</sup> This model consists of the instrumental use of reason to solve problems with the rigor of the scientific method. Jürgen Habermas describes this technical rationality as an approach that seeks to understand and intervene in natural processes and conditions, including those of biology and physiology.<sup>10</sup> This approach, often referred to as the classical scientific method, consists of observation, hypothesis generation, testing, interpretation, and conclusion, and is the dominant form of analysis in the biomedical sciences. So, in this context, what is VTS? I would argue that it is actually a modified form of the scientific method: it involves observation (“consider this painting”), hypothesis generation (“what is going on here?”), and testing (“what makes you say that?”), followed by a provisional summary. This process is iterative (“what more can you find?”) and proceeds toward a conclusion—the closing reveal of accepted and/or proposed interpretations of the work. In effect, I would suggest that the VTS is not a humanities analysis at all but the application of technical rationality to the humanities. By this, I do not mean to imply that VTS is not a productive approach to the use of art in medical education; on the contrary, I agree with the authors that it has benefits in terms of sharpening observation skills and generating different perspectives. It is just that I suggest that it is a method to use art educationally and not necessarily the conceptual description of ways of knowing or understanding art.

So, what is the epistemology of the humanities, and in particular, of art? One may approach art in different ways: as a *corpus of facts and theories*, such as in the history of art; as a *creative act*, such as an understanding of how an artist

may approach her or his work in terms of inspirations, techniques, media, or influences; or as an *act of interpretation* in which a viewer of art interacts with the work in ways that are informed by their own background, culture, preferences, personal values, and experiences.<sup>11</sup> Since the last category appears to align most closely with VTS, we might ask, “Is the approach of interacting with a work of art different from that in which one approaches science?”

Ever since the turn of the last century, philosophers and social theorists questioned whether the analytic methods of the natural sciences differed from those of the so-called human sciences—that is, the humanities, art, philosophy, and the social sciences.<sup>12</sup> Out of this questioning and spurred on by the efforts of such thinkers as Wilhelm Dilthey, Edmund Husserl, Martin Heidegger, Hans-Georg Gadamer, and later Habermas,<sup>10,12</sup> there arose a view that the ways of knowing in the human sciences were indeed fundamentally different than those employed in the natural sciences, and that knowledge in the former could not be verified through the methods of the latter. The major philosophical expression of this approach is hermeneutics, which was originally developed from methods of interpretation of biblical and ancient texts in the 18th and 19th centuries. Named for the Greek god Hermes, who was tasked with the duty of translating divine messages into human meaning, hermeneutics is devoted to “bringing to understanding” objects of human creation.<sup>12</sup> In the work of Heidegger and Gadamer, hermeneutics left the confines of texts and increasingly extended its reach of understanding to works of art and, ultimately, to human interaction itself.

According to Gadamer, the experience of great art takes an individual out of the specific circumstances of his or her life and relates the individual to the fullest meaning of the whole of that life. Through interaction with the work of art, the individual engages in self-reflection but also transcends the self in such a way that a higher truth is understood.<sup>13(p61)</sup> This truth is not some sort of Platonic ideal but instead is an understanding of oneself, one’s life, others, and the world in a fuller, deeply human way. Gadamer, like Heidegger before him, believes that one’s perceptions of art,

others, and the world are influenced by one’s background, historical context, identities, lived experiences, and culture—something that he terms the “horizon.” In a manner similar to one’s interactions with art, individuals interact with each other through dialogue in such a way that their exchanges lead to a “fusion of horizons,”<sup>13(p305)</sup> in which new understandings and perspectives of themselves and the world are revealed.

Applying this approach to medical education, I would propose that looking at art and medicine through the lens of human understanding, one can engage with art to broaden and deepen one’s involvement with the human dimensions of illness and its care. Art fosters an identification with the other. It can anchor empathy in the experience of someone who may be separated from us by time, culture, language, and identity in ways that teach openness and curiosity.<sup>11</sup> Art also has the capacity to stimulate moral outrage (think of Pablo Picasso’s *Guernica* or the recent public murals featuring George Floyd or Breonna Taylor). By “making strange” through subtle distortions in perceptions of common objects, practices, and events, art can prompt us to rethink our assumptions and beliefs in new and generative ways.<sup>14</sup> Art may also directly ground the experience of providing clinical care in deeply human themes. A brilliant example of this approach is the writer-physician Jay Baruch’s use of Anton Chekhov’s short story, *Misery*, about a man who, having recently lost his son, wonders, “to whom may I tell my grief?” Baruch engages deeply with the narrative and reflects on his work as an emergency room doctor to explore loneliness and loss as a medical emergency.<sup>15</sup> Fusing art and medicine can at times involve risk: by provoking discomfort and strong feelings, it can approach the third rail of an education infused by technical rationality: the realm of the *emotions*.<sup>16</sup> I would suggest that, contrary to Prince and colleagues’ assertion that there is a “need to take the humanities beyond humanism,”<sup>6</sup> the engagement of the humanities—through humanistic ways of knowing—can reveal the core value and meaning of humanism itself—that is, a deep and abiding commitment to human beings and their lives.<sup>5</sup>

Ultimately, I am not arguing against the use of approaches such as VTS in

medical education. I believe that it does in effect expose people to different ways of seeing the world and is capable of shaking them out of the complacent view that biomedicine trumps all. I am, however, respectfully encouraging us all to think about the fullest possibilities of art and the humanities in exploring the meaning of being human. As *Academic Medicine's* recently appointed Assistant Editor for Medicine and the Arts, I am excited about the potential of this “artistic turn” in medical education. In addition to sharpening the powers of observation and analytical thinking, art also offers a way to explore the challenges and triumphs of providing care to those in need and to explore the meanings, feelings, and experiences of living and dying. It offers a way of understanding and expressing the moral dilemmas of our time—the inequities of the health care system, the legacy of systemic racism, the crisis of climate change, the moral injuries of those working on the front lines of the pandemic—that goes beyond technical rationality and aspires toward the aesthetic, philosophical, and existential truths of a life in medicine. Brilliant forms of these meditations can be seen in the newly revised format for Cover Art seen in recent and coming issues.

In much the same way that we should avoid constraining our understanding of the powers of a fish by refraining

from limiting ourselves to seeing how long it survives on dry land, we should not constrain the engagement of art in medical education only to approaches in observation, clinical reasoning, and skill development. The humanities, like a fish, are so much more powerful than that—imagine a fish leaping.

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