The "negative capability" of Dr. John Keats



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Widely regarded as one of the great poets in the English language, John Keats was also a physician who identified an idea of immense significance for his fellow medics—"negative capability," which has the potential to deeply enrich the care of patients, the education of health professionals, and the conduct of biomedical research. Just who was John

Keats, what did he mean by "negative capability," and what insights might this seemingly paradoxical concept offer to contemporary physicians in a variety of career paths and at every stage of professional life?

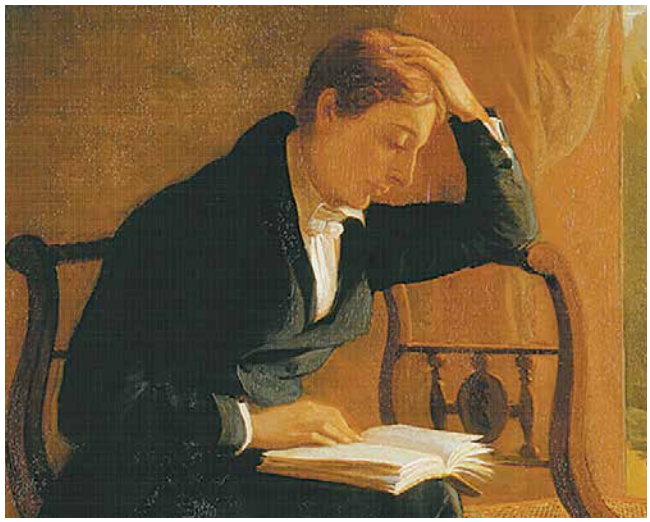
Ambiguity

In contemporary medicine, clarity is typically regarded as a virtue. Throughout medical students' academic careers, they take innumerable multiple-choice exams that prize the ability to "select the one best response," discounting complexity and nuance. On hospital rounds, residents are praised for quickly arriving at a diagnosis and initiating appropriate management. Even patients sometimes lament a doctor who dithers. As one of my professors in medical school was fond of saying, good patient presentations should not be mysteries. Clarity, it would seem, is all.

This aversion to ambiguity has been amplified in recent years. Health information systems structure medical cognition as check boxes and drop-down menus that shoehorn each patient's story into a pre-determined set of categories. If a set of symptoms and sets cannot be assigned an ICD-10 code, it will not count. Likewise, failing to render the narrative of a patient's care in terms of a CPT code means leaving revenue uncollected. The operative metaphor is not a voyage of discovery but probing just long enough to assign each case to a preexisting category. Of course, it was not always this way.

Keats, perhaps the greatest poet-physician to write in the English language, deeply understood the dangers of pigeon-holing, pretending that once we have placed someone or something in a category, we are free to move on. How could someone who lived only to age 25 have contributed so much? To understand his genius, it is necessary to explore why he extolled the habit of suspending judgment, seeking to perfect his own faculty of negative capability. In this strange concept shines one of the brightest stars by which medicine should chart its course.

Before turning to what Keats meant by negative capability, we should first consider Keats himself, a man whose biography is no less noteworthy than his great literary works. The fact that his was no easy life—in fact, far from it—only enhances the wonder of its fruits. It was not in spite of, but rather thanks to, the many difficulties and heartbreaks he encountered over his short life that he could write in "Ode on a Grecian Urn," "Beauty is truth and truth beauty—that is all ye know on earth, and all ye need to know."[1] He found beauty and truth where others might apprehend only squalor and despair.



Portrait of John Keats (1795–1821), English Romantic poet, by Joseph Severn. Detail. Public domain, via Wikimedia Commons

Keats

John Keats was born on Halloween in 1795, the eldest of his parents' four children. His father ran a stable. As a boy, Keats attended a local school operated by a remarkable teacher, John Clarke, where he became fast friends with the schoolmaster's son. While Keats was in school, both his father and mother died, and he and his siblings soon found themselves in their grandmother's care. Despite such great losses, Keats proved himself a gifted student, winning multiple essay prizes and translating works from Latin and French.

Both an orphan and short of funds, Keats decided to pursue a career in medicine, hoping to "do the world some good."[2] Qualifying in surgery did not require a university degree, which he could not afford, so he opted to become a surgeon. During his apprenticeship, he studied anatomy and gained considerable firsthand experience helping to care for patients. Despite the rigors of his training, he continued to read widely, including such English classics as Milton's *Paradise Lost* and Spenser's *The Faerie Queene.* Soon he sensed the call of poetry.

During his training, Keats and his surgical mentor suffered a falling out, so he left his apprenticeship prematurely, moving to London and enrolling at Guy's Hospital to complete his training. There he was soon appointed a "dresser," meaning that he spent most of

each day face-to-face with patients, tending with his own hands to their injuries and diseases. Especially in his day, before the advent of anesthesia and asepsis, surgery proved to be a gruesome affair. In 1816, he passed his examinations and gained full qualification to practice.

The year 1818 marked a turning point for Keats. His younger brother George moved to the United States and his youngest brother, Tom, for whom he had been caring, died of tuberculosis. Moving into the house of a friend in 1819, Keats entered a period of amazing productivity, often referred to as his miracle year, during which he composed his great odes, including "Ode to a Nightingale," "Ode on a Grecian Urn," and "Ode on Melancholy." Now recognized as masterpieces, initial reviews were quite harsh. Wrote one critic, "Back to the shop, Mr. John, back to the plasters, pills, and ointment boxes!"[3]

Keats met the love of his life, Fanny Brawne, late in 1818, when he was 23 and she was 18. His mother and sister were both named Fanny, and the next year, Fanny and her widowed mother took lodgings next to Keats, enabling the two to see one another daily. Keats longed to marry, but he had no means to support a wife or a family, and for the time being, marriage seemed out of the question. His many letters to his beloved are notable for their poignancy, highlighting the stark contrast between his deepest longings and what real life seemed to allow for. In one letter he wrote:

> I have been astonished that men could die martyrs for religion—I have shudder'd at it—I shudder no more—I could be martyr'd for my religion—Love is my religion—I could die for that—I could die for you.[4]

Having been diagnosed in 1820 with tuberculosis, the same disease that killed both his brothers, Keats was advised by his physician to move to a warmer climate. He left for Rome, moving into a villa on the Spanish Steps, now known as the Keats-Shelley Memorial House. Believing that his disease was centered in the stomach, his physician placed him on a severely restricted diet that may have contributed to his inanition and undermined his immune response. After five agonizing months, which he ironically referred to as "my posthumous existence," he died.[5]

Keats had barely reached the quarter-century mark, having written poetry for no more than five years. Sales of his volumes were estimated in the low hundreds, and he died believing that he had failed and would quickly fade into oblivion. Lamenting the brief span during which his light had shone, yet grateful for the beauty that had been revealed to him, he wrote to Fanny:

> "If I should die," said I to myself, "I have left no immortal work behind me—nothing to make my friends proud of my memory—but I have loved the principle of beauty in all things, and if I had had time, I would have made myself remembered."[6]

It took many years for Keats' genius to be recognized, but eventually he took his place among the great bards of the English language. In 1853, Matthew Arnold counted him "in the school of Shakespeare."[7] In 1882, Swinburne described the "Ode to a Nightingale" as "one of the final masterpieces of human work in all time and for all ages."[8] And in 1967, Borges recalled hearing "Nightingale" as the moment he realized that language could also be "a music and a passion."[9] Today, he is counted among the great Romantic poets, a peer of Byron and Shelley.

Negative capability

Keats is admired today not only for his poetry but also for his letters, many of which would not have been written had his brother George not ventured to America. The letters initially languished in total neglect longer than his poetry. First published in the mid-nineteenth century, they rose further in critical estimation during the twentieth. T.S. Eliot regarded Keats' correspondence as "the most important by any English poet," and "true for greater and more mature poetry than anything Keats ever wrote."[10] It did not matter the form, when Keats put pen to paper, he struck lightning.

Keats refers to negative capability in a letter to his brother, in which he offers a definition as "being in uncertainties, mysteries, doubts without any irritable reaching after fact and reason."[11] Thinking above all of Shakespeare, Keats seems to be arguing against a voice that presumes to know, to have everything worked out. Instead, he extols the virtues of taking the trouble to inhabit different points of view, no one final or definitive, and resisting the pressure to lunge prematurely at any particular perspective or version of the truth.

Keats encourages us to delay judgment and suspend closure. What patients happen to say first may not be the most important thing they have to say, and we must be sufficiently patient to allow the deeper story to emerge. Likewise, the first diagnostic hypothesis or therapeutic impulse that comes to mind may not turn out to be the

most fitting. Continuing to observe and study, allowing time for deeper perceptions, intuitions, and ideas to emerge, sometimes leads to a far more complete and enlightening perspective, giving rise to a more useful, truer, and even more beautiful apprehension.

Consider dying patients, who constituted a fixture of daily life during Keats' days at Guys Hospital. In today's terms, we could see the patient as a collection of distinct pathophysiologic processes, each of which—hypoxia, tachycardia, hyperkalemia—can be addressed with a distinct set of medical interventions. But in many cases, immediately jumping in to correct such dysfunctions may only prolong suffering, denying those whose time has come the opportunity to die well. In some cases, addressing individual abnormalities deserves less allegiance than caring for the whole person.

The same goes for education. Students who struggle to memorize answers from electronic flashcards may seem at a disadvantage compared to others to whom memorization comes easily and who rely heavily on mnemonic devices. The latter may even consistently outscore the former on standardized, multiple-choice tests. Yet in the long run, the student with a strong appetite to understand underlying processes may turn out to enjoy a profound advantage, because excellence in medicine ultimately relies more on posing and answering new questions, pursuing additional information and context, than it does on choosing the best response from a prescribed set of options.

Likewise for research. Investigations that are most readily funded, presented, and published are not always focused on what we most need to know, and in many cases, the most important research contributions flow not from those merely taking the next step along a long path but others eager to explore new, paradigm-shifting directions. When researchers are willing to dwell longer in uncertainty, taking the time to critique their assumptions and consider novel perspectives, the probability of truly pathbreaking investigation tends to be enhanced.

In counseling against premature closure, Keats is urging us to keep our eyes and ears and hearts open. Too often our preconceptions interfere with our perceptions, and we get so caught up in making everything fit into predetermined categories that we fail to see what is really there. He is arguing not for inveterate indecisiveness but for an eagerness to keep looking, in hopes that something we haven't yet seen or thought of might come into view. First impressions are important, but it is usually only over time that we really get to know someone.

Crossing the large lawn dividing two urban hospitals in the middle of a cold, dark, and lonely winter's night, a medical student saw a hulking figure approaching him. Assuming that a robbery was about to ensue, he reached into his pocket to assemble some bills to hand over, in hopes of avoiding harm. As the figure came nearer, however, he was astonished to see a patient covered in blankets, an IV pole in tow. It turned out that the man had gone out for a smoke, and because he was nearly blind, had become lost. What the student initially regarded as a threat, turned out to be an opportunity to serve.

The ability to suspend judgment and keep looking is vital to all forms of discovery, whether poetic, clinical, or scientific. Every new perspective requires a willingness to move beyond an old one, at least long enough to let something novel come into view. To see human anatomy for what it really is, Leonardo and Vesalius had to look with fresh eyes at the human form. To see the circulation of the blood, Harvey had to see past the prevailing to-and-fro model of blood flow. Making the next great leap in medical science, whatever it may be, will require us to set aside our assumptions, expand on what we think we know, and look afresh.

Consider, for example, the then-strange contention of 2005 Nobel laureates Barry Marshall and Robin Warren that peptic ulcer disease—long-known to be the product of excessive acidity—is in fact at least largely an infectious disease. Their funding requests, abstracts, and manuscripts were repeatedly rejected by those who knew they must be barking up the wrong tree. Or consider the even more bizarre suggestion that the best means of counteracting a life-threatening Clostridium difficile infection of the gut is not bactericidal antibiotics but bacteriotherapy using fecal transplants.

As Keats might see it, too many contemporary physicians act like carpenters whose only tool is a hammer, which leads us to suppose that everything around us is a nail. We are like fishermen who take for granted that the definition of a fish is what we can catch in our nets. It is all too easy to become so enamored of our preconceptions that we are blinded to essential features of the reality around us. When this happens, not only diagnostic and therapeutic efficacy but even the humanity of patient and physician may be overlooked.

Like Frankenstein's monster—the literary creation

of Mary Shelley, the wife of one of Keats' friends, Percy Shelley—we too can become participants in a mad experiment, one that poses the question, "What would happen if we supposed the patient were a mere revenue-collection opportunity, a medico-legal threat, a customer who must be satisfied, or even simply a data point?" Each such hypothesis reveals some things, but it obscures others, and too often what most requires illumination remains in the shadows.

In the spirit of negative capability, we need to ask new and unaccustomed questions. Where are the performance reviews that invite us to focus on what we don't know? Where are the dialogue boxes that urge us to delve deeper into the ambiguities and nuances of a case? Where are the medical school faculty members who put compassion, creativity, and innovation above students' standardized test scores? What can we do to shift the balance from the conformity of clear-cut answers to a greater tolerance for ambiguity, creativity, and initiative?

A medical student was caring for an immigrant with tuberculosis who had been treated with the standard multi-drug regimen for two months. His most recent laboratory tests had been negative for acid-fast bacilli, and he was taken off respiratory precautions. When the student saw him coughing up blood, however, he insisted on donning a mask, provoking mirth among his more senior colleagues—mirth, that is, until the student's further questioning revealed that the man had been vomiting up his medications for weeks and had once again developed active TB.

In another case, a medical student presenting a patient on rounds announced that she was "status post BKA"—below-the-knee amputation. When the student finished, the attending physician verified that this was indeed what the student had said, and then suggested that the team visit the patient. When they entered the room, they found the patient asleep, with ten toes peaking out from under the sheets at the foot of the bed. As it turned out, the patient had been admitted the year before in "DKA"—diabetic ketoacidosis—and the flawed transcription had been merely copied and pasted over and over.

In each case, the medical record, like medicine's taxonomy, becomes reified into something seemingly more real than the patient, the student, or the problem. Our vision of what we need to see becomes obscured by our information technology, and we become the tools of our tools. What Keats holds out in negative capability is an opportunity to see anew, to see as if for the first time, and to know as we have never known before, beholding both a deeper truth and a more profound beauty that some of us might otherwise cease to perceive and marvel at.

Uncertainty, in other words, should be regarded not as a bug but a feature of the quest for knowledge. Recognizing that we do not know is the first step on the journey to deeper understanding, and abiding in uncertainty creates the conditions necessary not only to find new answers, but also to formulate better questions. Keats' negative capability is, among other things, a counsel to curiosity, humility, and shared inquiry. Instead of clinging tightly and defending to the last breath things we cannot know with certainty, we should instead—whether in patient care, education, or research—embrace the opportunity for discovery.

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