

Insight from alchemy

By Shawn Christopher Shea, M.D.

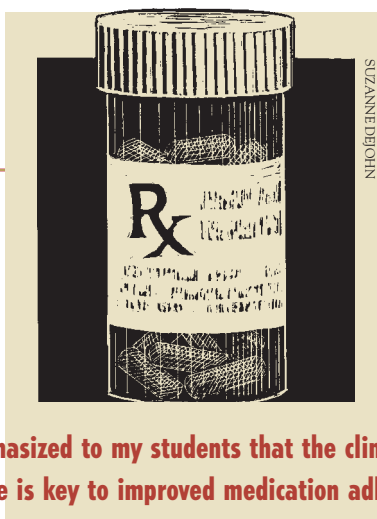
Picture yourself standing on a street in Holland on a rainy day in 1666. You are watching a curious pair. One of them, Helvetius, clothed in the flowing garb of a highly respected court physician, is a well-known rationalist—no friend of the magical or alchemical theories so prevalent in that time. He is engaged in a heated discussion with a man almost his opposite—dark-haired, beardless, dressed in drab Mennonite black. The stranger had rapped upon Helvetius's door and engaged the good doctor in a fiery challenge to his anti-magic beliefs.

Crystals: As most fiery debates go, this one went nowhere. Suddenly, the mysterious stranger announced that he had proof of his own belief in alchemy. Helvetius demanded to see it, and, to his surprise, his dark-haired visitor pulled from beneath his simple cloak a handsome ivory box. Inside it lay three transparent, yellowish crystals the size of small walnuts—three samples, not one, of the legendary Philosopher's Stone, reputed to be able to turn lead into gold. Helvetius smiled. It was not the smile of one who was impressed.

Three weeks later, Helvetius would be very impressed. Having been given by the visitor a tiny piece of one of the stones, he had dropped it into a crucible containing half an ounce of molten lead. At that point, maintained this high priest of rationalism, even upon his deathbed, a miracle occurred. Within the crucible a marvelous hissing and bubbling erupted, and an astonishing iridescence engulfed the lead nugget, which turned first a brilliant green and then an even more brilliant gold. The town assayer confirmed what Helvetius already knew—it was solid gold.

Appeal: Although Helvetius was certainly well respected, I have my doubts about the conclusion he reached in this oft-told story. However, since I am beginning to write this essay on the night before Halloween, it seems a good place to start—in good measure because, curiously, we physicians have always had a tight connection with alchemy. Many of the great physicians of the Middle Ages and the Renaissance—Avicenna, Paracelsus, and Robert Fludd—were well-known alchemists. Part of the appeal to physicians was the tantalizing promise that the Philosopher's Stone would not only transmute lead into gold but could also heal all disease.

What fascinates me about alchemy is the fact that some of its ancient principles can shed light on some contemporary problems in modern medicine. Of particular interest to me is one of the most sacred of all alchemical beliefs—that the macrocosm (the universe) is no different from the microcosm (the individual man or woman). In



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other words, to put the precept in a medical context, studying the health-care system means studying the patient—and vice versa.

And here is the tie-in with a subject of particular importance to me: improving medication adherence—that is, the extent to which patients take medications as prescribed by their health-care providers. For decades, I have emphasized to my students that the clinician-patient alliance (a macrocosm of medicine) is key to creating the interactions with patients that can result in improved medication adherence (a microcosm of medicine). I still believe this concept to be true. And equally true is the fact that if one studies the microcosm (the words that pass between clinician and patient about medications), one may find compelling answers about how to nurture the macrocosm (the clinician-patient alliance). One could argue that a patient determines how trustworthy and caring a clinician is, as well as how good a listener he or she is, by how the clinician introduces the idea of medications, listens to the patient's concerns about side effects, and is willing to change a medication recommendation based upon the patient's expression of these concerns.

Model: To formalize a way to achieve this kind of trust between clinician and patient, I developed an educational tool that I call the Medication Interest Model (MIM). It is a method by which medical and nursing students can learn how to nurture a powerful clinician-patient alliance. The model is based on the use of specific words that skilled clinicians use when, in collaboration with their patients, they navigate the complex nuances of medication choice and use.

The MIM delineates over 40 easily learned interviewing techniques that have been shown to improve medication adherence. Students (or practicing clinicians) can then be tested for their competence in these techniques. In addition, because the MIM techniques are well defined, they can be studied empirically or used as a foundation for evidence-based improvement in medication adherence.

The techniques are also integrated with a framework for understanding why patients choose to stay on medications—which I call the Choice Triad and which is consistent with the principles of motivational interviewing and shared decision-making.

Educational advances like these—with their emphasis on how caregivers' language affects patients' willingness to take medications—represent the medical microcosm. Perhaps with the aid of such tools, today's medical and nursing students will be able to better attain the greatest achievement of the medical macrocosm—a true clinician-patient alliance.

The alchemist Paracelsus put it well, in a way that has relevance even today: "Every physician must be rich in knowledge . . .; his patients should be his books, they will never mislead him." ■

The Grand Rounds essay covers a topic of interest to the Dartmouth medical faculty. Shea, an adjunct assistant professor of psychiatry, designed an interviewing mentorship program for DMS students and wrote Improving Medication Adherence: How to Talk with Patients About Their Medications, published by Lippincott Williams & Wilkins.