

Respecting the Limits of Method

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The triumph of method in contemporary medicine is well captured by the “prayer of the scientist” in Sinclair Lewis’s Pulitzer Prize-winning 1925 novel, “Arrowsmith,” a portion of which reads, “God give me a restlessness whereby I may neither sleep nor accept praise till my observed results equal my calculated results.” In a strong rebuke to method, Lewis himself declined the Pulitzer, citing the fact that literary merit is nowhere mentioned in its terms. He did, however, accept the 1930 Nobel Prize for Literature, the first awarded to an American. In his acceptance speech, he wrote that “the American novelist or poet or dramatist or sculptor or painter must work alone, in confusion, unassisted save by his own integrity.”

Arrowsmith was written on the heels of Abraham Flexner’s 1910 report on medical education in the United States and Canada, prepared for the Carnegie Foundation for the Advancement of Teaching. As medical historian Kenneth Ludmerer has pointed out, the Flexner report did not so much initiate reform as crystallize changes that were already well underway, a trend toward centralization and standardization that persists in American medical education to this day. Generations of idealistic young physicians have supposed that Lewis’s novel aims to glorify science and the scientific method, but in fact Lewis is raising probing questions about method itself.

Consider Lewis’s novelistic personification of pure science, Max Gottlieb. He has devoted his life to scientific research. You might say that he has made the scientific method his god. Like the German university system he represents, he believes that knowledge should be pursued

for its own sake, and he regards rigorously controlled experiments as the only source of true knowledge. Specifically, he believes in a quantitative approach to science, telling the young Arrowsmith that, “In this veil of tears there is nothing certain but the quantitative method.” Like his real-life inspiration, Jacques Loeb, he never doubts that living organisms can be boiled down to the inorganic processes studied by physical scientists.

Human beings, in other words, are to be comprehended according to physical chemistry, and physical chemistry is in turn to be comprehended in terms of mathematics. In the final analysis, humanity and each human person – whether a scientist, a physician, or a patient – must be understood as an equation. Here we glimpse both the essence of pure science and the meaning of the scientist’s prayer – that “I will neither sleep nor accept praise until my observed results equal my calculated results.” That my mathematical model should conform to the real world matters less than that the real world, however finely it must be sliced to be fit for purpose, fit my mathematical model.

This marks the triumph of method. I will build an apparatus, and only its measurements will count as knowledge. I will weave a net, and only what my net catches will count as fish. Contemporary medicine is filled with examples. The only correct answer on a multiple-choice examination is the one identified in advance by the author and psychometrician who developed the question. The work of physicians only counts if it corresponds to established ICD-10 and CPT codes. And hospitals only pass muster if they follow accreditation guidelines. The only way to do anything, from passing a test to caring

“One can show the following: given any rule, however “fundamental” or “necessary” for science, there are always circumstances when it is advisable not only to ignore the rule, but to adopt its opposite. “

Paul Feyerabend, “Against Method”

for a patient to operating a hospital, is to conform to the model.

Yet what if Max Gottlieb does not see the whole picture, and his version of the scientific method is but one way of knowing? What if multiple-choice questions capture only part of what medical students really need to know, if physicians know things beyond what the ICD and CPT codes recognize, and hospital staff members do all kinds of good work that accreditation guidelines fail to dream of? What if, in other words, the prayer of the scientist is misguided, or at least incomplete? What if it is ultimately more important not that reality conforms to our models but that we remain true to the full richness and complexity of our patients, our colleagues, the profession?

If mere adherence to method cannot take us to where we really need to go, then we must treat methods not as ends in themselves but as mere means, always subordinate to a larger reality. Perhaps the student has a good question, an important question, a question that could lead to real understanding, that has never even occurred to the instructor. Perhaps what the patient needs most is not to be assigned to the one best preexisting diagnostic or procedural category, but genuinely seen and listened to and empathized with. Perhaps what a thriving hospital needs above all is to foster deep and potentially inspiring conversations among the members of its community.

Some hope that by developing and adhering to the best methods, we can make our work fully predictable, assessable, and controllable. In an ideal world, we would de-

velop precise metrics and make all of our numbers. But the impulse to quantify and measure can blind us to all sorts of things that really matter. Suppose, for example, that we had not only to describe but to live out the most important relationships in our lives in purely quantitative terms – how satisfying would friendship, marriage, or parenthood prove to be if we could see and feel and know only in terms of quantities? “How are you today?” “Oh, about a seven.” “In the end, what did your life amount to?” “6.45, +/- 0.35.”

I enjoyed the honor of serving as president of a medical staff organization. Early on, it became readily apparent that the overarching concern of such organizations is policy. If we do not have a policy, we need to make one. If our policy contains holes or mistakes, we need to revise it. And if any practical question arises, it should be resolved with respect to established policies. So long as we follow our policies, we are on solid ground. If we ever act against policy, our goose is cooked. Yet the allegiance to policy can blind us to deeper truths. Those who wrote the policies could not anticipate every real-world case, and ultimately, in at least some cases, it is less important to follow policy than to do what is right.

Consider a physician’s angry outburst in clinic. By failing to conform to professional conduct guidelines, he had clearly violated policy. But his anger was honorable. Adherence to hospital policies had delayed indicated radiation therapy for a patient with a mediastinal mass by a full week, and by the time treatment was finally authorized, the patient had developed respiratory failure and required intubation in the intensive care unit. The hospital followed all its policies to a T, including holding

a medical staff hearing and requiring the physician to enroll in an anger management course. What it failed to do, however, was to make any effort to understand the physician's perspective or express any genuine collegial concern.

What might have appeared to Max Gottlieb an intractable problem – that many aspects of our work and life do not lend themselves to numbers, models, and methods – may turn out to be one of their greatest charms. The things in life that most of us find most attractive, engaging, and fulfilling – learning, collaborating, being friends and lovers, creating, excelling, and striving to embody excellences of both intellect and character – turn out to be vexingly difficult to reduce to any method. We can, of course, share stories and even, on occasion, some useful advice, but ultimately there are no shortcuts to becoming good at them that would not deprive us of the joy of them. This is what Lewis meant by integrity.

We need to avoid allowing our allegiance to method to blind us to reality. Instead, we should regard all methods as resources that, if kept in proper perspective, can be of assistance, but which must never become ends in themselves. We need, in other words, to resolutely avoid becoming the tools of our tools. Method exists for human beings, not human beings for method. To be sure, challenges will persist – there will be undeniable complexities, tensions, and all-but-inevitable failures to see for what it really is what is right in front of our noses. But it is from this ambiguity and the powers of discernment it calls forth that our full humanity emerges.