

Introduction

Why This Book?

I entered medical school in 1951 when adults and children were dying of small pox, measles, and poliomyelitis. Besides a good history and physical examination, the only available diagnostic tools were bedside laboratory procedures such as blood count and urinalysis, and plain roentgenograms. The only available antibiotics were sulfa, penicillin and streptomycin. There was no CT scan or MRI, no cardiopulmonary resuscitation (CPR) and no intensive care unit (ICU).

Medical science and technology have advanced so rapidly in the past 60 years that we can see things our eyes cannot see; hear sounds our ears cannot detect; touch parts of the body we could never have hoped to touch. It is now possible to perform robotic surgery, surgery on the unborn fetus and surgery through natural orifices without any external incision. There is no more smallpox in the world. Poliomyelitis is almost gone. Certain forms of cancers can be cured. It was exciting to be part of this adventure.

My training had a strong scientific foundation. After entering actual practice, I rapidly learned that medicine is more than science. Scientific training is the foundation; but without a personal, human touch in its application, it falls far short of its potential. In the words of one observer, "...the art of medicine lies in the promotion of productive doctor-patient relationships."¹

I soon realized that in my enthusiasm to "cure" diseases, I had forgotten how to hold hands with the patient, give comfort and "care" for

them. I realized that the way patients show their illness, seek help, follow advice, react to stress, and learn to cope depend on several non-medical factors such as their age, sex, belief systems, support systems, social status in life, and economic condition. I realized that I did not have to be an expert in cultural anthropology, sociology, behavioral sciences, and psychology to be able to help my patients. However, I had to develop wider sets of skills and attitudes so that I could treat the whole patient — not just the disease.

I realized, too, that medicine is primarily a helping profession.² Therefore, in addition to understanding the latest developments in the pathophysiology of the disease and the individuality of the patient, I have to understand myself and my own needs, beliefs, and motives. Then, and only then, can I become effective in listening, solving problems, making decisions, connecting, communicating, convincing, and becoming worthy of the patient's trust. These are the non-scientific components of the practice of medicine. I had to learn these mostly by myself, although I was fortunate to have had a few role models.

In order to address these issues, I developed a course in the 1970s for pediatric trainees at The Children's Hospital of Philadelphia. I emphasized several topics, including the development of skills in listening, observing, communicating, problem solving, decision making, and negotiating. I introduced several classic articles and books not known to many physician-trainees. These include Talcott Parsons' paper on *Social Contract*, David Mechanic's article on *Help-Seeking Behavior*, Carl Rogers' paper on *The Helping Profession*, Tolstoy's novelette on *Death of Ivan Ilyich*, and poems by William Carlos Williams. I have presented this course, called "The Art of Medicine", to medical students and practicing physicians at the The Children's Hospital of Philadelphia, at the Alfred I. duPont Hospital for Children in Wilmington, Delaware, and at several other medical centers. Several medical students, trainees, and physicians who attended the course implored me to put the ideas into writing. This book is my response.

The purpose of this book is to broaden the horizons of the young physician by showing the spectrum of non-scientific issues that

impinge on the clinician's work. The idea is to show that members of other professions also have thought about observing, listening, problem solving, and communicating and have written extensively on these topics. We have a lot to learn from them. One special feature of this book is the reference to classic articles at the end of each chapter and the brief presentations of ideas from original thinkers in several fields such as art history, semantics and educational psychology. I hope that exposure to these ideas helps future physicians to develop better clinical skills.

The Art in Medical Practice

“The practice of medicine is an art based on science,” said William Osler. How do you define “art” in the practice of medicine? Webster's Universal Unabridged Dictionary defines *art* as “the modification of things by human skill to answer the purpose intended.” A synonym for *art* is *skill*. The word “art” implies that there is opportunity to practice skills which leads to excellence in one's field.

Science allows us to analyze a problem, tease it to pieces, look at it objectively, and help “explain” the problem. Arts and humanities allow us to synthesize the various pieces into an aesthetically sensible whole to which we can relate. Science is analytic, left-hemisphere–dominant. Art is synthetic, right-hemisphere–dominant.

While science can help investigate the mechanism of diseases, it cannot help solve problems of how a patient responds to the disease, stress, and special circumstances of his life. While these problems have to be solved by the affected person, they have to be perceived and understood by the physician so that he can help the patient heal. These considerations demand that the physician uses both halves of the brain in managing his patients and make the practice of medicine scientifically, artistically, and aesthetically complete. It is the art aspect that allows a physician to help patients “feel better even when science cannot heal them.”¹

Science is evidence-based and objective. In accord with the scientific method, a scientist abstracts pieces out of the whole and studies them with certain tools. For this reason, the scientist is looking at only

a fragment of the truth from a narrow angle. When he tries to extrapolate from this one fragment to the whole (this is called “misplaced concreteness”), the pieces may not fit together.³

Clinicians, on the other hand, are like artists. They will use any tool, any bit of evidence, and any prior experience that will help them create a full picture. Therein lies the danger for the artist. It is easy to stray away from critical thinking.

However, by emphasizing the importance of its methods, namely objectivity and measurement, science relegates knowledge obtained by other methods such as reflection and personal experience as less important or outright trivial. Intuition is considered irrational. Feelings and sentiments are considered anecdotal and unreliable.

In real life practice of medicine, the technical knowledge based on universal phenomena cannot help when applied to solving problems for individual people with unique circumstances. Individual values and judgments, which are not within the sphere of science, have to be taken into account. We need the science of medicine to solve problems at a fundamental level and to advance our knowledge on a solid foundation. We need the art of medicine to apply that knowledge to individuals and to society, to make it practical and useful. How can we merge these two? That is where the word *prudence* comes in.

Art is skill. The root word for skill is *techne* in Greek. In Latin it is *ars* and in English *art*. The skillful way a clinician practices his profession is the art of medicine. Knowledge is the prime requisite. But the skills needed to apply specific knowledge and technical rationality to solve the problems of a single patient includes an ability to take into account the complexity, uniqueness, and unpredictability of the disease in individual patients, the position of the patient within his family and the community and the values, preferences, fears and expectations of the patient.⁴ A good clinician will be intuitively considering all these factors even as he is seeing the patient and formulating diagnostic hypothesis and a treatment strategy. This “reflection-during-action” is the process used by the practitioner to deal with specific, unique, uncertain and complex situations.⁴ This is the art of medicine. Prudence is a big part of it.

Perhaps we should consider the “art of medicine” as composed of two components. One is subjective, physician-centered and explains the skills of the physician in using professional knowledge to arrive at a medical diagnosis and treatment plan. The other component is patient- and society-centered and defines the factors related to the psychology and the sociology of the patient. The word “*prudence*” is better suited for the first component and the word “*humanities*” for the second component.

Prudence in Medical Practice

In the future, we may have to consider dropping the term “*art of medicine*” to explain the non-scientific aspects of the clinician’s work and replace it with the term “*prudence*”. Subjective aspects of decision making include the training, personal beliefs, motives, bias and judgment of the physician. Subjective aspects also include the individual variations of patients, their values and preferences and personal station in life. All these go under the heading of “art” and have not come under adequate scrutiny until recently. When these variables lead to variations in patient outcomes, the public, policy makers, and insurance companies want an adequate explanation. They want to know why some physicians and some hospitals do better in managing certain problems. They do not want to hear about the difficulties of practicing the “art of medicine”.

Prudence may be a better word since physicians do use this virtue when choosing between alternatives. The root word for prudence is *prudencia*, which comes from *providere*, which in turn stands for foresight and for providing for eventualities.⁵ Prudence in making decisions implies attention to the present while being careful about the consequences of present actions. Prudence differentiates the reflexive from the reflective action, judiciousness from recklessness.

Stoic philosophers defined prudence as a science of what to do and what not to do. The term presupposes uncertainty, risks, chance, and the unknown. These are exactly the conditions of medical practice, even with all the advances in knowledge. It will always be so. Since “prudence is not science; rather, it replaces science where science is

lacking”⁵ and since prudence considers the future when choosing between alternatives where “no proof is possible or adequate,” it is an ideal compliment to science.

Pellegrino⁶ suggested several rules as part of clinical prudence. They are:

- Act to optimize as many benefits, minimize as many risks as possible.
- The serious treatable diseases *must* not be missed; the non-serious and non-treatable diseases *may* be missed.
- Use the clinical Ockham’s razor; don’t multiply causes, diseases, tests or treatments without justifiable necessity.
- Only reluctantly rest the case for any diagnosis or treatment.
- Clinical skepticism is the only guard against the tyranny of the “established” diagnosis, ancillary data, and the findings of colleagues (lab results, X-ray, etc.).
- Maintain a high degree of skepticism for uncommon manifestation of the common diseases. “Hoof beats don’t mean zebras,” unless zebras are in the vicinity.
- Even after all the data are in, continuing debate is the safeguard against error.
- Recognize your own clinical style, prejudices, and beliefs about what is good for patients.
- Be wary of hunches, intuitions, E.S.P. — gamble with your own fate, not the patient’s.

I would like to add the following additional rules:

- Patient’s needs and anxieties come before physician’s conveniences.
- Moral relationships come before legal relationships.
- Logical reasoning alone does not assure favorable outcome.
- Patients often need solutions to their day-to-day problems of living before referral for mental health.

Major Message: This book is about the exercise of prudence and clinical skills in the practice of medicine, the elements of medical practice relevant for all times. Since prudence replaces science where science cannot help, the word “*prudence*” may be more appropriate than the word “*art*” to describe the non-scientific aspects of medicine.

- “...art of medicine lies in the promotion of productive doctor–patient relationship.”
- Science is analytic; art is intuitive.
- Prudence stands for foresight and providing for eventualities.

References

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Reading List

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