



The Owl of Athena

CONTRATYRANNOS

The Isagorial Theory of Human Progress Website

EXCURSUS #17

One of a series of monographs that expands the discussion of important topics examined in *The Natural State of Medical Practice*.¹

PHYSICIAN OR PHARAOH'S PRIEST; OR ARE WE DOCTORS OR MOUTHPIECES²

Summary: In an effort to unite the history of medical practice with events and portents of the present day, the appearance and disappearance of rational medicine in ancient civilizations is again reviewed. Focus is on the practitioner over the ages, how medical progress emerged solely from the clinical efforts of the practitioner, and how interference in the practitioner's domain profoundly inhibited medical progress. The mechanisms of that interference are summarized and then shown to be similar to recent events in American medicine. It is concluded that medicine is increasingly under the control of an authoritarian political class, and that intrusion into the physician-patient relation will turn our profession into a trade and restrict clinical progress. Government, *per se*, has never contributed to human progress, but, in America, constitutional safeguards have protected our natural rights by limiting the role of government. This is being dangerously undermined.

Introduction

In this disheartening chronicle of medical practice over the ages and its message for today's medicine, the intent is not to predict a return to the tragic history of human society that preceded the rise of Western democracies and modern medicine. We can hope that democracy, individual liberty, and the fact and the concept of progress have so taken hold around the world that, even if we continue to lose or willfully relinquish our freedoms to government, sparks of freedom elsewhere will remain to rekindle the flame of human progress and ultimately remove authoritarian threats forever. It must not be forgotten, however, that, in the century just past, great hope, yearnings and sacrifices for freedom and progress in its early years could quickly turn to utter tragedy. The Russian revolution replaced but one totalitarian with another, Stalin and his communism, and predictably by 1980, despite a century of magnificent medical progress in the

¹ Volume, chapter and page number of otherwise unreferenced statements in this monograph refer to the version of the four volumes as published by Liberty Hill Press, 2019-2023:

Vol. 1 – *The Natural State of Medical Practice: An Isagorial Theory of Human Progress*

Vol. 2 – *The Natural State of Medical Practice: Hippocratic Evidence*

Vol. 3 - *The Natural State of Medical Practice: Escape from Egalitarianism*

Vol. 4 – *The Natural State of Medical Practice: Implications*

² Facts and arguments supporting many statements and conclusions in this excursus can be found in *The Natural State of Medical Practice*, especially volume 1 and 3.

contemporary West, Russian medicine was considered the worst in the world.³ Similarly, the new Chinese republic, during which Dr. Sun Yat-sen attempted a transformation to Western medicine, was replaced by a communist government so that, for economic reasons, by 1970 the Cultural Revolution saw a complete rescinding of Western medicine and a return to purely traditional Chinese medicine as practiced by laymen, the “barefoot doctors.” The unwritten tragedies of the hundreds of millions of common men, women and children without the advantages of Western medicine over much of the 20th century in two of the three largest countries in the world would dwarf the unspeakable tragedies of their wars. The world of the authoritarian can turn on a dime. But now to return to the problem at hand.

Many difficult issues beset modern medical practice. It shouldn’t be this way. Since mankind’s earliest societies it is fundamentally the simplest of arrangements. There are only two people involved, the medical practitioner, hereafter the “physician,” and the patient. As they attempt to resolve medical problems, the interaction is highly personal and private, relying on honesty and trust by the participants, the “natural state” of medical practice; no outside interference. The patient’s problem is clarified and analyzed by what a former colleague of mine called “a compassionate medical scholar.” In turn, the physician’s obligation is solely to the patient. The essence of this simple interaction remains unchanged over thousands of years.

But medical practice is changing and changing greatly. Something is imposing itself between the compassionate medical scholar and the patient. What is the context within which clinical practice now finds itself?

The federal government of the United States lists thirty-one “public health” agencies doing its bidding and pays \$1.5 trillion (43%) of total U. S. medical costs (\$3.5 trillion as of 2019), pharmaceutical companies sell drugs at \$500 billion and spend \$90 billion on research and development, American hospitals received \$1.2 trillion for hospital services (2020), medical devices and instruments amount to about \$200 billion, and private health coverage was \$1.1 trillion (2020). To this can be added liability, medical schools, and other medically related costs.

Popular attention is typically directed to all these massive activities and agencies, but it is the physician-patient relation that is the reason for their very existence. Intrusive forces that target the daily work of the clinician are too diffuse to be quantified, and it is no wonder that physicians are so often caught up in administrative and legal process. Indeed, it is to the credit of physicians that their work, both in its implementation and in its public image, still maintains strong ties with the Hippocratic Oath. And the reasons for this so far are public expectation of the profession’s adherence to the Oath and the successful defensive posture by many in medicine against powerful forces that try to infringe on our profession and drive it beyond its justifiable borders.

The medical profession also knows that the responsibility that goes with managing trillions of dollars, giant industries, political machines and national meetings is minor when compared to the responsibility of working with a sick patient. With the former, salary and working hours are good and predictable. Moreover, responsibility for most decisions is conveniently and diffusely distributed among many persons, and personal blame for bad results can therefore be disclaimed or off-loaded onto others, especially opponents. This of course is one of the great appeals of committees; dispersion of responsibility. But in the physician’s office responsibility is solely the prerogative of the physician, and it has truly been said that “You can’t practice medicine by committee.” There is justification for a degree of contempt for external compulsion intruding on our profession. Medical progress is not promoted by meddling with the physician-patient relation;

³ Consult the *Foundation for Economic Education* and its newsletter of May 2004, for an article by Anna Ebeling, *The Government Dream and the Soviet Reality*.

that is where medical progress indisputably begins. Most physicians know this, but it is difficult if faced with legislative actions by a government backed by force.

It must be made clear at the outset that the history and physical examination in the physician's office is the basis for everything in medicine: not only the clinical diagnosis, prognosis, and agreement on therapy, but also outside the office: the tools of medicine for diagnosis, the therapies of medicine, the indications for their use, the specialized services of other healthcare providers, the research for new preventives and treatments, the pharmaceutical companies, the medical device companies, organizational necessities such as hospitals, insurance, public health, ambulance services, physician training, State Boards to set standards of practice, and on and on. Were it not for the interaction of the physician and patient in the physician's office, none of these agencies or activities would have a reason to exist. There is no more *sanctum sanctorum* of secular interfaces in human society than the physician's office.

But it is *sanctus* no more. Government-sponsored organizations now have extensive control over the practice of medicine. Regulations and committees have opened the physician's office and patient interaction to public view despite signs and instructions posted everywhere claiming the opposite. The only activity that for the most part benefits from, but manages to keep out of the way of, the physician's business is capitalistic enterprise. There can be seemingly relentless enticements, and clinical trials can affect the care of some patients (although only with their concurrence after evaluation of risk/benefit), but it is capitalism and its intrinsic goal of assisting personal betterment that takes its cue from findings of medical practitioners as to what is needed. At that point the magic of capitalism can develop, improve, and distribute the needed [thing] on a global scale to the benefit of mankind. All else is obstacle, some necessary, many not.

In the criticisms that will emanate from this excursus, I must acknowledge that I have limited personal experience with government regulation of medical practice. Before my retirement in 2002 I was on the staff of Harlem Hospital in New York City, and it was to the credit of that hospital that clinical decisions were, in my experience, never questioned or contradicted by administration. If something was necessary but unavailable, the hospital administration got it. All nonclinical paperwork was handled by the hospital. Computers had arrived, but, except for technical and laboratory applications and reports, were still somewhat a mystery on the wards. As clinicians, we on the staff could still concentrate on the important issues for which we were trained.

With the preceding as a statement on present and pending issues for our medical profession, an overview of the history of medical practice in prior civilizations may provide insight into what may happen if things do not change. The issues, conclusions and recommendations are of a general nature and oriented toward the role of centralized governance in the provision of medical care. They are not intended to stop analytic discourse on a sensitive issue. In fact, such discourse should increase. But hopefully it will be local, it will be diverse, and it will provide more solutions to present-day problems because it will move out of the dark shadow of an overweening government that stacks the deck on open deliberation and prevents, sometimes by criminalizing, opposing views. This aim, through the study of the history of medical practice, has been previously stated:

ζήτην αὐτῆς μὲν τὴν γένεσεν, ἦν δὲ δύνωμαι,
ἀποδιδόναι δὲ ἀνθρώπῳ τέχνην τὴν ἰατρικὴν.

“To seek its origin and, if I can,
Return the art of medicine to man.”

Anonymous Fragment⁴

⁴ See title page, volume 1, *The Natural State of Medical Practice: An Isagorical Theory of Human Progress*.

Medical progress as documented in ancient civilizations

To begin this excursus, here are several corollaries that I claim support the notion that all medical progress is traceable to the physician-patient relation.

1. All human societies have equivalent and broadly distributed intellectual potential, regardless of race, ethnicity or chronological era. This extends back tens of thousands of years to the upper Paleolithic. The idea that intrinsic human intellectual potential has increased since the Stone Age is absurd.
2. All humans and human societies have equivalent motivation for seeking and developing effective medical care because disease, trauma, pain and death equally afflict persons of all ages and stations of life.
3. Initiation of medical progress is simple, easy, cheap, readily available, and requires no technology. We call it the medical history and physical examination.
4. The best objective measure we have of a civilization's progress is life expectancy for the unprivileged classes. Art, literature, and displays of wealth of an elite political class are more a reflection of its degree of authoritarianism than evidence of progress, our own civilization excepted for reasons to be discussed later.

For anyone who strongly disagrees with any of these points, the following discussion will probably be of little interest.

Given equal range of intellectual potential in all human societies, ancient and modern, a specialty that is quick, easy, simple, convenient and cheap in its acquisition of knowledge, and equal susceptibility to factors driving motivation to lessen pain, restore health, and prevent death, medicine as a profession should have been among the first specialties to be devised within human society and among the first to be improved with passage of time, *i.e.*, to progress. As described in *The Natural State of Medical Practice*, it should have popped up in early civilizations, and so it did.

Evidence of early rational medicine is found in five ancient medical treatises that are acclaimed by regional scholars as fundamental classics of their respective civilizations and are dated to their early years. Extent representatives of the five are:⁵

⁵ Evidence of rational medical practices is widely cited, prominent assessments including the following: (1) Scurlock, J., and Andersen, B., *Diagnoses in Assyrian and Babylonian Medicine: Ancient Sources, Translations, and Modern Medical Analyses*, Urbana, 2005; (2) Ghaliougui, P., *The Ebers Papyrus: A New Translation, Commentaries and Glossaries*, Cairo, 1987; and Majno, G., *The Healing Hand*, Cambridge (MA), 1975, chapter 3; (3) the prominent scholar, Dr. A. C. Kaviratna, described the Charaka Samhita, which he translated, as “the greatest scientific work of ancient Indian wisdom,” the Encyclopedia Britannica characterizes the Charaka Samhita as the “encyclopedia of Ayurvedic medicine,” and B. Patwardhan, *Bridging Auurveda with Evidence-based Scientific Approaches to Medicine*, in *EPMA Journal* 5:19, 2014; (4) Unschuld, P. U., *Huang Di Nei Jing Su Wen*, Berkeley, 2003, and (5) John Chadwick and W. H. Mann, MD, FRCP, *The Medical Works of Hippocrates*, Illinois, 1950. Fairly consistent dating is present only for the Hippocratic Corpus. Dating of the others varies considerably, and the supporting evidence for the dates given herein is presented in *The Natural State of Medical Practice*, vols. 1 and 3. Furthermore, collection of data on which these treatises were based necessarily had to begin one or two centuries earlier.



Left to right:

1. Representing Sumer, the *Treatise of Medical Diagnosis and Prognosis* (ca. 3000 BC) is a page of Labat's copy of a forty-clay-tablet 7th C BC version of an edited 11th C BC Babylonian version of the *Treatise* containing elements of ancient Sumerian wisdom
2. Egyptian papyri, primarily *Papyrus Ebers* (ca. 3000 BC, but this is the earliest extant copy of 1530 BC)
3. *Charaka Samhita* ("The Collection of Charaka") (ca. 2000 BC); no early copies; this is the earliest extant partial copy on birch bark of the related *Susruta Samhita* from the 6th C AD
4. *Huang Ti Nei Ching Su Wen* (*The Yellow Emperor's Classic of Internal Medicine*; Dr. Ilza Veith's translation) (ca. 2400 BC); the oldest copy is from the 17th C AD
5. *Corpus Hippocraticum* (5th century BC); fragment of the Hippocratic Oath, 2nd C AD

The proposed dates of the earliest appearance of these five medical writings are unavoidably estimates as none of the originals exist and some may have been orally transmitted prior to collation into a single document. But, based on both objective and circumstantial evidence, the proposed dates when the initial clinical observations were made are supported by reasonable argument as presented in *The Natural State of Medical Practice*, vol. 3. There will be disagreement on this point, but there is no question that all are ancient and from the early years of their respective civilizations. By the dates given, note that all but the *Corpus Hippocraticum* border on the Neolithic in their origin, the Greek appearing during the late Archaic period (ca. 600-500 BC), perhaps in the city of Miletus that was founded *de novo* in 1050 BC by a presumably migratory Hellenic population. Acute and thoughtful clinical observations are present in all five treatises, examples being given in *The Natural State of Medical Practice*, vols. 1 and 2.

It is also proposed that medical progress can be considered a surrogate for estimating progress in general, and my broad definition of "progress" is:

PROGRESS: A social concept based on the **awareness of improvability** of the human condition.

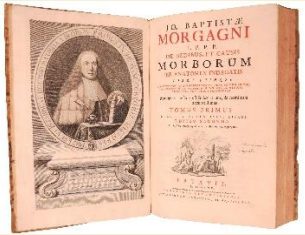
It has been stated that medicine in ancient Greece was considered the only truly scientific intellectual discipline and that its success was a stimulus to progress in other areas.⁶

⁶ This, in fact, was the opinion of Hippocrates: "I also hold that clear knowledge about natural science can be acquired from medicine and from no other source." (*Ancient Medicine*, XX, translation of W. H. S. Jones). The reason for this seemingly pretentious statement is that Hippocratic medicine was the only objective discipline within the framework of ancient Greek natural philosophy.

Physician and patient: the foundation of all medical progress

It was mentioned earlier that medical progress is simple, easy, cheap, readily available and requires no technology. This, of course, is a description of the medical history and physical examination of a patient. To support this claim, here are a few examples by physicians of the recent past, none of whom were from privileged families and none whose invention required Einsteinian genius, who have been hailed as founders of modern medicine:

1. Morgagni's classic work



Dr. Giovanni Battista Morgagni (1682-1771) at the age of eighty published his *De Sedibus et Causis Morborum per Anatomen Indagatus* (Venice, 1761), a classic in medical literature that correlated, in hundreds of individual cases, careful autopsy findings with clinical signs and symptoms. As a professor at the medical school in Padua for sixty years he maintained careful notes of all his work, but his major publication was done late in life at the advice of a friend. He thus moved anatomy from the realm of the descriptive and passive to the dynamic. There had been earlier studies of anatomic pathology, for the brother of Antonio Benivieni (1440-1502) published Antonio's results of one hundred and eleven autopsies in 1507 (*De Abditis nonn ulis ac mirandis Morborum et Sanationum Causis*), but the purpose of those autopsies was more for anatomical study than clinical relevance. **It was Dr. Morgagni's association of clinical status of many patients with autopsy findings of specific diseased organs that moved medicine into the modern age.**

2. Auenbrugger's invention



Inspiration for percussion: checking level of wine in barrels.

Dr. Leopold Auenbrugger (1722-1809) is credited with the invention of the technique of percussion. This clinical tool must have been familiar to the Ancients, although its first known descriptions are by Aretaeus (1st C AD) and then by Alexander of Tralles in the 6th C AD. Thereafter it seems to have been forgotten, although percussion of the cranium of sheep was used by 17th C shepherds to diagnose hydatid cysts, as noted by Dr. van Swieten. But modern concepts

of percussion can be traced to Dr. Auenbrugger who described a method of tapping on the surface of the body in such a way that the subsurface density could be estimated.⁷ As a child he had watched his father, an innkeeper, tap on the sides of wine casks to determine their fullness. In 1753, after becoming a physician, he applied the same method to examination of the chest and found he could differentiate consolidation, effusion, and pneumothorax by carefully assessing the sound and tactile vibration produced by the tapping on the chest wall. After seven years of correlating percussion findings with clinical course, surgery, or autopsy findings, he published, in Latin, a ninety-five-page description in 1761. Dr. Auenbrugger acknowledged no other description or work on percussion antedating his discovery. He said it was “new.” But what made Dr. Auenbrugger’s invention monumental was his correlation of percussion results with clinical status, surgical and post-mortem findings, and related observations, and then publishing his analysis. The importance of the clinician’s touch in turning a device or procedure, simple or complex, into a touchstone for medical science should now be apparent. It can be stated, in fact, that **it was the inventing clinician’s attention to his patients more than his invention that was the great event**, a sequence that led to many a famous physician’s prominence and one that was readily available in ancient, classical and modern times.

3. Laennec’s invention



Rolled up quire of paper, the first stethoscope

Dr. Rene Laennec (1781-1826) invented indirect, or mediate, auscultation with his version of the stethoscope. Direct auscultation (*e.g.*, ear on the chest) had been the standard procedure for at least 2300 years. Dr. Laennec cited Hippocratic observations on succussion in his epochal publication in 1819, but they were not the stimulus for his discovery. In 1816, desiring to listen to the chest in an overweight young woman with heart disease, he recalled "the augmented impression of sound when conveyed through certain solid bodies, - as when we hear the scratch of a pin at one end of a piece of wood, on applying our ear to the other." He reached for a rolled-up quire of paper (see Figure). He found her heart sounds more distinct than usually heard when placing the ear directly against the chest, and at the same time he avoided embarrassment to his patient.⁸ The invention was, however, not solid wood. It was a tube, and at the distal end there was a wooden stopper, and with this in place he could better hear the heart sounds and variations in transmission

⁷ Auenbrugger, L., *Inventum Novum ex Percussione Thoracis Humani ut Signo Abstrusos Interni Pectoris Morbos Detegendi* (New Invention to Detect Diseases Hidden Deep Inside the Chest), Vienna, 1761, the translator of the English version, *On Percussion of the Chest* (London, 1824) being John Forbes..

⁸ Laennec, R. T. H., *A Treatise on the Diseases of the Chest*, London, 1821, translated by J. Forbes, MD, p. 281ff. The original was *De l'Auscultation Mediate*, Paris, 1819.

of the voice, whereas with the plug removed it was the breath sounds that were clearer.⁹ Importantly, there was no evolution in technique of auscultation between the time of the Hippocratics and Laennec that made the invention of the stethoscope more likely to be his discovery than theirs. And yet many of the diagnoses by stethoscope could also have been made by placing the ear directly on the affected and surrounding area. The usefulness of direct auscultation is shown by the fact that some clinicians were slow to accept Laennec's invention because they did not view it as a significant improvement, and certain benefits of "immediate" auscultation have been recently pointed out.¹⁰ **The critical component of Dr. Laennec's work was not so much his invention, although it was an improvement over "immediate" auscultation. It was, instead, his acute clinical description of chest and heart sounds in relation to symptoms, other signs, clinical outcome, and internal anatomy as detected at post-mortem examination or surgical procedure that made his work immortal.**

4. Pare's classic work (1585)



The barber-surgeon, Ambroise Pare (1510-1590), in 1549 published an anatomical work that included a description of internal podalic version. Pare acknowledged that he learned of the technique not from familiarity with ancient writings but from discussions with two other Parisian barber-surgeons who were using it and who learned it from local midwives.¹¹ Soranus, 2nd C AD Greek physician and author of the most credible life of Hippocrates, had also wonderfully described the procedure. **It was, therefore, not Pare's "invention" of podalic version that added to his fame, for it had already been invented. But as an accomplished surgeon it was his published description of the technique based on his personal clinical experience with it in**

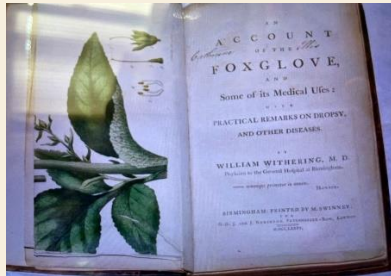
⁹ The concentration of sound by means of the ear trumpet might have suggested to someone a way to improve on direct auscultation, for cupping one's hand behind the ear to improve auditory acuity is no modern discovery. Instruments for improving auditory acuity over great distances have an ancient history among mariners, and ear trumpets were first mentioned in 1624. Kircher determined that a megaphone of sufficient size could carry a voice for several miles. Improvements on the stethoscope would include its evolution into an instrument that relies solely on transmitting amplified sound waves via air through tubing. Jean Leurechon (Henrik van Etten, *Recreations Mathematiques*, sixth edition, Lyon, 1627) describes the use of tubes to conduct sound for purposes of overhearing conversations of others (Problem 59). The Leurechon work also displays an engraving of an early thermometer.

¹⁰ Puddu, V., *Immediate Auscultation – An Old Method Not to be Forgotten*, in *Circulation*, 52:526-527, 1975.

¹¹ The two other barber-surgeons, friends of Pare, were Thierry de Hery and Nicole Lambert, the latter his godfather, as cited in Dr. Francis Packard's *The Life and Times of Ambrose Pare*, New York, 1921, a publication which includes Packard's translations of some of Pare's works.

obstetric patients that was now available for other physicians to see. His candid statement regarding the source of the technique is a peek into the unwritten history of mankind, for rediscovery of the obviously important is the natural way of things. The tendency to associate an important discovery with a singular individual subsequently declared to be a person superior in one way or another ignores the work of innumerable other discoverers of whom nothing is ever to be known. Another example follows.

5. Withering's foxglove, source of digitalis



Dr. William Withering (1741-1799) identified an active principle by isolating the leaves of *Digitalis purpurea* from a mixture of herbs mentioned to him by an elderly woman in Shropshire, an herbalist. **From his observations on his patients he confirmed the usefulness of the foxglove and determined the optimal preparation to be administered, along with quantifying effective and toxic doses.** Squill is another botanical containing cardiac glycosides and it was used for dropsy by the ancients and into the 18th C. The value of cardiac glycosides in treating “dropsy” is found in their ability to improve heart function and/or rhythm and rate. The generic term, digitalis, has been applied to the cardioactive principal in foxglove, and for almost two hundred years “digitalis” in various forms was a mainstay in cardiac care.¹²

6. An axillary thermometer

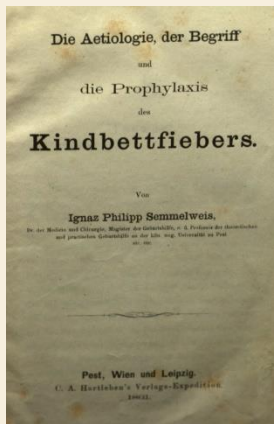


Dr. Carl Wunderlich (1815-1877) is credited for clinical relevance of the thermometer. He was aware of experiments in the development of the thermometer at the University in Padua, where Galileo and others exploited the knowledge exposed by the recent publication, after some 1500 years, of the writings of the 1st C AD Greek mathematician, Hero, in matters dealing with air

¹² A recent recounting of the discovery of foxglove as an herbal therapy and an admission that the name of the Shropshire woman who successfully used it remains unknown is found in: Kahn, R. J., *William Withering's Wonderful Weed*, in *Clio in the Clinic: History in Medical Practice*, Oxford, 2005, J. Duffin, editor, pp. 189-200. Powdered digitalis leaf, in a standardized dose, was used to treat Winston Churchill in 1943, and it was in the Bellevue Hospital formulary, 100 mg tablets, when I interned there in 1962.

pressure and siphons.¹³ Several successful demonstrations of early thermometers had occurred since the 17th C, but the “fever hospital” in London in 1830 had no thermometers. The pivotal event relevant to the thermometer can be ascribed to Dr. Wunderlich who, in 1868, reported accurate serial temperature measurements in 25,000 episodes of febrile illness, and from his millions of observations using an axillary thermometer a valuable fine tuning of determining body temperature became widely popular.¹⁴ The practiced hand can distinguish among no, low, moderate, or high fever if care is taken to adjust for cutaneous vasoconstriction and other variables. For many patients this alone can be adequate in diagnosis and treatment. The clinical value of the thermometer lies as much in the ease of repeated measurements as in its precision, although it does away with interobserver variability. Dr. Wunderlich went on to describe the utility of graphed values. But if he had personally assessed by hand every four hours or so the fevers of all his 25,000 patients and correlated the graphed results with clinical outcome, the quality of the data, while distinctly inferior to those obtained with a thermometer, would still have been of great clinical value to the profession and therefore to patients. **Without clinical correlations the clinical thermometer has no value, and clinical relevance was what Dr. Wunderlich provided.**

7. Semmelweis’ classic work



Dr. Joseph Lister (1827-1912) published his famous paper in *The Lancet* in 1865-67 describing the practical control of puerperal fever with carbolic acid. Dr. Alexander Gordon had, in 1795, published a book in which he clearly explained the epidemiology and control of puerperal sepsis, and Dr. Oliver Wendell Holmes had popularized the danger of contagion in 1843, later published in 1855 (Boston) in a book called *Puerperal Fever*. The data were not his own, instead being his clinical interpretation of reports on childbed fever from around the world. Dr. Ignaz Semmelweis published his first clinical report on prevention of childbed fever in 1858. The purpose of this

¹³ The *Pneumatica* of Hero of Alexandria was published first in Italian in Bologna (1547). The more widely read Latin version was published in 1575. Galileo's dates are 1564-1642, so Hero's ideas would have been available to him. Also to be considered as inventor of the thermometer is Philo of Byzantium (280-220 BC), from whom Hero of Alexandria may have received the idea of heating causing expansion of gas volume.

¹⁴ Wunderlich, C. A., *On the Temperature in Diseases*, a publication of the New Sydenham Society, London, 1871, translated from the German by W. B. Woodman. Chapter II gives an exhaustive history of the development of the thermometer. It is a measure of the wide acceptance and obvious great value of Wunderlich's studies that the Sydenham Society, which published classics such as translations of Hippocrates and Aretaeus, chose to print in its entirety a translation of Wunderlich's work only three years after its first appearance in German (*Das Verhalten der Eigenwärme in Krankheiten*, Leipzig, 1868).

extensive commentary is, in part, to provide evidence that a journal was more effective in disseminating professional information than was a book, but also to point out that criticism of Semmelweis' work from some European sources greatly impeded acceptance of his recommendations. This sad state of affairs has been attributed, rightly, to an authoritarian legacy apparent in Dr. Rudolph Virchow and many other prominent 19th C magisterial professors. J. H. Baas, in his *Outlines of the History of Medicine and the Medical Profession* (New York, 1889, H. E. Handerson, translator, p. 1083), has perfectly described the process: "... the discoverers of truth now are no longer crucified, but their names are simply written upon the proscription-list of the *lease-holders of science*" (italics added). Lease-holders of science were, gratefully up to the early 20th C, least evident in America. Today, of course, the lease-holder of science has reemerged: big government.

8. 6th C BC quartz lenses, Rhodes Museum of Archeology



Magnifying lenses were available for making jewelry in the 6th C BC. In a sense the preceding vignettes are similar to the situation with magnifying lenses; the important 19th C advances in magnification, in measurement of body temperature, listening to heart sounds, detecting shifting dullness, and in other areas, were due to clinical application rather than just discovery or rediscovery. It was the clinician's elaboration on and use of discoveries that determined a discovery's value. Regarding the lenses, some had magnification power sufficient to see blood flowing through capillaries. I have included them here to demonstrate that microscopic analysis might have been successfully undertaken by Hippocratic physicians given a bit more time.

From the preceding examples it can be concluded that it is clinical observation by the physician, and the clinical physician alone, that is the initiating source of medical progress. It is physicians' attentiveness to their patients that is the basis for disease identification and taxonomy, the stimulus for all research for therapies, procedures, and instrumentation, and clinical basis for both personal advice and epidemiological and public policies. It is the physicians' attentiveness to their patients that provides the evidence that justifies, or not, the safety and usefulness of innovative ideas. The intellectual arena in which the physician functions is shared by no one else, just as with any profession, and it follows that only physicians can judge the quality of the process and the final product. When this arena is compromised by those outside the profession or when a physician is directed to do something that is unwarranted or unnecessary in patient care by policies devised by those outside the profession, the usefulness, the credibility and the reputation of physicians is damaged.

The ancient Greeks knew all this to be true. Hippocratic physicians were not spokesmen for the local city-state tyrant or governing council. There might be complaints, but, as Plato put it, “We believe in them [doctors] whether they cure us with our consent or without it,[...]”¹⁵ As per Plato, the source of the physician’s authority is rather blatant; there is no one else who knows medicine better than the physician, so the matter is ended. He stated that if there were a medical legal challenge, it was only other physicians who could pass judgment.¹⁶

From progress to regress

Four of the five ancient civilizations mentioned earlier did not progress further in medicine. Their ancient medical texts, containing knowledge acquired in the early phases of their respective civilizations, therefore represented their equivalent of Harrison’s *Principles of Internal Medicine*, except that Harrison’s is now in its 21st edition in only seventy years, whereas there was no “second edition” of any of the ancient works over thousands of years, although some editing and amendments occurred. They did not continue to progress, and sometimes they regressed:

(1) Mesopotamia: Despite the early medical discoveries in Sumer (*ca.* 3000 BC, although mature cuneiform writing would not be available for three centuries) and their editing by the non-physician, Esagil-kin-apli, in the 11th C BC, Herodotus visited Babylonia in the 5th C BC and described the situation thus:

“I come now to the next wisest of their customs: having no use for physicians, they carry the sick into the market-place; then those who have been afflicted themselves by the same ill as the sick man's, or seen others in like case, come near and advise him about his disease and comfort him, telling him by what means they have themselves recovered of it or seen others so recover.”

After two thousand years, plenty of time for professional associations to improve, he identified no medical practitioners at all.

(2) Egypt: The eminent physician and historian of medicine, Dr. John Nunn, concluded:

“There is no evidence of major changes in the format or content of classical Egyptian medicine between the old kingdom and the end of the Twenty-sixth Dynasty, covering the years 2600 to 525 BC. This may be inscribed to the innate conservatism of the Egyptians, ...”¹⁷

(3) India: Dr. Debiprasad Chattopadhyaya, eminent philosopher and historian of science who described early medical writings in India as indicating a belief in causality, that a disease was an entity rather than a status, and that curability could reside in the actions of

¹⁵ Plato’s *Statesman*, 293b, translation of C. J. Rowe, in *Plato; Complete Works*, Indianapolis, 1997, J. M. Cooper, editor. This matter is discussed by G. Anagnastopoulos in: *Bioethics: Ancient Themes in Contemporary Issues*, Boston, 2002 (paperback edition), M. G. Kuczewski and R. Polansky, editors, p. 279ff.

¹⁶ See Plato’s *Nomoi* (Laws), 916 a-c.

¹⁷ Nunn, J. F., *Ancient Egyptian Medicine*, London, 1996, p. 206.

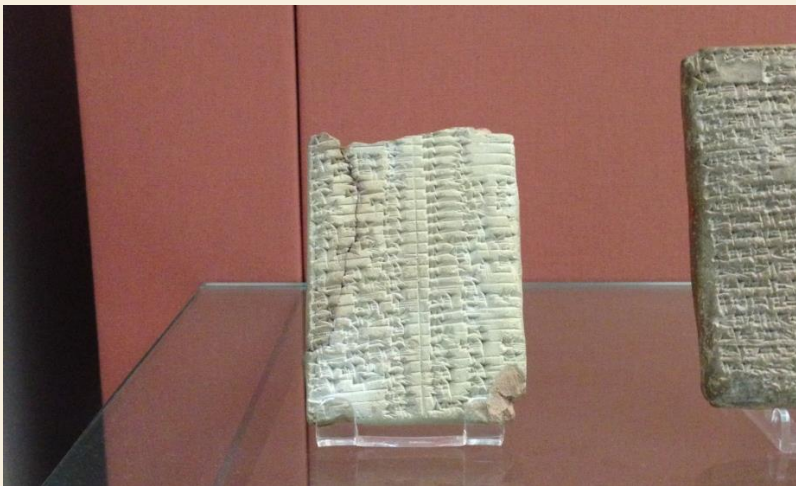
a physician, considered them of great importance despite “the heap of intellectual debris eventually dumped on them” as they were subsumed by Hinduism’s Brahmin caste.¹⁸ Regarding the *Charaka Samhita*, his praise was reserved only for its earliest content.

(4) China: Lastly, consider the observation of Prof. Sivin, a prominent historian and Sinologist, regarding the course of Chinese medicine:

“The classics are documents of the scholarly traditions that developed on the edges of the small, literate, office-holding elite, and which treated few of those outside it (and few of its women).”¹⁹ More relevant here is his observation that: “We know practically nothing about the practitioners who could not be called physicians... who actually were the peasant majority’s only source of therapy.”²⁰

(1) The Greek, or the Greco-Roman, civilization was different. Hippocratic medicine was allowed two centuries to evolve, with a few discoveries as late as the 3rd C BC. Then, in a civilization smitten by authoritarian wars and Roman conquest, it merely vanished like a journal that is not renewed. This was followed by absence of progress for 1500 years through the Dark Ages and medieval Europe.

That something so simple and basic, something that was recognized as helping everyone, did not develop further in these civilizations, a negating social factor of considerable magnitude must have been involved in the successive dynasties of these four civilizations. If those civilizations did not progress in medicine, did they progress in other areas?



(1) A bilingual clay tablet, Mesopotamia

¹⁸ See Dr. Chattopadhyaya’s excellent book, *Science and Society in Ancient India* (Bangalore, 1977) for an explication of this topic.

¹⁹ See the review by Dr. Nathan Sivin in: *Social History of Medicine*, 19:334-336, 2006, p. 336.

²⁰ Sivin, N., his Introduction to volume 6, part VI, of the classic series *Science and Civilization in China*, by Needham, J., and Gwei-Djen, L., Cambridge, 2004, p. 195, footnote.

The forceful unification of the Sumerian aggregate of city-states (2350 BC) was followed by a sequence of totalitarian dynasties, including Akkadian, Amorite, Kassite, Babylonian and Assyrian and Persian (559-330 BC). The importance of the early advances in medicine, mathematics and other technical fields is reflected in the retention of the Sumerian cuneiform text through subsequent empires (even to the 4th C BC) and, in some cases, a panoramic rather than portrait shape to clay tablets, often, as in the photograph, side-by-side with the contemporary cuneiform version (*e.g.*, Akkadian, Babylonian). In contrast, in other areas such as literature and bureaucratic writings, only the contemporary cuneiform was used. The desire to retain this anchor to past wisdom suggests there was not much new wisdom with which to replace or improve it.

(2) Narmer palette and pyramidion Wedjahol, Egypt; each about two feet tall, but the Narmer palette on the left is 3,000 years older. Art similar, quality worse. (I apologize for the striated photographic artifact of the pyramidion.)



Over a sequence of almost 30 dynasties there was remarkably little change in Egyptian art. Diodorus Siculus (1st C BC) wrote:

“Since the Egyptian artist had no idea of perspective, each part of a figure, or each member of a group, was portrayed as if seen from directly in front. Therefore, the first training of the artist consisted in the making of the separate members of the body, which accounts for the many heads, hands, legs, and feet, which come from the Egyptian schools of art.”

The role of the State in defining art is obvious. Canonization of art was mirrored in the canonization of medical practice.

(3) Ruins of Mohenjo Daro, ancient India



It is impossible to discern evidence of progress in the subcontinent inasmuch as there was a dispersion of monarchical centers throughout the subcontinent following the disintegration of the remarkable Indus River Valley Civilization that began *ca.* 2000 BC.²¹ There was no major city prior to that of Pataliputra in the 4th C BC when it became the center of the vast Mauryan empire. In contrast to the relatively egalitarian Indus River Valley city of Mohenjo Daro, Pataliputra had a large palace and there is no mention of sewage disposal other than a large ditch on the city's periphery, whereas most dwellings in Mohenjo Daro had in-house toilets served by city-wide system of covered sewers, bricks indicated standardized production, and the layout of the city was planned. Of the two cities, only ancient Mohenjo Daro with its apparent absence of a political hierarchy suggests progress.

(4) Han compass, 1st C BC, China

It is one of the mysteries of Chinese inventions that rarely did one succeed in becoming socially beneficial. Dr. Joseph Needham identified some 271 inventions that followed this pattern.²² As for printing, Chinese characters, which number in tens of thousands, pose a

²¹ Present scholarly opinion is that weather change underlay the decline of the Indus River Valley Civilization. It is conceivable that the seemingly advanced status of the city of Mohenjo Daro in the civilization was in an advanced settlement hierarchy phase of development, perhaps similar to that of Uruk before the Mesopotamian dynastic age.

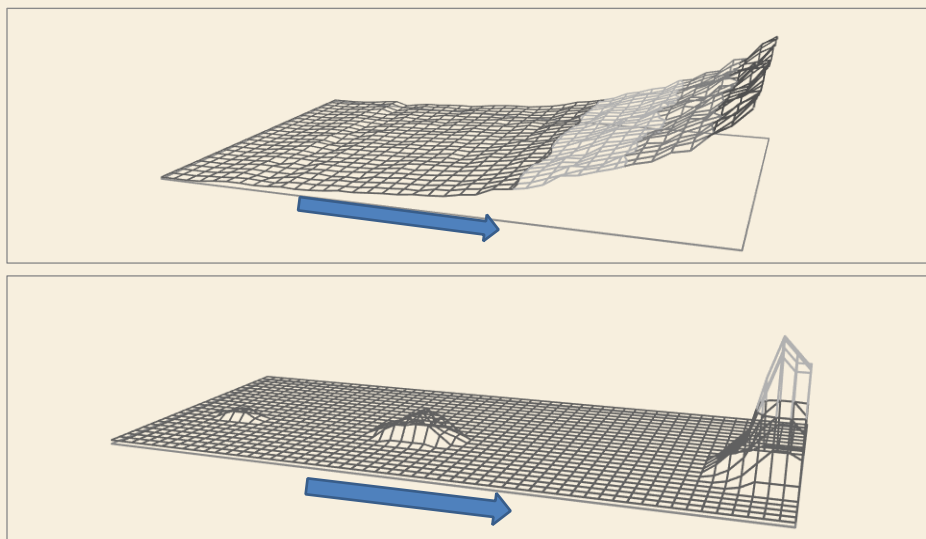
²² For the reasons, see: Lowrey, Y. and Baumol, W. J., *Rapid Invention, Slow Industrialization, and the Absent Innovative Entrepreneur in Medieval China*, a paper read at a meeting of the American Economic Association, Atlanta,

significant difficulty for moveable type, and this probably made it impractical for extensive medical texts to be printed until recent times.

(5) The West:

The progress of mathematics has been mirrored in the frequency of major advances and their inventors. One authoritative book lists on its endpapers, from 600 BC to 300 AD there were fourteen prominent mathematicians, and from 1400 to 1800 there were thirty-one. During the intervening period there were none.

Although more data and analyses of other specializations are desired, **it is a reasonable postulate that societal progress in general mirrors medical progress.**



Above are two postulated graphs of medical progress in the history civilizations. To summarize these figures, the top figure represents the popular conception of human progress, namely that we continue to build on our predecessors' knowledge as it accumulates throughout the world. There is no turning back, no regression. Sadly, this is incorrect. The bottom figure shows how a civilization returns to its empiric baseline when progress is arrested by authoritarian political hierarchies. The small blips on the left side of the bottom graph represent nascent medical progress as documented in the ancient medical writings 4000-5000 years ago, but authoritarianism usurped management of medical care. In India it was canonized and under control of the Brahmans of the Hindu caste system, in Egypt it was canonized and subsumed by Pharaonic priests, in China it was canonized and relegated to the elite kinships, and in Mesopotamia it was replaced by mysticism.

Greece, the middle blip, was different in that its medical progress declined with the disintegration of society followed by the Roman conquest 2200 years ago. Hippocratic physicians were left alone; they just disappeared because the plebeian population, given the social environment, was unable to carry on the Greek medical tradition. At the same time, alternative

Jan. 3-5, 2010, and for "the Needham puzzle" see Lin, J. Y., *The Needham Puzzle: Why the Industrial Revolution did not originate in China*, in *Economic Development and Cultural Change*, 43:269-292, 1995.

therapies became popular. But Hippocratic medicine persisted unimpeded sufficiently long to have a prominent legacy.

The largest blip is our own. Compared to the others it is massive in size and somewhat longer in duration. Its onset is set at the Reformation (500 years ago), for reasons discussed elsewhere. I have designed it showing we are now on the downward slope. The reason for this interpretation will be touched on later, but the greater significance for the downward trend of all the portrayed civilizations is the basis for this excursus.

Cessation of medical progress; its cause

Initiation of ancient medical progress can be dated roughly to a stage in early urbanization of “primary” city-states known as the “settlement hierarchy.” Archeologists define this as:

SETTLEMENT HIERARCHY: A natural progression of intergroup adjustments that spontaneously occurs as an urbanizing society, having no prior experience with a political hierarchy, becomes more complex and acquires facilities, goods and services to accommodate an enlarging population.

The settlement hierarchy and its progress ended with the appearance of centralized authoritarian political domination of the early city-states that would grow to become empires. The cessation of medical progress was not because of dislike of medical practitioners and their knowledge. Practitioners came from general population and were no threat to the powerful. In fact, the privileged class generally viewed them as useful, the ancient Egyptians and Chinese dynasties incorporating them into their elite political hierarchy, Chinese monarchs even periodically commanding the collection and publication of encyclopedic editions of medicinals from practitioners around their country.

As there was no hostility by governance directed at the humble practitioner, for reasons to be discussed later it is proposed that canonization of medicine was an important reason for cessation of progress and that canonization was a policy originating from the political hierarchy. Did any of the five civilizations identify strongly with canonization?

(1) Egypt – Diodorus Siculus made the following statement on Egyptian medicine in the 1st C BC. It reveals the reverence felt for canonical medical practices and the penalty for sceptics:

"On their military campaigns and their journeys in the country they all receive treatment without the payment of any private fee; for the physicians draw their support from public funds and administer their treatments in accordance with a written law which was composed in ancient times by many famous physicians. **If they follow the rules of this law as they read them in the sacred book and yet are unable to save their patient, they are absolved from any charge and go unpunished; but if they go contrary to the law's prescriptions in any respect, they must submit to a trial with death as the penalty,** the lawgiver holding that but few physicians would ever show themselves wiser than the mode of treatment which had been closely followed for a long period and had been originally

prescribed by the ablest practitioners."²³

Ancient Egyptian physicians within two or three dynasties after unification of Egypt (3100 BC) had become a pharaonic factotum, they and their knowledge canonized for 2500 years.

(2) China – Confucius in the 6th C BC was able to recognize “a good physician” as distinct from a magician.²⁴ By the 4th C BC medical practitioners considered satisfactory for the elite class were beginning to be acquired by integrating Confucian concepts into the examination system used to ensure a compliant civil service for the elite class. Thus, the chosen medical professionals were philosophically sympathetic to the authoritarian State and dedicated to the dynastic leadership.²⁵ Once chosen, medical outcomes determined advancement. The profound significance of the Confucian canon in Chinese history is conveniently presented by Prof. Thomas A. Wilson.²⁶ Ancient Chinese physicians during the subsequent Han dynasty (206 BC) had become little more than State employees serving the ruling class, their knowledge fixed in time. That knowledge was the already ancient knowledge of the *Huang Ti Nei Ching Su Wen*.

(3) India - The knowledge of the early rational practitioners became, or was from the beginning, oral tradition, but with the evolution of Hinduism the Brahman elite class “piled a heap of intellectual debris” on that rational knowledge and took over the training of practitioners as a written form of Sanskrit came into use. It is stated that Manu, the giver of laws, prohibited high-caste Hindus from accepting any food from physicians because that food “is like pus and blood.” Edited knowledge of the *Charaka Samhita* is traced to Charaka, postulated to be a Hindu physician of the 1st C BC who was canonized as an archetypical physician, and the source of the knowledge he is supposed to have collated was further canonized by being attributed to mythical/legendary figures, including Agnivesa and the Hindu sage, Atreya. The ancient Indian practitioner would remain fixed in time.

(4) Mesopotamia - Mysticism, made prominent during the Akkadian subjugation of Sumer (2350 BC), superseded the rational practitioner, the *azu*. The latter had become regulated by the State (Code of Ur-Nammu). Hammurabi then listed on his famous stele in 1750 BC the penalties that would be brought to bear on the *azu* should there be an unsatisfactory surgical outcome (see below).²⁷ Sumerian medical writing was nevertheless canonized, and later editings superimposed strong elements of magic. Even the prominent *Treatise of*

²³ *Diodorus Siculus*, Bk. I, 82, 3, the *Loeb Classical Library* translation of C. H. Oldfather. A notable feature of this passage is absence of the concept of progress, for it indicates that perfection in medicine was considered to have been reached 2,500 years earlier, and to attempt any improvement was perilous, a comment not on the medicine but on ancient Egyptian governance.

²⁴ Mentioned by Joseph Needham and Lu Gwei-Djen in *Medicine and Culture*, London, 1969, p. 256.

²⁵ See: Dien, A. E., *State and Society in Early Medieval China*, Stanford, 1990. Also, Dr. Majno, referenced earlier, comments on the status of Confucianism, pointing out the contemporary good opinion of physicians.

²⁶ See website of “Cult of Confucius.” Under the aegis of Prof. Thomas A. Wilson of Hamilton College, Clinton, NY, the remarkable long and effective canonization of Confucius is displayed. academics.hamilton.edu/asian_studies/home/culttemp/index.html

²⁷ The selected laws are from *The Letters and Inscription of Hammurabi, King of Babylon, about B. C. 2200*, London, 1898, translated by L. W. King.

Medical Diagnosis and Prognosis as it was edited in the 11th C BC was actually addressed to the practitioners of magic (the *asipu*) even though much content was rational medical knowledge of the early Sumerian *azu*. Thus, canonization of rational medicine was placed in the hands of the newly canonized practitioner, the *asipu* (the sorcerer priest). The sorcerer priest was not going to risk his career with medical innovation, and the Mesopotamian practitioner (*azu*) for some time disappeared altogether.

From the Code of Hammurabi:

P218 – If a physician performs major surgery with a bronze lancet upon an and thus causes the’s death, or opens an’s temple with a bronze lancet and thus blinds the’s eye, they shall cut off his hand.

P219 – If a physician performs major surgery with a bronze lancet upon a slave of a commoner and thus causes the slave’s death, he shall replace the slave with a slave of comparable value.

P220 – If he opens his (the commoner’s slave’s) temple with a bronze lancet and thus blinds his eye, he shall weigh and deliver silver equal to half his value.

(5) Ancient Greece - Hippocratic treatises were not canonized by any contemporary elite class. Canonization occurred later. In the Middle East, and Avicenna wrote his treatise on medicine (1025 AD), its translated title being *The Canon of Medicine*, much of it Hippocratic, which Dr. William Osler declared the “most famous medical text ever written.” And in the Late Medieval Period, “physicians” in the medieval guilds and the evolving university systems admired and taught the words of Hippocrates but not Hippocratic methods. Hippocrates and his medical writings were canonized and would remain unaltered and unimproved.

It is reasonable to conclude that the cessation or loss of early medical knowledge was a consequence of authoritarian policies which tended to canonize both the author(s) and the medical knowledge itself, thus making it refractory to change and ineligible for progress. As for those early physicians who were the initial source of the rational medical knowledge found in the medical classics of their respective civilizations, after perhaps one or two centuries only limited remnants of their knowledge survived to be assembled or reassembled by subsequent compilers and editors, the *Hippocratic Corpus* excepted.

Relevance to modern American medicine

Without exception, all governments inevitably seek greater power, but the American Constitution and Bill of Rights have provided a firewall against this reflex. The federal government in the past century, however, has been actively pursuing the goals and applying tactics similar to those employed by authoritarian governments of the past. In a modern version, it increasingly directs medical training, medical research, and medical practice based on political relevance, arguing that expert opinion is being followed. Like the ancient Akkadians, it is creating *de facto* seers, a few select experts whom it considers more knowledgeable than everyone else, just as the ancient Akkadians embraced their mystic, the *asipu*. Today it also is a prominent few, often with limited clinical experience, that guide a national health policy, and the individual

practitioner who knows that every patient is unique in expression of disease is being pressured into compliance. To expedite the spread of that policy, like the Pharaohs, government increasingly entangles and integrates practitioners and their organizations into its operations. Just like ancient China and Confucianism, it supports medical practitioners politically sympathetic to the social goals of government.

In government hands, medicine becomes but another political tool, with the practitioner's loyalty subtly shifted from the patient to the agency. How can American medicine be adversely affected by canonization, complicity (corporatism), incompetence, and destabilization emanating from government?

Canonization:

The breadth and depth of medical knowledge is vast. Overall there is no possibility of canonization of the bulk of that knowledge, for it is in so many hands, collegially divided among so many different practitioners, and changes and updates frequently. Unlike ancient civilizations, there is no core clinical treatise that can be considered essential to medical practice to which all can be made to adhere. But that is not the whole story.

The term "canon" is distantly derived from the Greek *κανὼν*, meaning a rule or straight-edge that precisely defines a boundary or distinction. The Oxford English Dictionary makes clear its authoritative nature as its synonyms "law, rule, edict" imply. Aspects of canonization include:

1. Canonization of knowledge – The texts or proposed sources of the classic medical manuscripts were canonized as subsequent dynasties referred to their ancient sources with reverence and deferred to their wisdom (*Argumentum ad Verecundiam*). Rote acceptance of prior medical knowledge was prominent in earlier civilizations as if that knowledge had been and would remain the gold standard for medical practice. The concept of improvement over time, *i.e.*, progress, was not a consideration. This was also the European perspective on Hippocratic writings as it emerged from the Dark Ages but is not an issue today.
2. Canonization of people – The preceding was especially effective if the originating source were an ancient mythical or legendary figure or its mortal representative associated with contemporary religious canon. Hippocrates has been canonized in Western tradition, especially when applied to the Oath.
3. Gate-keepers of canonical knowledge – This type of canonization is relevant today, for these are mortals considered to have special knowledge, insight or prescience that qualify them, according to the political hierarchy, to oversee, maintain and, when necessary, enforce or impose disciplinary guidance. (For an example, see the reference above to Dr. Semmelweis and Prof. Virchow regarding puerperal fever.) As politically centralized government is unavoidably incompetent,²⁸ its capabilities are confined to selecting from existing knowledge that which is considered favorable from government perspective rather than the citizenry's interest. In doing this, government in effect changes its favored opinion from assertion to fact, *i.e.*, that opinion is canonized. Its factual status will be accepted by those who share the government's perspective. Others may disagree, but they will be unable to challenge it. By this means government agencies have a convenient way to justify on call any particular course of action. In authoritarian governance the knowledge that is

²⁸ For discussion of the inescapable incompetence in government, see excursus 15.

canonized will be in those areas considered useful to the political class to gain or retain power. Canonization of knowledge is, in the hands of the gate-keepers, a form of propaganda.

4. Canonization can generate its own popular following, for it can be considered an honor and a privilege to identify with a canon. It is its own elite class because it is exclusionary. Furthermore, to identify with a canon is to assume that bond will not be broken, and such stability is desirable, both socially and economically.
5. Finally, canonization inhibits alternative knowledge and ideas. Governmental canonization not only politicizes and exaggerates the significance of a small portion of available knowledge that it deems useful. It also invalidates the vast store of relevant knowledge that, had it been left alone in medical hands, might have contributed to optimal decision-making.

Canonization is not a feature of just authoritarian societies. The reach of a canon can be broad. In John Donne's poem, *The Canonization*, the poetic lover anticipates generational memory of his efforts in love. Saints, heroes, and other prominent people have been canonized because of the good things they did. Collections of good laws and principles can be designated as canons. Even the political face of a nation can be altered upon an agreement about political canon.²⁹ So is canonization relevant here?

Canonization can proceed spontaneously if the object is deemed good. Laws agreed to by the people that are useful can be changed when appropriate to keep them "good." Joan of Arc does not need a sociological identifier for us to judge her goodness, although truthful historical documentation is required. Something very good and useful will canonize itself. The issue, therefore, is *purposeful* canonization, which opens the door to canonization of bad ideas and false claims, and *political* canonization, which can propagate those ideas and claims on a vast scale for political purposes and which is the focus of this excursus.

Political canonization is used to induce sameness into society, the totalitarian's intention as identified by Hannah Arendt.³⁰ It is not a new idea.³¹ It authoritatively limits options on human behavior. It willfully changes opinion into fact, for its argument has been settled by denying legitimacy to alternative arguments, and it acts as an unwritten law unto itself. To willfully promote a canonical issue can be used to exert control over the behavior of others. It also demotes alternative opinions to a lesser status by marginalization or excommunication. By representing its opinion as fact it can inhibit alternative thinking among those who disagree with the canonic issue because its now factual facade can be called upon to justify enforcement, standardization, xenophobia and conscription.

Another consequence of the canonization is its exclusivity. In addition to the misuse of a profession that had a healthy beginning, canonization of medical policies by subsequent authoritarian/totalitarian regimes in the four ancient civilizations inhibited expressions of ingenuity that might have arisen in the unprivileged population. Medical practitioners initially appeared in the common citizenry. One might expect expressions of ingenuity to emerge periodically from the same unprivileged class and therefore a new version of medical profession

²⁹ Stuurman, S., *The Canon of the History of Political Thought: It's Critique and a Proposed Alternative*, in *History and Theory*, 39:147-166, 2000.

³⁰ Arendt, H., *The Origins of Totalitarianism*, Cleveland, 1964, p. 438 (paperback).

³¹ Theilmann, J. M., *Political Canonization and Political Symbolism in Medieval England*, in *J. Brit. Studies*, 29:241-266, 1990.

could periodically reemerge from their ranks. But with a canonized medical presence already in place the possibility that a medical affiliation of several self-styled practitioners might proliferate as a separate, competitive or alternative professional group would be remote.

Lastly, purposeful canonic knowledge is trickle-down knowledge that is determined at higher levels of society (inherently the locus of incompetence) to be appropriate for those in lower levels. This is completely at odds with the Isagorial Theory of Human Progress proposed in *The Natural State of Medical Practice*, in which the source of progress is the collegial association of autonomous individuals with special knowledge in the general population sharing a common interest and having a goal of self-betterment.³² These individuals, in medicine, would be the practitioners who actually see their patients and have assumed the responsibility for their care. It is these practitioners that produced our Auenbruggers, Laennecs, Pares, Wunderlichs, Listers, and Semmelweises. Those at the top of the social order, the canonizers, are removed from the theater of action and therefore less capable of formulating practical ideas. As an example, by relegating ninety percent of their peasant population to agriculture, Chinese Ming dynastic monarchs disenfranchised the source of most of their kingdoms' ingenuity. Someday someone should try to quantitate this dishonorable and appalling phenomenon.

As human progress is the consequence of a plethora of ideas rather than channeled thinking, purposeful canonization is logically unhealthy. In effect, the underlying political purpose of canonization is to control the thinking of others to the point of sameness, the consequence in medicine being a brake on medical progress. By applying government regulations and guidelines to methods and procedures derived from medical studies, government bypasses that most obvious first step of control, direct command. Instead, and more subtly, it is now government-selected opinion that is canonized, *i.e.*, treated as a fact, and adherence is expected. In medical hands and in medical associations it would not be treated so. It would instead be updated and corrected and we would then find some regulations and guidelines useful, some not, but they would not be canonized and they would be applied as indicated rather than as directed. When, however, specific medical practice issues are targeted as meriting bureaucratic management, canonization using the definition "only acceptable format" as applied or implied by government regulation is intrusion from outside the profession, one in which inapt methods and procedures become enforceable.

Corporatism:

How can government opinion be efficiently canonized without invoking the medical profession? It does this by inserting itself indirectly into medical practice. It makes itself indispensable by dispensing privileges to selected special interests in return for their allegiance, and it makes them complicit in the consequences. And, like the pharaohs, it can enlist physicians as its mouthpiece. Like the Chinese dynasties, it can insinuate its own ethical, philosophical and economic goals into physician education and research, and like all totalitarian states it can make deals with special interests in which their autonomy is ceded for a guarantee of state support, ultimately financial. The latter mechanism, corporatism, has become more obvious in the age of democratic governance; Hammurabi didn't have to bargain, whereas Hitler, Mussolini and Putin did.

³² See Excursus 12 for more on the Isagorial Theory of Human Progress.

CORPORATISM: “a system of interest intermediation linking producer interests and the state, in which explicitly recognized interest organizations are incorporated into the policy-making process ...” (Oxford Concise Dictionary).

Corporatism in American medicine has been evolving over the last sixty years. Initiation of Medicare with its contributions required by law as medical insurance for the over-65 by the federal government in 1965 began the process. Next came the Health Maintenance Organizations in 1973 in which government acted as a liaison between patients and healthcare providers. Then followed incremental attempts to control costs of medical care, managed care companies, and bundling of services, and 2010 saw, in the Affordable Care Act, far greater integration of relevant businesses into government schemes, a major event in the corporatism process through which government is now close to controlling all medical care throughout the nation.³³ Like the medical guilds in monarchical domains under Hindu medical canon, the individual practitioner is being regulated into conformity by a profession-government complex, aided by certain medical journals (examples of the aforementioned “lease-holders of medicine”).^{34, 35}

Corporatism’s medical canon, effected or affected by government, need not be technical. Examples include the following: (1) The canon that there are social goals in medical care that justify preferential treatment of patients, thus superseding other aspects of medical care. In the European Dark Ages it was common in religious circles to consider treatment of the soul more important than treatment of the disease. In the Far East a 6th C Confucian physician, Sun Szu Miao, stated “a superior doctor takes care of the state, a mediocre doctor takes care of the person, an inferior doctor takes care of the disease.” Corporatism commonly has special interests promoting social goals of government that may favor particular segments of a population. Except for medical triage in disasters where emergency care is preferentially given to the more seriously affected individuals, this is folly, for each person is unique physically, psychologically, medically and potentially, and is to be treated as such. (2) The canon that computerization (*e.g.*, the electronic health record) is the answer for increasing the quality and efficiency of the physician’s work. Time and effort is required in fulfilling standardized procedures, of which the medical record is an example; time spent detracts from care of those in need. It also detracts from time necessary to obtain an adequate medical history and physical examination. Its intrusion is also a threat to individualized care when it is used to ensure and document the physician’s adherence to guidelines or other ordained standardized approach to patients. (3) The canon that government money is taxpayer money, thereby justifying government regulation of its use by corporate entities. This can affect all aspects of healthcare and is incompatible with the Hippocratic Oath. Only the

³³ The hazards of *The Patient Protection and Affordable Health Care Act* were promptly recognized and articulated by Cleto DiGiovanni, MD, and Robert Moffit, PhD, in *How Obamacare Empowers the Medicare Bureaucracy: What Seniors and Their Doctors Should Know*, in WebMemo of *The Heritage Foundation*, No. 2989, August 24, 2010.

³⁴ “Corporatism” is mentioned many times in volume 3 of *The Natural State of Medical Practice*, but its use in that volume refers to early urbanization and heterarchical governance in primitive societies with no prior experience with government as such. Thus, emerging commercial, agricultural and service units work together to advance their individual interests in a mutually beneficial way. To the extent that there is a central organizational coordination interacting with peripheral interests, this archaic organization might be considered a form of “primitive corporatism” in that coordination rather than control is its *raison d’être*.

³⁵ At the end of this excursus is appended the contents of the medical journal *Lancet* from early July, 1962, and early July, 2022. In the former there **22** articles and letters to the editor that specifically involved clinical care; in the latter there was **1**. For the *New England Journal of Medicine* from the same dates the difference is less stark but limited to “articles:” 5 from the 1962 date and **2** from the 2022 date, and one of the latter reported the first genetically modified porcine-to-human cardiac transplantation.

physician can determine what is medically best for the individual patient, not government committees. Medical practice guided by the Oath and its protection of the physician-patient relation, not a committee of government or special interests, has always been desired and expected by Americans. (4) The Hammurabi approach to medicine (“value-based care”) is being copied, *i.e.*, reimbursement is related to outcome, the canon being the better doctors can be identified by their better outcomes. The problem here is ignorance of the variability of humans, of disease, and of humans with disease. This means regulations have the effect of penalizing physicians managing sicker patients and promoting the work of those who would care for those less sick. It follows that the sicker patients are also disadvantaged by value-based care. (5) The canon that there is a best way to manage a disease. Standardized care, while it makes reimbursement and litigation easier, ignores reality in that what may statistically be a favored treatment is absolutely invalidated by two considerations: the weakness inherent in any statistical proof and the variability within the human species. Only the physician can decide the favored treatment for the individual patient.

The preceding can be a disincentive to become a physician if an already rigorous medical education is required to academically integrate sociological concepts unrelated to medical care of the patient. For example, it has been proposed that the modern physician should have a sufficiently comprehensive training in alternative health practices such as holistic, Traditional Chinese Medicine, homeopathy, Ayurveda, and Aromatherapy as well as the standard scientific allopathic medicine. This, plus economic pressures to which corporate interests are particularly sensitive, increases the utilization of those less trained. Ancient Greek physicians had slave assistants who, after hours, were permitted to provide medical care which they learned by observation to other slaves, if they so wished, in return for reimbursement. Bureaucratic decisions based on economic reasons that promote expansion of patient responsibility to include those with inferior training is another example of bureaucratic incompetence. The public should be aware of the slave physician analogy and its personal relevance the next time they have an appointment to see a Physician Assistant or Nurse Practitioner.³⁶

Incompetence, or the consequence of privilege:

A major, but previously understated, problem with government intrusion involves the unprivileged citizenry, the major source of society’s competence. Increasing size of government increases the scope of those who are privileged, thus mimicking the persons in the train of dukes, princes, monarchs, and tyrants of dynasties and empires throughout history. This problem is not what government does, which is often bad enough. It is, instead, an unintended consequence. The inherent incompetence of centralized political power, discussed in Excursus 15, increases with its increase in power. With government’s focus on regulatory canon, it prevents alternative ideas from being considered. But ingenuity as a national resource is distributed evenly throughout society, and if government regulation and economic policy guide people where it has decided they should go and trains people the way it has decided they should be trained, those people lose their unprivileged status. This might seem to be a big advance, for the unprivileged population shrinks. How can this be viewed otherwise?

In America there should be no inherently privileged population; except that we are privileged to be American, we are all born unprivileged. Protected by the Constitution and the Bill

³⁶ I have worked with many excellent Physician Assistants and Nurse Practitioners. No matter how “nice” they are, the issue is their autonomy and level of supervision. California now (2022) has a law permitting nurse practitioners to perform a first trimester abortion technique without supervision by a physician.

of Rights, every citizen is then free to develop as he or she sees fit. In contrast to preceding civilizations where the unprivileged were in the great majority and any opportunity for self-betterment was thwarted by the privileged, Western civilization constrained somewhat the ambitions of the privileged. This was best achieved, ultimately, in America, where, with no constitutionally inherent privileged class, there was a flood of invention and discovery released around the nation by the general population.

But in the past century this has changed. Many of the population have acquired privileged status by accepting government employment and benevolence and are voluntarily surrendering to government their opportunities for self-betterment, the workshop of human ingenuity. As a result, that portion of our unprivileged society, which is the source of invention and discovery, has greatly decreased as it has increasingly achieved privileged status. As for employment, including the military, fifteen percent of the American labor force is in government employ. We need and want government employees, including those in medicine. They are valuable, but there are limits. Many millions more enjoy government largess and in a sense are government recruits. The larger the total number of the privileged becomes, the more difficult it is to resist socialization of all essential services. Our genie of ingenuity and competence is once again being pushed back into its bottle and the progeny of the newly privileged will bear the sorry consequences.

Destabilization:

A serious mechanism for loss of progress distinct from canonization is destabilization of society. Feuds and wars waged by the privileged classes limit the ability of unprivileged individuals to engage in self-betterment and to organize in specializations to the benefit of society as a whole because all of society is focused on survival and the unprivileged have no choice but to march where told. In place of many individual conflicts that can be decided by legislation, the political hierarchy of authoritarianism ignores the natural desire for independence of the individual and can come into conflict with large segments of society and with other authoritarian societies. The resulting national political and civil turmoil disrupts efforts of individuals in society to improve their status or achieve long-term goals, instead enlisting them into that deemed essential for national survival, a necessarily immediate goal. In recent history military decisions concerning initiating a war have usually fallen into the hands of one person. Not only does this person epitomize the pinnacle of the locus of incompetence inherent in authoritarian governance, but negotiations that naturally involve strategic thinking will involve a similar incompetent who leads the opposition. Add to this war initiated by two incompetents the costs of preparation, reparation and reconstruction. The damage to society is unfathomable above and beyond physical devastation. Destabilization is not an immediate problem in American medicine because America's strength among world powers provides stability for all democratic nations. Should that deterrence be weakened to where America becomes just another country, or should centralization of political power continue, conflict will be inevitable and broad, as will its negative consequences on medical progress and practice in America and everywhere else. These comments are not meant to diminish the responsibility of citizens of a democracy to come to its defense.³⁷

³⁷ There have been academic studies that revolve around the Democratic Peace Theory, a theory based on the contention that democracies do not war on other democracies, surely a "good," and while democracy is not the equivalent of freedom it is at the least a step away from authoritarian governance. There are critics of that theory, both theoretical and factual, but at present the dominant opinion is that the Democratic Peace Theory is reasonably

Summary

This excursus has briefly summarized the history of medical practice, which has been, up until the 18th C, a history of misadventure followed by tragedy. From this history I have drawn several conclusions that may be relevant to modern medicine. Since the 18th C we have seen a remarkable blossoming of medical progress. But if intrusion by third parties, especially government and its supportive network, continues as it has, history suggests our profession is on the path to mediocrity equivalent to ancient Ayurveda or Traditional Chinese Medicine. That history is also a warning to other professions and ultimately to the nation. We are actively and passively coming under the aegis of a voracious political class. Canonization, corporatism, and incompetence are doing their malicious work. Many of us are already functioning, often unwittingly and in varying degrees, as its mouthpiece. As a consequence, alternative and complementary medicine are increasingly popular, medical research and medical training are increasingly funded, and thereby guided, by governmental policy or favorites, and the quality of our work in the office is deteriorating, as suggested by public dissatisfaction and by general medical journals that seem to have gained in political stature what they have lost in clinical relevance (see appendix to this excursus).

Trust in the goodwill of centralized government into the foreseeable future seems to be established despite centuries of evidence that for the common man and woman this is not a good idea. It will be a shame to have reversed what we have recently accomplished. The most striking objective evidence of progress in medicine is increasing life expectancy of the general population:

Mean Stature in Feet and Median Life Span in Years of Humans in Prehistory and History³⁸

	Mean Stature (ft.)		Median Life Expectancy (yrs.)	
	M	F	M	F
Paleolithic	5.81	5.47	35.4	30.0
Mesolithic	5.66	5.24	33.5	31.3
Early Neolithic	5.57	5.10	33.6	29.8
Late Neolithic	5.29	5.06	33.1	29.2
Bronze/Iron Ages	5.46	5.06	37.2	31.1
Hellenistic	5.64	5.13	41.9	38.0
Medieval	5.56	5.15	37.7	31.1
Baroque	5.65	5.18	33.9	28.5
19th C	5.58	5.17	40.0	38.4
Late 20th C (USA)	5.72	5.36	71.0	78.5

The increase in life expectancy was first detected in the Western Europe in the 19th C, Eastern Europe in the 20th C, and now is found in many populations around the world. It was not due to the genius of a few great men. It was not built on the shoulders of our ancestors. It certainly was not directed by political leadership or government; in fact, it was just the opposite. No government can ever claim it has contributed to progress, period. And it was not due to necessity,

supported by evidence. See: Rummel, R., *Never Again: Ending War, Democide, & Famine through Democratic Freedom*, Llumina Press, Coral Springs (FL), 2005, and Gat, A., *War in Human Civilization*, New York, 2006.

³⁸ This Table is modified from that used by: Wells, S., in *Pandora's Seed: The Unforeseen Cost of Civilization*, New York, 2010, p. 23. Measurements of stature could reflect nutritional status.

for that necessity has always been with us. It also was not due to an increasingly intelligent and benevolent humankind. We are no kinder or wiser than our distant ancestors. It has been due to one thing, and one thing only, and that is a freeing of the common man and woman from their anonymous servility that has characterized their social status since the first human societies. It has been their escape from the strong bonds of kinship and stronger bonds of authoritarian governance. It is clear that the increase in life expectancy followed, rather than preceded, the early progress of Western medicine. And this great transformation took place in the West.³⁹ Of course, improved sanitation, productive agriculture, and less physical risk in tasks of daily living have contributed to our well-being, but the source of their improvements is the same although medicine takes the prize.

Throughout history, however, centralization of power and placing it in hands of the locus of incompetence has led us into perpetual cul-de-sacs. Much more can be said about the tragic history of the common citizenry on this point, but for present purposes it is sufficient to declare that within our profession **we must (1) protect the *sanctum sanctorum* of the physician-patient relation, (2) prevent those outside of the profession from controlling it, (3) remove it from all political issues by limiting its scope to its core principles, (4) forbid any political collaboration or coercion, whether by government or its proxy, special interests, (5) compete with, but do not join with or proscribe, alternative forms healthcare practices, (6) focus on clinical medicine, (7) vigorously maintain professional standards, and (8) remain true to the Hippocratic Oath.**

With government, alternative medicine, major medical associations, and a politically susceptible and unsuspecting public threatening traditional medical practice, matters do appear grim. Change will be difficult. It also will never be complete. The best that can be done is to reverse such matters as we can, little by little. This will be greatly expedited when private medical practices are shown to be more effective and increasingly requested than alternative practices. Medical schools especially must adapt. Increase the visibility of the praiseworthy efforts of our professionals and disparage the perilous efforts of the authoritarians. This is not the time to be modest. The democracy between physicians and patients must be restored. We can return to modesty when we have repaired the perimeters of our profession and reunited the physician-patient relation. Meanwhile we must spread the word of just what will happen if matters continue as they are, and, to repeat the words of Richard Hurrell Froude:

“Open your eyes to the fearful change which has been so noiselessly affected; and acknowledge BY STANDING STILL YOU BECOME A PARTY TO REVOLUTION.” (sic)

Richard Hurrell Froude (1803-1836)⁴⁰

³⁹ Justification for this statement is a separate issue, but the initial argument is found in Excursus 8.

⁴⁰ Hurrell Froude was the elder brother of the famous English historian, James Anthony Froude. A cleric, Hurrell's statement is to be found in *Remarks on State interference in Matters Spiritual*, in *Remains of the Late Reverend Richard Hurrell Froude, M. A.*, vol. I of Part 2, Derby, 1839, p. 196. Although pertaining to “matters spiritual,” Froude adds the comment, based on the principles of Hooker, that it “goes to any kind of State interference at all.” Froude, part of the early 19th C Oxford Movement in England, was arguing a principle of 16th C Calvinism.

Appendix:

For comparison of medical journals of the recent past and present, here are listed the contents of articles in two issues of two prominent medical journals. The first issue was published the week I began my internship in 1962, the second issue sixty years later:

LANCET, first issue of July 1962

Articles

The Negative Symptoms of Basal Gangliar Disease (survey of 130 postencephalitic cases)
 Iron Absorption in Pancreatic Disease
 Steroid Therapy in Heart-block Following Myocardial Infarction
 Blood Lavage in Acute Barbiturate Poisoning (ten years experience)
 Gritti-Stokes Amputation for Atherosclerotic Gangrene
 Heritable Variation in the Length of the Y Chromosome
 Absence of the Y Chromosome (X0 Sex-Chromosome Constitution) in a Human Intersex
 with an Extra-Abdominal Testis
 The Minicoil Artificial Kidney
 Haematological Factors as Related to the Sex Difference in Coronary-Artery Disease
 Apparatus for Nursing Infants Upright

(10 articles, average number of authors per article: 2)

Letters to the editor

Pulmonary-embolic Disease
 Thalidomide-damaged Babies
 Placental Monoamine-oxidase activity and toxæmia of pregnancy
 Threadworms
 Practice in Saskatchewan
 RIpH
 The Aged Motorist
 Information on Toxicity
 Neuropsychologists in Medical Schools
 Efficiency of Cardiac Massage
 Sodium-retainin Steroids in Non-edematous Patients
 Trends in Mental-Hospital Population and their effect on Planning
 Citrullinuria in cases of cystinuria
 HP
 Films on Mental-health Subjects
 Surgery of Road Accidents
 Irritant Properties of Wescodyne
 Snuff
 Reactions with Phenindione
 The Real Problem of Migraine
 Testicular Changes in Infant of Diabetic Mother
 Activities of the X Chromosome
 Satellites of Acrocentric Chromosomes
 Aetiology of Choriocarcinoma
 Cervical Spondylosis: A Request for Pathological Material

LANCET, first issue of July, 2022

Articles

Life Expectancy by County, Race and Ethnicity in the USA, 2000-19: A Systematic
 Analysis of Health Disparities
 Immobilization of Torus Fractures of the Wrist in Children (FORCE): A Randomised
 Controlled Equivalence Trial in the UK
 Effectiveness of Interventions to improve Drinking Water, Sanitation, and Handwashing

with Soap on the Risk of Diarrhoeal Disease in Children in Low-Income and Middle-Income Settings: A Systematic Review and Meta-Analysis

(3 articles, average number of authors per article: 19)

Correspondence

Guidelines for Pregnant Individuals with Monkeypox Virus Exposure
 Monkeypox Genomic Surveillance Will Challenge Lessons Learned from SARS-CoV-2
 The Monkeypox Outbreak Must Amplify Hidden Voices in the Global Discourse
 Shifting Gender Barriers in Immunisation in the COVID-19 Pandemic Response and Beyond

NEJM, first issue of July, 1962

Articles

Evaluation of Tri-Iodothyronine in the Treatment of Acute Alcoholic Intoxication
 Idiopathic Hemosiderosis – Relation to idiopathic Hemochromatosis
 Chronic Post-rheumatic-Fever (Jaccoud's) Arthritis
 Arteriovenous Fistula of the Aortic Arch
 Hemorrhagic State Due to Surreptitious Ingestion of Bishydroxycoumarin

(5 articles, average number of authors per article: 2)

Correspondence

Mission Accomplished (re: angina pectoris)
 Paging M. Poirot
 Infant Wetback
 Credit for Research Grant
 A Correction
 Hamartomata Galore

NEJM, first issue of July, 2022

Articles

Trastuzumab Deruxtecan in Previously Treated HER2-Low Advanced Breast Cancer
 Effects of Previous Infection and Vaccination on Symptomatic Omicron Infections
 Brief Report: Genetically Modified Porcine-to-Human Cardiac Xenotransplantation

(3 articles, average number of authors per article: 12 et al.)

Correspondence

Neutralization Escape by SARS-CoV-2 Omicron Subvariants BA.2.12.1, BA.4, and BA.5
 SARS-CoV-2 Infection in Patients with a History of VITT
 Nonoperative or Surgical Treatment of Acute Achilles' Tendon Rupture
 The Increasing Incidence of Early-Onset Colorectal Cancer
 Prone Positioning of Intubated Patients with an Elevated BMI