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*On the Sacred Disease: The Historical Significance of Hippocratic
Humanism, Rationality and Scientific Procedure*

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In contemporary society, the *Hippocratic Corpus* has come to represent the ethical and historical nucleus of the Western medical tradition. The *Corpus*, which comprises roughly 70 Hippocratic texts, preserves the teachings of Hippocrates, the so-called “Father of Medicine”, who practiced on the Greek island of Cos throughout the fifth century BCE. Once the *Corpus* was compiled under his name and applauded by the likes of Plato and Aristotle, Hippocrates became legend; it was told that he learned the art of medicine from his father Heraclides, a direct descendent of the Greek god Asclepius.

Perhaps the most influential passage of *Corpus* is titled *On the Sacred Disease*, a Hippocratic inquiry into the so-called ‘sacred disease’ of epilepsy. Although most of the anatomical, physiological and pathological doctrines of the *Hippocratic Corpus* have been superseded, the premise of *On the Sacred Disease*—that disease is caused by changes within the body—catalyzed the rise of rational, secular, and systematic medicine over magico-religious healing and the recognition of medicine as a true *techne*, or science. For these reasons, *On the Sacred Disease* continued, and continues, to inspire.¹

Before the time of Hippocrates, ‘pre-scientific’ Western medicine was predominantly magico-religious, or characterized by magical practices that seek to induce a given outcome via supernatural beings. Founded by Asclepius, son of Apollo, god of the sun and patron of all physicians, magico-religious Asclepian medicine incited the establishment of ‘Asclepieia’. Generally located in scenic, isolated regions near mountains or natural springs, Asclepieia contained medical schools in which proper diet, baths, and exercise served as medical therapies.² The sick congregated and slept in Asclepieia to pray for the intervention of Homeric gods.³

Characteristic of early Greek magico-religious medicine was the perception of sickness not as an individual entity, but rather, as a state of disease that affects the human body in its

totality and is sent by gods or evil spirits. As such, early Greek healer-priests did little for the affected part of the body, but rather tried to appease the divine powers that sent the disease with prayer, incantation, and sacrifice.⁴ In fact, to the ancient Greeks, epilepsy was a *miasma*, or contagious power, cast upon the soul; as such, depending on the specific symptoms, epileptic fits were attributed to different deities, including Poseidon, Mars, Hermes and Apollo.⁵

In the fifth century BCE, however, *On the Sacred Disease* introduced a concept that would, in time, transform the Western medical tradition from that of the divine to that of rationality, scientific procedure, and objective observation. “[The] disease called the Sacred arises from causes as the others, namely those things which enter and quit the body, such as cold, the sun, and the winds, which are ever changing and are never at rest,” Hippocrates writes. “And these things are divine, so that there is no necessity for making a distinction and holding this disease to be more divine than the others, but all are divine”.⁶ Hippocrates continued, “[Those] who first called this disease ‘sacred’ were the sort of people we now call witch-doctors, faith-healers, quacks, and charlatans....By invoking a divine element they were able to screen their own failure to give suitable treatment and so-called this ‘sacred’ malady to conceal their ignorance of its nature”. Such magico-religious healers, he holds, invent many and various things to expand their own clientele, accrue a sizable fortune, and establish a name for themselves.⁷ Due to use of prayer, magico-religious healers possessed no need to utilize drug, food or bath. Any worsening of condition was attributed to the wrath of the gods, relieving the healer of any accountability, while the healer was credited with immense personal abilities upon the improved condition of a patient.

The reader may protest that *On the Sacred Disease* does not represent rationality or the systematization of medicine, but rather, an expanded designation of ‘sacred disease’, replacing

one mythic account with another.⁸ This text, however, shows not irrationality, but a calculated response to the dominant and deep-rooted religious paradigms of the time. Though *On the Sacred Disease* criticizes supernatural theories, the concept of the divine is preserved, thereby representing a calculated effort to oppose religious explanations of epilepsy without alienating potential patients.⁹

By separating itself from the medico-religious paradigm, Hippocratic medicine was able to transcend past limitations on medical innovation. Societies which accepted that the gods cause and cure disease were inherently resistant to the expansion of medical thought. *On the Sacred Disease's* premise that disease is caused by changes within the body was, conversely, highly responsive to the process of medical inquiry and discovery.¹⁰

Yet this early process of discovery was far from successful. For many ailments, Hippocratic physicians could do little more than let nature take its own course, keeping the patient as comfortable as possible and doing nothing to exacerbate his or her condition.¹¹ In addition, dissections were uncommon in ancient Greece due to superstitions regarding the violation of a human corpse. Despite avoiding the soundest basis for testing medical theories, the great amount of scientific detail that Hippocrates collected through observation and case study is truly remarkable.¹²

During the millennium in which rational and religious medicine coexisted, the two were of relatively equal value. Furthermore, *On the Sacred Disease* in no way represented the immediate triumph of rationalistic medicine over temple practices. While the rational medicine of Hippocrates provided reassurance that one's condition had a natural explanation and did not represent the gods' displeasure, religious healing, notes historian David Todman, "offered comfort with the promise of direct contact with the supernatural." The two schools of healing

greatly influenced one another; the realities of a religion-centered medical tradition required secular medicine to tailor itself to a religious framework, while the efficacy of Hippocratic medicine caused the Asclepieia to adopt a more scientific nature.¹³ In many ways, the coexistence of magico-religious and secular medicine was mutually beneficial. When rational medicine failed to cure a sick patient, they often found comfort in magico-religious medicine. Furthermore, archaeological evidence suggests that Hippocratic physicians often practiced in close proximity to Asclepieia so that prospective patients could easily consult with both a doctor and a priest. In fact, the *Corpus* reveals that even Hippocrates, who was originally an Asclepian, viewed the Asclepian magico-religious tradition in a surprisingly positive light. In the spirit of noncompetitive cooperation, Hippocrates did not allow divine action to predominate his pathological and physiological doctrines, but did not wholly reject it, either.

In *On the Sacred Disease*, Hippocrates attributes disease to both internal (i.e., diet, exercise, age, one's constitution, etc.) and external (i.e., wind patterns, changes in climate, etc.) factors. With regard to internal factors, Hippocrates' *Regimen I* holds that food and exercise have opposite powers that interact to produce health. Thus, diseases are caused internally by either overeating or fasting. As for external factors, *On the Sacred Disease* finds that particular diseases correlate with specific climatic conditions.¹⁴ More specifically, epilepsy was claimed to be caused by such 'divine' factors as the winds, the cold, and the sun. Hippocrates thus holds that epilepsy is curable only if one knows how to counteract these factors.

On the Sacred Disease's extraction of the gods from human disease necessitated the formation of a new framework for the cause and cure of illness: humoral pathology. According to Hippocrates, one's health depends on the four humors—yellow bile, black bile, phlegm, and blood. Ideal health is realized when the four are in proper proportion to one another, while pain

manifests when one of these elements is in defect or excess. In addition to changes in wind patterns, Hippocrates attributes the cause of epilepsy to the phlegmatic constitution of the diseased. An excess of phlegm, he holds, causes people to become quiet and withdrawn, while an excess of bile leads to violent behavior.¹⁵ Thus, if sufficient amounts of phlegm remain either *in utero* or in early childhood, the phlegmatic child risks reception of ‘the sacred disease’. Though science has disproven Hippocrates’ theory of humoral pathology, its significance cannot be taken at face value. The true value of humoral pathology lies not in its correctness, but in its lead role in altering the then-dominant vehicle of medical thought. Hippocrates’ works, including *On the Sacred Disease*, gave rise to the modern medical assumption that disease is of internal and physical, not divine or spiritual, origin.

On the Sacred Disease also represents the birth of Western medical inquiry. Holding that prognosis should be based on thorough examination of the patient, Hippocrates made incredibly detailed and meticulous clinical observations. As a result, the fundamental characteristics of epileptic seizures—loss of voice, choking, foaming of the mouth, clenching of the teeth, convulsive movements of the hands, loss of consciousness, and occasional defecation—are described vividly in the text.¹⁶ Hippocrates further asserts that physicians should recognize the inexactness of medicine while also rejecting theories based on untestable ‘postulates’ or ‘hypotheses’.¹⁷ Hippocrates’ scientific method was reinforced in the fourth century BCE by Diocles of Carystus, who was deemed ‘second in age and fame to Hippocrates’ Though he accepted Hippocratic beliefs regarding the natural origin of disease, Diocles also investigated and expanded upon many Hippocratic concepts, such as those regarding humoral pathology and the function of the human heart. In doing so, Diocles provided an important connection between Hippocratic medicine and Aristotelian science.¹⁸

In *On the Sacred Disease*, Hippocrates poses highly remarkable ideas regarding the mechanisms of heredity. “If a phlegmatic child is born of a phlegmatic parent, a bilious child of a bilious parent, a consumptive child of a consumptive parent and a splenetic child of a splenetic parent, why should the children of a father or mother who is affiliated with this disease not suffer similarly?” Reasoning that the seed “comes from all parts of the body” and “is healthy when it comes from healthy parts, diseased when it comes from diseased parts”, *On the Sacred Disease* demonstrates a logical progression from magico-religious belief, as the Greeks commonly believed that divine punishments and curses could be transmitted to one’s progeny.¹⁹ Hippocrates was thus the first to highlight the great natural diversity that results from one’s individual, inherited combination of humors. “The individuality that Hippocrates first identified is today understood largely as a difference at the level of the sequence of DNA,” notes geneticist Dr. Gerasimos P. Sykiotis of the Wilmot Cancer Center, “which encodes the information that determines the human body’s composition, disease predisposition, and drug response.”²⁰

From Hippocrates’ study of epilepsy also comes a relatively modern explanation of the capacities of the human brain. In addition to asserting that the brain is the seat of epilepsy, *On the Sacred Disease* holds that “the source of our pleasure, merriment, laughter, and amusement, as of our grief, pain, anxiety and tears, is none other than the brain”.²¹ The brain “enables us to think, see and hear and to distinguish the ugly and the beautiful, the bad and the good, pleasant and unpleasant”. Furthermore, the brain is “the seat of madness and delirium”, which arises when it is attacked by phlegm, bile, or “violent change in the air”. Since Hippocrates claimed that epilepsy originates in the brain, his assertion that the brain—rather than the diaphragm, as previously assumed—is also the seat of thought and perception is highly sensible, as disorientation and loss of consciousness are two of the disease’s more obvious symptoms.²²

Interestingly, however, Hippocrates failed to make a categorical distinction between ‘mind’ and ‘body’. As such, it was believed that all mental affections were of physical nature and cause.²³

Hippocrates facilitated the recognition of medicine as a true *techne*. This was no simple feat, as the ancient doctor possessed no legally-recognized professional qualifications and any individual could claim to heal the sick. Additionally, some scorned secular medicine because most physicians were unwilling to treat those with ailments likely to prove fatal. Such critics held that if medicine was truly a *techne*, physicians would be able to cure all illnesses.²⁴ Despite these detractors, secular medicine gained the status of true *techne* through adherence to the Hippocratic belief that ‘the place of a physician is at the bedside of his patient’, a belief that certainly still holds true today.²⁵ Hippocrates continues to represent the ethical ideal of compassionate, respectful, and selfless physician. Modern physicians now read his works not out of piety, but as an integral component of their training as ethical doctors.²⁶

Yet well after secular medicine’s designation as a true *techne*, some continued to liken Hippocratic physicians to sophists. It is certainly true that secular physicians taught medicine for a fee. This was an incredibly sensitive issue in Greece, as those who earned money by practicing a skill were considered social inferiors by landed men of leisure. Furthermore, *On the Sacred Disease*, like many Hippocratic texts, is structured as a lecture to be addressed to a general audience.²⁷ In studying the text, it proves quite clear that Hippocrates’ polemic against the magico-religious healers intended not to rid medicine of irrationality, but to attract students and patients by demonstrating the ‘technical’ inferiority of his opponents’ methods and explanations. Through highly deliberate, persuasive speech, Hippocrates declares divine those ‘shocking’ and ‘ominous’ diseases commonly treated by secular practitioners, thus wrangling the formerly

‘sacred’ diseases of the magico-religious healers into the Hippocratic domain of secular authority.²⁸

Roman physician-philosopher Galen of Pergamon was, quite unequivocally, Hippocrates’ most influential adherent. This is not to say that Galen doesn’t occasionally acknowledge the existence of gaps or mistakes in Hippocratic knowledge. In general, however, he follows Hippocratic texts and treats Hippocrates not as a distinguished practitioner, but as the ultimate medical authority whose views were to be adopted whenever possible. By the mid-second century A.D., however, Galen himself rapidly became the chief authority on questions of anatomy, physiology, and pathology.²⁹ Despite his personal fame, Galen remained faithful to his humble Hippocratic beginnings, especially in the context of philosophical debate over the relative merits of *empeiria* and *logos*. In his *On Medical Experience*, Galen argues that if only philosophers would listen to the word of Hippocrates, they would find that truth can be obtained only by means of reason in conjunction with experience, because expectation founded on reason alone is likely to be fruitless and misleading. Fortifying the *techne* of Hippocratic medicine, Galen insisted that experiments should be reproducible. He further held that for an experiment to be truly reproducible, one has to know under exactly which conditions and circumstances they obtained their initial result.³⁰ Though the scientific method has certainly developed since the time of Hippocrates and Galen, this precedent of reproducibility gave rise, in part, to contemporary medicine’s great tradition of reliable scientific exploration.

Until the decline of Rome in the fifth century A.D., Hippocratic practice remained visible within Roman sport and military. With the rise of secular medicine, athletic injury came to be considered not divine punishment, but the result of treatable and preventable physical damage. As such, sports practitioners focused on both athletic preparation and medical treatment. Further,

though Hippocrates paid little attention to hygiene, the Hippocratic tradition of meticulous observation allowed for extensive compilation of knowledge regarding the efficacy of basic hygienic practices, which soon proved vitally important to the survival of the Roman army.³¹

Soon after the fall of Alexandria in 642 A.D., knowledge of Greek medicine spread throughout the Arab world. Arab writers who were well-versed in Hippocrates and Galen saw themselves as upholding the best traditions of Greek medicine by preserving these original works. Without their efforts, the entire Greco-Roman medical tradition could have easily vanished. Arab physicians did not wholly rely on the works of Hippocrates and Galen, however. Using the systematic and rational methods of the Hippocratic tradition, they engaged in medical innovation of their own, producing such notable works as Ibn Sina's *Canon on Medicine*.

Although it is an exaggeration to say that medical inquiry died with Galen, an increasing amount of work in the sciences thereafter came to take the form of commentaries on or summaries of earlier texts. While Galen's writings were preserved in encyclopedias, the new and prevailing spirit of medicine in Europe was that of religion and magic. In fact, physicians in the Dark Ages often believed that diseases such as epilepsy, hysteria and psychoses were the result of demonic possession. For this reason, epileptics were commonly considered witches and warlocks.³²

Due largely to the preservation efforts of Arab physicians throughout the European Dark Ages, Hippocrates and Galen figured prominently in the curricula of European medical faculties beginning in the fourteenth century. By the fifteenth century, Galen received such widespread reverence that famed Flemish anatomist Vesalius asserted, "So completely have all surrendered to Galen's authority that no doctor has been found to declare that in the anatomical books of Galen even the slightest error has ever been found, much less could now be found".³³ Finally, by

the sixteenth and seventeenth centuries, Galileo and Newton liberated science from the constraining paradigms of religion; thereafter, it would progress on an exponential trajectory.

Western medicine has certainly come a long way since the time of *On the Sacred Disease*. Though most of its physiological doctrines bear little contemporary relevance, *On the Sacred Disease* continues to catalyze the triumph of secular medicine's rationality and systemization over magico-religious healing, as well as to reinforce medicine as a respectable and reputable *techne*. There exists perhaps no greater modern reinforcement of the classical Hippocratic ideal than the Oath of Hippocrates. Upon induction into the medical profession, contemporary physicians commonly recite the Declaration of Geneva, which was adopted in 1948 by the General Assembly of the World Medical Association as a modern revision to the Hippocratic Oath:

"I solemnly pledge to consecrate my life to the service of humanity;

I will practice my profession with conscience and dignity;

I will maintain by all the means in my power, the honor and the noble traditions of the medical profession; [and]....

I will not permit considerations of age, disease or disability, creed, ethnic origin, gender, nationality, political affiliation, race, sexual orientation, social standing or any other factor to intervene between me and my patient."³⁴

In these ways, Hippocrates' *On the Sacred Disease* remains as relevant in contemporary Western society as it was over two millennia ago on the Greek island of Cos.

Notes:

1. Lloyd, *Hippocratic Writings*, 59.
2. Falagas, "Science in Greece: From the Age of Hippocrates to the Age of the Genome", 1946.
3. Anderson, *Sources in the History of Medicine: The Impact of Disease and Trauma*, 77.
4. Veith, "Historical Reflections on the Changing Concepts of Disease", 501.
5. Magiorkinis, "Hallmarks in the History of Epilepsy: Epilepsy in Antiquity", 132.
6. Hippocrates, *Hippocratic Writings*, 237.
7. Ehrenwald, *The History of Psychotherapy: From Healing Magic to Encounter*, 171. On the Sacred Disease clearly reflects Hippocrates' detest for those magico-religious healers who treated epilepsy as the sole 'sacred disease'. Yet Hippocratic doctors did not extend the designation of "witch-doctors, faith-healers, quacks, and charlatans" to Asclepian healers, despite their belief in the 'sacred disease'. Furthermore, there existed little competition or enmity between the two early schools of medicine. Historians generally believe that this peaceful coexistence was due largely to the benefit that Hippocrates derived from his ancestor, Greek god Asclepius. In fact, in life Hippocrates' lineage aided his rise to public prominence and intellectual reverence.
8. Laskaris, *The Art is Long: on the Sacred Disease and the Scientific Tradition*, 14.
9. Todman, "Epilepsy in the Greco-Roman World: Hippocratic Medicine and Asclepian Temple Medicine Compared", 440.
10. Anderson, 65.
11. Lloyd, 37.
12. Chang, "Hippocrates' Influence on the Origins of Neurosurgery", 3.
13. Todman, 436.
14. Lloyd, 23.
15. Laskaris, 141.
16. Todman, 437.
17. Lloyd, 43.
18. Eijk, *Medicine and Philosophy in Classical Antiquity: Doctors and Philosophers on Nature, Soul, Health and Disease*, 25.
19. Laskaris, 139.
20. Sykiotis, *Pharmacogenetic Principles in the Hippocratic Writings*, 1219.
21. Hippocrates, 248.
22. Laskaris, 127.
23. Eijk, 26.
24. Laskaris, 79.
25. Anderson, 79.
26. Lloyd, 9.
27. Hippocrates, 37.
28. Laskaris, 96.
29. Anderson, 85.
30. Eijk, 292.
31. Anderson, 85.
32. Magiorkinis, 134.
33. Lloyd, 58.
34. World Medical Association, *Declaration of Geneva*, 1.

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