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Honors 490

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Panel 1 – Journal

The Healing Hand: Man and Wound in the Ancient World

Greek Medicine: The Sources

- First account of Greek medicine → Homer – 9th century B.C.
- Hippocrates 460-380 B.C.

Wounds in Verse

- Ancient Greek wound-healing methods were questionable in the sense that they were not based on empirical evidence → e.g. reciting a charm over the wound to heal it
- Major theme → a good medicine must be *unpleasant*
- Homer's *Odyssey* → Ulysses was called 'toxic', but toxic did not mean "poisonous" at that time; it meant "for the bow-and-arrow", derived from 'toxon' or 'bow'
- The Hippocratic Collection was at its best in matters *surgical* → The implication here is that it was not very useful for internal medicine
- The term 'epidemics' used to mean "visits to places" because doctors would often travel or go on 'epidemics'
- The physician was always spotless, neat, and reassuring
- For Ancient Greeks, there was no distinction between 'medicine' and 'surgery'

Outpatient Care, Hippocratic Style

- In the mind of the iatros, *fig juice* was a good remedy for stopping bleeding, based on the logic that it made milk curdle and would thus probably make blood clot. However, as we later find out, these sorts of analogies that the Greeks made and assumed to be true often turned out to be problematic in medical practice (fig juice did not actually cause blood to clot)
- The Greeks established that heat increases bleeding, which remains true.
- Round/circular wounds do not heal as quickly as oval-shaped wounds because of the way that the skin contracts
- Artificial pneumothorax → created by the iatros *accidentally*; it was not recognized as an invention until the 19th century

- The Greeks made a great fuss about the 'dangers' of cheese because they associated it texturally with the white fibrin that coagulates in sores, which they called 'phlegm' - cheese was 'phlegmatic.'
- There was a fear of 'bone bruises' because the Hippocratics thought that bruised bone would decay and slough off, just as soft tissue. To prevent this anticipated outcome, the iatros wasted little time and would just start scraping away at the bone with a sharp knife.
 - *If the iatros had found no hole at all, he still would have felt compelled to drill a hole → "In essence, if you find no hole, make one." ... Such was the mentality of these physicians, for which the only plausible explanation seems to relate back to the idea that physicians needed to appear competent: even if it wasn't an effective treatment, doing *something* was better than doing nothing.
- At the time, making a good *prognosis* was considered more important than making a good *diagnosis*; Lack of interest in the diagnosis was due to the fact that disease, in Ancient Greece, was always viewed as the same: an imbalance.
- In the case of Patient #9, the thoughts of the iatros when treating the boxer seem contradictory to the implications of his logic mentioned earlier on (with regard to drilling holes in the skull): **"As for your ears, almost anything I could do would make matters worse. It is sometimes a good remedy to apply nothing at all, and this is true not only for the ears."**
- It was generally a rule to keep wounds warm, with the exception of cases where there was inflammation, in which cooling down or icing is more practical.
- Frankincense used in zinc oxide ointments that were strongly believed to "make flesh grow" when applied to wounds that were near healing

Wounds as Diseases: Hippocratic Theory

- In the Golden Age (late 6th century B.C.), a century before the birth of Hippocrates, 'logic' was still a new technique and not well understood – the Greeks would likely accept as factual what we recognize instantly as a *hypothesis*
- The word 'hypothesis' occurs for the first time in the Hippocratic book *On Ancient Medicine* → testing by experiment was not felt to be necessary
- ** "Indeed Greek medicine, great as it was an art, was a failure as a medicine." (178)
- Greek physicians studied disease mostly by giving it a lot of thought → As Charles Daremberg said, "They tried to explain Nature while shutting their eyes."
- * 'Disease' was caused by *imbalance* → The components of the body that may go out of balance were the celebrated 4 humors: *blood, phlegm, yellow bile, & black bile.*

- Greek aesthetics had a particular fondness for *fourfold* symmetries (e.g. the 4 elements, 4 winds, 4 states of matter, 4 tastes, 4 seasons, etc.)
- Of all the far-fetched theories around blood, flesh, and venules, the one accurate conclusion was that small vessels *do* have spasms; In 1969, the electron microscope showed how irritated venules actually tear themselves apart.
- "Good pus" (phlegm) vs. "Bad pus" (corrupted blood) → Today, the actual meaning of these two kinds of pus is well known: it is the difference between *benign* infection and *severe* infection. The Greeks' mistake of confusing benign infection for the "good and natural" course of events was a belief that remained in the field of surgery until the 19th century.
- The recommendation to 'keep wounds open and oozing for a long time to extend the drainage of bad humors' came later in time; It is never advised in the Hippocratic Collection.
- The Greeks had a special set of drugs, in the form of dry powders, called 'enhemes', which they used to prevent suppuration of wounds → Many of these powders were harsh antiseptics and would kill bacteria at the expense of killing healthy tissue cells (perhaps similar, though obviously on a very different scale, to the mechanism of chemotherapy)
- The mines of Cyprus were a source of zinc – the Greeks heated zinc carbonate to produce zinc oxide, which not only became a favorite wound drug of ancient times, but is also a favorite drug of **modern dermatology**

Wine & Vinegar as Antiseptics

- The 9-11 % concentrations of ethyl alcohol in ordinary wines have very little effect on bacteria
- The optimal strength of alcohol-water mixtures to fight *E. coli* is 70%.
- 1892: Dr. Pick, an Austrian military doctor, discovered that wine (straight or diluted) could kill cholera bacteria within 10-15 minutes.
- A later review in 1951 showed results consistent with those of Dr. Pick's experiment, and additionally showed that wine could kill *E. coli* in 25-60 minutes.
- The pigment of red wines, known as *malvoside*, is the most important polyphenol in wine in terms of its antibacterial effect.

The Reverse of the Coin: Cures That Made Matters Worse

- Hellebore: Black Hellebore & White Hellebore → used by ancient Greek physicians for their purgative properties, but both were extremely toxic and fatal
- * The irony of Hellebore: Its saving grace was that it caused vomiting so fast that the patient actually stood a chance of getting rid of it before absorbing a lethal dose.
- The Greeks thought there was something wrong with almost every vegetable, and that fruit was even worse; meat and cereal were considered to be the safest foods → vitamin deficiencies

- Use of many controversial “wound-healing” drugs lasted all the way until WWI, largely due to the great authority of Hippocrates, whom people refused to question for a very long time (this point was emphasized by Dr. Carlon)
- * “People want to be healed, and industry has responded with healing drugs and salves.” This is a major problem with unregulated ‘natural’ substances that have resulted in an alarming number of fatalities, and yet whose sales continue to profit the multi-billion dollar vitamin and herbal supplement industry.
- One important factor in any illness could be the weather

The Drakon

- Asklepios is the patron god of physicians – no evidence that the physicians ever objected to the assistance offered by Asklepios.
- Drakon: ‘snake’ → 3 main therapeutic themes: the snake, the god, and a drug.
- The snake’s reputation as a healer was tremendous; It was Europe’s only constrictor

After Hippocrates

- “When we say someone is sanguine, or bilious, or melancholic, or phlegmatic, we are still blaming, in turn, each one of the **4 humors**
- 3 basic treatments: Bleeding, starving, and purging – became prominent all throughout the Western world
- * “[Hippocrates’] basic science should have begun with anatomy, but he preferred the anatomy of *thought*. He had freed himself of religion to become the prisoner of philosophy.” (206)

Thucydides on the Plague

- Typhoid's vector is water, similar to cholera
- Spartans attacked Athenians annually during 'fighting season' – when no crops were being harvested and grown
- Pericles: "Let them attack!" → His plan regarding the long walls had backfired because everyone became jam-packed while the plague was coming through, making transmission very easy and rapid from person to person
- Thucydides got very *analytical* in his writing of the Peloponnesian War – a quality that most Greek writers of that time did not show
- 'Lemos' (sp?) – hunger/famine vs. 'Loimos' – Plague/death

Lecture w/ Jacqueline Carlon

- The Mediterranean was already fairly developed before the Greeks had settled
- Mesopotamia (modern-day Iraq) → “middle of two rivers”
- Sources of disease → Gods and sin
- Ancient Egyptian practices (circa 2500 B.C.) took place 1500 years before Greek civilization.
- Copper and honey were two of the most common antiseptics used by Egyptians → the Greeks had picked some of this up in later years
- The Ionian Enlightenment (circa 6th century B.C. – the birth of pre-Socratic philosophy) → Advances in scientific thought in ancient Greece... This was a significant turning point in that it prompted the transition from ‘thought-based’ to empirical
- Groupings of 4 (emphasized in *The Healing Hand*) → This idea stuck until the 20th century
- Time of Socrates → Science and thinking
- Hippocrates – middle of 5th century B.C. → Great concern with being able to offer *prognosis* to patients
- Many doctors *traveled* (‘Epidemos’ in Greek) from place to place → Book series called *The Epidemics* – accounts of doctors’ experiences during travel
- Weather, urine, air, etc. were closely examined in terms of their link to disease patterns
- ‘Malaria’ = ‘bad air’
- Epicurus (300 B.C.) → ‘Atomos’ – Atomic theory
- Idea of needing to diagnose – emphasized on pp. 168 & 170 (‘competent’ physicians)

- In Homer's Iliad – descriptions of *gods interfering with war* → This belief about the Trojan War, which occurred 500 years before Homer's time, was already gone by the time he wrote about the war.

*This underscores the anachronisms that frequently showed up in ancient literature

- Curing slaves was a priority because of their value to society
- The word 'celery' meant "he is in danger"
- Gaellan (200 A.D.) → Doctor for gladiators
 - First person who really gets to know human anatomy by sewing up the gladiators
 - Hippocrates was Gaellan's hero; however, Gaellan questions some of Hippocrates' ideas, and was one of the first to do so → Hippocrates was rarely questioned by anybody because of the high reputation and level of respect he had gained in medicine → *The Hippocratic Oath
- Gaellan's writing became very influential throughout Europe