
An Anthropological Analysis: The Role of Ancient Greek Medicine in Modern-Day Medical Practices

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Abstract

Ancient authors, such as Thucydides and Hippocrates, have reported on many diseases as well as various medical interventions. Many of these methods have been critiqued over time by modern professionals, such as anthropological and classical scholars as well as those in the medical field. Such critiques have brought about many questions of how medical treatments and interventions shifted throughout time. This paper will analyze the works of Hippocrates as well as Thucydides to evaluate the scientific approaches of the ancient Greek world to obtain a better understanding of why this shift over time was crucial to modern, western medicine today. Ancient medical treatments, dating from the 5th century BC to present day, will also be explored and compared to modern treatments to highlight the similarities and differences of these interventions. Such interventions, both past and present, will be analyzed and understood through various case studies, focusing on concepts such as Hippocrates and the Four Humours, Glaucoma and Animalistic Healing properties, and Thucydides and the Plague of Athens. These case studies will provide a range of examples of ancient Greek medical interventions, some of which seem either abnormal or scientifically valid compared to modern medicine. The past sets a precedent for our modern-day lives, thus learning about and comparing past medical interventions to present interventions provides us with background knowledge and a deeper understanding of modern-day pathologies. This understanding can lead us to the advancement of treatments and the bettering of our medical systems along with a general societal understanding of health.

Keywords: Ancient medicine, Medical interventions, Plague of Athens, Hippocrates, Thucydides, Hippocratic Oath

1.0: Introduction

As Thucydides once said, “Knowledge without understanding is useless” (Knight, 2017). This is especially true when analyzing past phenomena and

life experiences through both anthropological and archaeological contexts. Such knowledge and understanding can be applied to ancient Greek medicine and its similarities and differences to modern-day medicine, as well as its historical impact.

Due to its continuous effect on our modern-day world, it is crucial to understand the creation, evolution, and changes of ancient Greek medicine. This paper will focus on an exploration of health and disease in the Ancient World, focusing on ancient Greece, and how such phenomena were described and treated in comparison to modern interpretations and reactions to health and disease. There are many cases of similarities and differences throughout the evolution of medicine with reference to ancient Greek medical understandings, which have impacted western and modern-day knowledge. This paper will also analyze the history of medicine and how it has evolved from ancient Greece to modern western societies. This then poses two questions. What are the main differences and similarities in past interpretations of disease when compared to modern, western interpretations? As well as what changes took place in society to shift us away from a mythological diagnosis to a scientific one?

Ancient authors, such as Thucydides and Hippocrates, have reported on many diseases as well as various medical interventions, many of which have been critiqued over time by modern anthropologists and scholars alike. Hippocrates, a Greek physician from the classical period, is considered to be the 'Father of Medicine' as his methods are very advanced for his time. In his work, *The Hippocratic Oath*, Hippocrates discusses how diseases occur naturally opposed to being the result of a divine curse (Evans *et al.*, 2003). He believed there needed to be harmony between the individual, social and

natural environment and used the theory of the Four Humours to back this theory up (Kleisiaris *et al.*, 2014). Thucydides, an Athenian general, also gives significant insight into pathologies as well as the impact widespread disease would have on a society in his account of the Athenian plague in 6th century BC. In addition to information provided by past philosophers such as Thucydides and Hippocrates, scholars also have access to translated texts of past healthcare treatments for day-to-day illnesses such as the common cold and nasal polyps (Prokopakis *et al.*, 2010). These sources provide us with various interpretations of past and modern medicine and explore medical evolution throughout time.

The analysis of the Ancient World is critical to the advancement of modern society as it serves as a guide for us to reference as we continue to move forward. Through these ancient texts, we can explore how earlier humans interpreted illness in a time when science, specifically biomedical knowledge, was scarcely known and before the practice of effective medicine was established. Ancient civilizations faced many of the same issues and struggles we face in modern society, such as day-to-day pathogens like the common cold, injury, as well as mental illness, and more. This is important to acknowledge because we have the privilege, opportunity, learning tools, and the technology to learn from past populations through surviving texts and artifacts. Through the analysis of ancient populations, scholars can form a better understanding of human evolution and more importantly the origins of disease. This can

lead to many advancements in treatments in medical care and patient care. It is also important to explore the development of humans over time to have a better understanding of our human history and how much society has developed and evolved. Though ancient treatments may seem abnormal in comparison to modern-day, and western medical interventions, the analysis and understanding of past medicine is crucial to the advancement in our current day and age. Simply, past medicine, though not consistently practiced in our modern world, set a precedent for medicine throughout the course of history as we can find overlap between the two. This paper will analyze various diseases both past and present in relation to previous and current treatments, in addition to various perspectives on health and disease in the ancient and modern world. The primary focus will be that of ancient Greek medical interventions and modern-day, western medical interventions.

2.0: Comparing Ancient and Modern Medicine

2.1: Similarities Between Ancient and Modern Medicine

When comparing ancient Greek and modern medicine, there are several cases of overlap in similarities of treatment and medical understanding. This overlap is due to the implementation of ancient medical practices in modern-day practices, due to their historical significance in treating and healing individuals. For example, *The Hippocratic Oath* is an ancient Greek

medical document of vows that ancient medical apprentices made to uphold their promises of offering ethically sound medical treatment (Miles, 2005). Among various vows, the Oath suggests that medical information and knowledge must be shared between colleagues and students (Miles, 2005). Such practices directly reflect modern medicine where physicians still vow with reference to the ideals of *The Hippocratic Oath*, as well as the value of working collaboratively and sharing knowledge with others to ensure medical advancement and adequate patient treatment. While almost all medical students make a public promise, none utter the original words of the *Hippocratic Oath*, however almost every oath made is a modernized version of this ancient oath (Weiner, 2018). Though the original *Hippocratic Oath* is no longer in practice, it is evident that such a significant document and set of vows provided a foundation within the realm of medicine.

Another example of modern-day knowledge of health deriving from ancient medicine is the concept of physical exercise prompting cognitive reactions and positively impacting an individual's or population's health (Kleisiaris *et al.*, 2014, 3). The philosopher, Aristotle, believed that physical and mental health were related to one another, and a balance between the two created functional capacity and harmony, thus the phrase, "healthy mind in a healthy body" became well known throughout society (Kleisiaris *et al.*, 2014, 2). This is applicable to modern-day medicine as there is evidence surrounding physical activity improving one's emotional regulation, as

well as reducing the risk of anxiety or depression, and cognitive decline through diseases such as dementia (CDC, 2023). Additionally, such concepts of a balance in mental and physical health were incorporated in the ancient Olympic Games (Kleisiaris *et al.*, 2014, 2-3). For example, olive oil was used as a product to warm up athlete's muscles to prevent muscle strains and sport-related injuries, while fruits with high-glucose levels, such as figs, were also used as a means of natural sources of energy for athletes (Kleisiaris *et al.*, 2014, 3). These forms of preventative treatments and preparedness reflect similar modern-day methods. It is suggested that athletes should consume carbohydrates prior to physical activity, as glucose levels are impacted by carbohydrates, which directly correlates with the ancient Greek ideology of consuming high-glucose level foods, as they would have contributed to athletic performance and energy levels (Walton and Rhodes, 1997, 1-2). Though modern medicine does not always prioritize mental and physical health equally, there are still those that believe a healthy body and healthy mind are necessary for overall health, especially through the relation between mental health and cognitive decline, as previously mentioned, which in turn leads to physical decline.

2.2: Differences Between Ancient and Modern Medicine

In addition to evidence of similarities between ancient Greek and modern-day medical interventions, there are also many variations. Such differences may lack a

biomedical component, yet Greek citizens of this time deemed these methods medically sound. One of the first differences in ancient Greek medical understanding and knowledge is the gendered differences regarding intelligence between males and females. For example, it was thought that engaging in physical activity promoted cognitive reactions in an individual, stating that one's mathematical and reading skills would improve, especially in young girls (Kleisiaris *et al.*, 2014, 3). Though physical activity is crucial to leading a holistically healthy life, gender itself does not play a direct role in the correlation between being active and a person's intelligence, as there are various factors at hand, which include but are not limited to a person's genetics and environment (Makharia *et al.*, 2016). Though there is evidence suggesting a correlation between higher intelligence quotient (IQ) in females than males, post-physical activity, this ancient Greek concept is far too specific to prove entirely valid (Killgore and Schwab, 2012). There are so many factors that play a role in a person's IQ such as background knowledge, access to education, and their lived environment, and we cannot simply state that physical activity promotes mathematics and reading skills, but rather mental stimulation in general. Not only is this correlation not true due to a lack of scientific evidence, but the concept of gender is also that of a socially constructed idea, and one's gender is a fluid phenomenon that can change throughout their life (Parker, 2016). Additionally, this concept can no longer be applied to modern analyses, as we must speak of gender and sex as two different

concepts, sex being biological and gender being social. Simply, the fluidity of gender and the various factors involved in an individual's IQ levels contradicts the ancient Greek concept of gendered differences relating to physical activity and intelligence, and thus the concept is not scientifically valid. Considering such concepts, the authors suggest that this disparity in intelligence was due to social differences in the ancient world. For example, most Greek women, excluding Spartan women, were restricted regarding their education and public freedom, due to social customs and norms (Katz, 1992, 74). Due to this social disparity between men and women, we propose that perhaps women's intelligence and abilities were simply displayed after being hidden by misogynistic social structures. Women were rather not more intelligent after physical activity in comparison to men but were simply able to express their intelligence due to such analyses of their knowledge.

In addition to socially constructed and influenced medical ideologies, there were also medical perspectives relating to biological and psychological imbalances, such as an individual's humours. Humourism is the idea that depending on the colour of the fluid being secreted from the body determines what kind of disease the patient would be diagnosed with (National Library of Medicine, 2023). These four fluids were connected to one of the four elements to explain how to treat the disease (National Library of Medicine, 2023). This imbalance in a person's humours can be exemplified by the idea that acne was caused by a bodily imbalance (Mahmood

and Shipman, 2017). This concept was derived from the belief that pores were thought to be orifices that humours could pass through, thus causing an imbalance (Mahmood and Shipman, 2017). It is important to note that the theory of Humourism is still relevant today in fields such as physiology, neurochemistry, and personality research, though advancements have been made and professionals have gained more knowledge on the causes of bodily imbalances, such as falling ill (Bhikha and Glynn, 2017). Though the Humoural Theory was popular for approximately 2,000 years, it began being refuted in the early European Renaissance period during the 17th and 18th centuries (Bhikha and Glynn, 2017, 15034). This rejection was due to the introduction of new theories and methods that provided insight into diseases and a person's health through the understanding of organs being affected by diseases, rather than the individual's humours (Bhikha and Glynn, 2017). More specifically, in the 1900s, Germ Theory was introduced as a novel concept by Robert Koch and has influenced scientific and medical understandings of disease since (Chen *et al.*, 2018). Germ Theory prioritizes the understanding of diseases through their specific causes such as pathogens and viruses, also known as the 'Doctrine of Specific Etiology' (Bhikha and Glynn, 2017). The concept of a disease having a specific etiology dismissed the theory of Humourism, as it focuses on multiple causes and imbalances due to a person's lifestyle, temperament, and environment, rather than specific pathogens or viruses causing disease or illness (Bhikha and Glynn, 2017,

15031-15033). It is far more scientifically sound to consider the etiology of a disease such as its causative pathogens; though, the incorporation of Humourism may still be beneficial in the sense of a person's lifestyle causing imbalances in their health. Simply, it is crucial to understand all possible causes and variables of disease and illness, as there is never one set causative factor.

3.0: Case Studies

3.1: Hippocrates and the Four Humors

Hippocrates was very influential in the development of the theory of the Four Humours during the classical period (Kleisiaries, *et al.* 2014). While Hippocrates was a widely known ancient Greek physician, his methods were not always scientifically sound. Hippocrates believed disease was selective and could only harm individuals who were out of balance regarding their mind, body, and natural environment (Kleisiaries, *et al.* 2014). Hippocrates once said, “Illnesses do not come upon us out of the blue. They are developed from small daily sins against Nature. When enough sins have accumulated, illnesses will suddenly appear.” (Noland and Noland, 2020, 305). This quote exemplifies Hippocrates' views of disease as he thought disease to be connected to the environment an individual resided in. As the theory of the Four Humours revolved around the natural elements, fire, water, earth, and air, it is evident he believed in a naturalistic approach to medicine and medical procedures (Kleisiaries, *et al.* 2014). The

Four Humours are bodily fluids that exist in the human body including blood, phlegm, yellow bile, and black bile as shown in figure 1 (National Library of Medicine, 2023). It was believed that if any of these fluids were experienced in excess or in a deficiency that this would be a sign of illness, normally resulting in an imbalance of an individual's temperament. Although this theory may seem impractical in a modern setting, Humourism remained in practice well into the 16th century and even some aspects of this theory appear in modern medical practices.

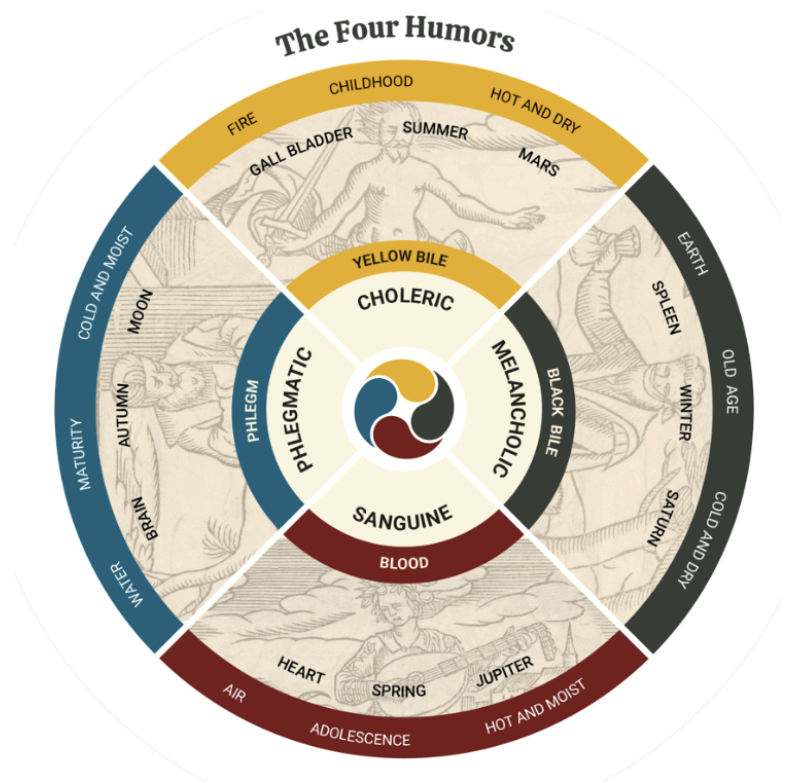


Figure 1. Diagram depicting the various elements of each of the Four Humours (National Library of Medicine, 2023).

Though Hippocrates took a philosophical approach with scientific undertones, many other physicians of this time chose a mythological approach to diagnosing disease. Many used the theory of the Four Humours to prove individuals affected with disease were evil doers who had provoked the gods, and these diseases were punishments bestowed by divine beings. Ancient Greece was heavily influenced by religion and commonly blamed the Greek gods for any discrepancies in an individual's behaviour. There are very few works from antiquity that discuss disease and mental illness, but rather many authors choose to describe seemingly ill individuals as “mad” or “insane” with these adjectives describing an individual who was believed to have been possessed or victim to the supernatural (Evans *et al.* 2003). Works by ancient poets and authors, such as Aristophanes, exemplify how far medical sciences have evolved as it is now known that disease is the result of pathogenic microorganisms and not a divine punishment.

3.2: Glaucoma and Animalistic Healing

To continue, as seen with the concept of Humourism, ancient Greek medical interventions being considered abnormal in modern times can be understood through various diseases and their associated forms of treatment. For example, in ancient Greek medicine, diseases were named after animals, such as cancer relating to crabs and alopecia relating to foxes (Laios *et al.*, 2016: 507). These correlations were a result of similarities between the diseases and

associated animals. For example, crabs were associated with cancer because tumors appeared similarly to crabs and their multiple outstretched legs (“Cancer: a historic...”, n.d.). With this visual similarity between crabs and cancerous tumors, Hippocrates named “cancer” as *karkinoma*, which is the Greek word for crab, and is still referenced today as the word “carcinoma” describes certain types of cancers (“Cancer: a historic...”, n.d.; “Types of cancer”, 2023). Foxes were related to alopecia due to the Greek word for fox being *alopex*, and foxes experiencing hair loss when sick with mange (Callander and Yesudian, 2018). A specific example is the correlation between glaucoma and owls as the word glaucoma is derived from the Greek word *Glaux*, meaning owl (Laios *et al.*, 2016; Leffler *et al.*, 2017). Additionally, as discussed by Laios and colleagues (2016: 508), owls are known to have excellent vision, which provides further reasoning for the correlation between owl’s and glaucoma as a disease. This paradigm between animals and specific diseases was due to the idea that there was an apotropaic force, and such animals could fight the diseases with magical powers (Laios *et al.*, 2016: 507). Additionally, it was thought that the disease itself would be transferred to the animals, thus healing the individual (Laios *et al.*, 2016: 507). Simply, since owls are known for having good eyesight, they were thought to have the ability to heal individuals with glaucoma as a disease that affects the eyes. Such beliefs are represented in ancient art such as figure 2 below, depicting an eye and an owl which represents glaucoma being healed through the animal’s powers of

exceptional eyesight (Laios *et al.*, 2016). This exemplifies medical beliefs and treatments that were once viewed as cures, that are now viewed as inaccurate due to not being backed up by science or any proof.



Figure 2. *An ancient Greek gem depicting an eye, representing glaucoma, being healed through the animal's powers* (Laios *et al.*, 2016).

3.2: *Thucydides and The Plague of Athens*

While much of the remaining ancient literature details disease as a result of a god's wrath and outrageous treatments, there are other ancient practitioners that developed insightful diagnoses and treatments. An example of this comes from Thucydides' detailed account of the Athenian Plague as he describes plague symptoms within the community as well as a first-hand account of his own experience as a plague victim. The Athenian plague is dated to 430 BCE during the Peloponnesian War and would last until 425 BCE. This would result in 25% of the Athenian population perishing due to plague complications (Cunha, 2004). This disease

was devastating for Athens causing them to lose the war against Sparta. Thucydides was an Athenian general serving in this war and provides one of the most accurate descriptions of the plague that has survived. In his account, Thucydides describes symptoms such as heat in the head (headaches), blisters and sores, a violent cough, sore throat, and bile being excreted from the body (Cunha, 2004). Thucydides notes that the leading cause of death for plague victims was exhaustion as these symptoms would cause extreme stress on the body resulting in even more harmful illnesses. Though Thucydides was unable to conclude the exact diagnosis for this disease, he was able to offer a scientific diagnosis based on what he observed happening to others as well as himself (Cunha, 2004). Because of the information he left behind, modern scholars can determine that the Athenian Plague was most likely the result of the bubonic plague, influenza, typhoid fever, smallpox, epidemic typhus, or measles (Cunha, 2004).

3.3: *Healing Cults*

Throughout the Classical and Hellenistic periods, healing cults were prominent throughout Greece and Rome. These healing cults, or sanctuaries, are the earliest evidence known to us of designated health facilities practicing medicine in ancient times. Sick or wounded individuals would travel to sanctuaries such as the sanctuary of Asklepios at Epidaurus to receive medical treatment from Asklepios, the Greco-Roman god of medicine and healing. Many healing rituals were

performed by priests who were trained practitioners at this sanctuary, who would perform ritual purifications to cleanse the mind of any unholy thoughts and to wash the body clean (Papageorgiou, *et al.* 2022: 7). The patients would then be encouraged to participate in physical activity in the gymnasium to promote an active and healthy lifestyle. Patients would also watch tragic plays of a reversal of fate performed at the theater of Epidaurus to, according to Aristotle in his work *Poetics*, evoke fear from the audience which would result in a catharsis meant to purge the audience of ailments to balance the humors. The final step in the healing process was to sleep in the *abaton* where patients would receive divine dreams from Asklepios where he would heal them in their sleep or provide them with instructions to heal themselves once awake (Oberhelman, 2020: 16). It was believed that after the patients who had been directly healed by Asklepios awoke from their sleep, they would have been completely healed of any ailments, injury, or disease. Interestingly, this sanctuary appears to have been more dedicated to healing individuals opposed to worshipping the deity that the sanctuary was dedicated to. This is evident as votive offerings would have been made to Asklepios after the healing process had concluded, indicating a higher prioritization of healthcare.

4.0: Shifts in Ancient and Modern Medical Interventions

4.1: Comparison of Interventions

Evidently, over time medical interventions have developed and shifted as medical practices modernize and evolve with scientific discoveries. Many of these changes can be seen through the examination of ancient medical texts compared to modern-day treatments. The first example of medical practices changing over time is the treatment for nasal polyps. In ancient Greece, practitioners would treat this disease using a mixture consisting of grated myrrh, incense, egg whites, and snails to be rubbed onto the head for nine days (Prokopakis *et al.*, 2010: 269). The modern-day medical intervention for nasal polyps is a prescribed nasal corticosteroid spray, and if symptoms do not improve then endoscopic surgery is required (Prokopakis *et al.*, 2010). Another example of shifts in treatment is seen in the ancient and modern medical interventions for leprosy. Aretaeus of Cappadocia describes multiple remedies for this disease including the use of “black vipers,” meaning snake meat, in food, drink, ointments and electuaries (Santacroce *et al.* 2021: 628). In modern medicine, the World Health Organization suggests the combination of three drugs, dapsone, rifampicin and clofazimine, can be used to treat leprosy with a treatment time of 6-12 months depending on how severe an individual's symptoms are (World Health Organization, 2023). Though there were remedies that may have alleviated symptoms of leprosy among other diseases in ancient

times, modern-day medicine has advanced and provides further alleviation, and even a cure for such diseases.

Additionally, the common cold and flu was treated in various ways in ancient Greece however, Galen's introduction to melanthion quickly became a common treatment. Melanthion is tiny black seeds, known as nigella seeds. To treat a blocked nose patients were required to wrap the nigella seeds in a small piece of linen and bring to one nostril while the other is covered and inhale deeply (Petit, 2014). This treatment plan is similar to the modern Vicks inhaler as it provides patients with the same effect as the menthol treatment (Petit, 2014). Other modern treatments include antibiotics as well as saline spray; however, nigella seeds are still used in Morocco today as a cold and flu treatment 1,500 years after their initial discovery (Petit, 2014).

4.2: Applying Shifts in Medical Interventions

It is evident that there have been various shifts and similarities between western medicine in correlation to precedents set by ancient Greek medicine. There has been a change in perspectives regarding gender in relation to an individual's health and intelligence; the origin and transmission of diseases through the shift from Humourism to germ theory; and the differences and similarities in treatment of illness thousands of years ago up until modern times. Through the analysis of such shifts, professionals can understand past ways of life and knowledge, in relation to our current life ways and forms of knowledge. The past sets a precedent for the

present, as history repeats itself, and it is crucial to recognize such patterns in health, medical treatment, the spread of disease, and life experiences.

5.0: Relevance of Humourism Today

5.1: Health is Subjective

While in the Western world, Western medicine is viewed as correct, ideal, and scientifically accurate, other medical perspectives may consider alternative methods. It is crucial to understand such differences in perspectives and practices through a culturally relative lens. Cultural relativism indicates an understanding of how cultural contexts and behaviours can vary between individuals and said cultures (Watson and Djohari, 2020: 5). This is especially essential when discussing topics of health, as health and health care can vary between different people, cultures, and contexts. While health may indicate a state of 'perfect' bodily functions to one person, it may indicate otherwise to another person with different yet still 'healthy' bodily functions. Thus, health is subjective based on various factors like lived experience, religion, cultural contexts, and more (Silvers, 2022). For example, deafness indicates a loss of one of our five primary senses. However the deaf community uses sign language to communicate and thus adapted to this change in senses, and may have a different perspective on 'perfect' bodily functions equating health (Silvers, 2022).

5.2: Hot VS Cold Foods: Sociocultural Aspects of Health

While not necessarily scientifically relevant within Western medicine, Humourism is still culturally relevant regarding anthropological perspectives. For example, in Western cultures, when someone falls ill with a cold we may suggest they increase their vitamin C intake by eating citrus fruits. However, in other cultures, such as traditional Chinese medicine, certain foods are viewed as hot versus cold (Dashtdar *et al.*, 2022). As expressed by Dashtdar and colleagues (2022), an orange is viewed as a ‘cold’ food, while a mango is considered ‘hot’ in nature. Simply, hot foods are used to combat cold experiences such as being sick with chills, while cold foods are used to combat hot illnesses such as heat stroke.

Additionally, when people fall ill, there tends to be an imbalance in their system. For example, the human body is filled with many microbes that help humans stay healthy, such as lactid acid bacteria that helps us digest food, as well as bacteria that strengthen our immune system by fighting germs (“In brief:..., 2022). However, there are bacteria that cause disease and do harm instead of good, and it is thought that less than 1% of all bacteria cause disease (“In brief:..., 2022). For example, colds, tonsillitis, and diseases like tuberculosis, are caused by bad bacteria, and can be understood as an imbalance between good and bad bacteria in the body (“In brief:..., 2022). This can be further understood through the term ‘dysbiosis’, which refers to a gut microbial imbalance, and is suggested to be linked to diseases such as inflammation related disorders (Schippa and Conte, 2014). Even if not identical to the

concept of Humourism, when someone falls ill with a virus there is an imbalance in the types of bacteria in their body. As previously mentioned, our bodies are filled with bacteria, both good and bad, and when there is too much bad bacteria, there is an imbalance between the good and the bad bacteria (“In brief:..., 2022). This suggests that the concept of Humourism as a bodily imbalance is still relevant despite not exactly aligning with western medicine.

In addition to examples of disease and bacteria, Humourism can be viewed as relevant through common social factors and practices when someone is feeling poorly. However, it is important to note that these examples can be considered old wives tales, and information passed down generationally due to social beliefs. For example, when a person is experiencing menstrual cramps, they often try to alleviate such cramps through the use of a heating pad, hot water bottle, or taking a warm bath. It is commonly suggested that warmth helps to alleviate cramps and menstrual pain, as the uterus is a muscular, hollow organ, and heat tends to ease tight muscle pain (Gasner, 2020). When considering menstrual cramps, Humourism can be applied to the concept of a warm versus cold uterus. A warm uterus is thought to be more relaxed and at ease, while a cold uterus is thought to be more tense.

Another common example of social influence of the perception of illness, that reflects concepts of Humourism and a balance between illness and outside factors is consuming chicken noodle soup and warm fluids when ill. The warmth is thought to

help to warm the body from within, and figuratively combat the 'cold'. In addition to eating warm foods like soup to combat a cold, many people believe that going outside in cold weather with wet hair can increase the risk of falling ill with a cold. While the concepts of combating and preventing falling ill with a cold are interesting, they are not scientifically accurate. A cold is a virus caused by the transmission of rhinovirus bacteria, not caused by going out into the cold or eating cold foods (Pathogen safety..., 2010). Despite not being scientifically backed up, the social and mental aspects of these practices are relevant in many people's day-to-day lives, and draw parallel to Humourism.

5.3: *Homeostasis*

While the previous examples are not scientifically backed up as medical interventions, we can consider concepts of homeostasis as a more recent understanding of balance within the body, instead of Humourism. Concepts of bodily regulation and equilibrium have been traced back to Ancient Greece, as discussed throughout this paper, and such concepts have circulated throughout time (Billman, 2020). Considering such bodily regulations, homeostasis can be defined as "a self-regulating process by which biological systems maintain stability when adjusting to changing external conditions" (Billman, 2020: 2). For example, when a person falls ill, their body may attempt to fight off any pathogens by increasing the body's temperature, which is commonly known as a fever. This results in an imbalance within the body that must be controlled via biological

processes in order to return to a homeostatic state of equilibrium. As expressed by Tom Robbins (2020),

"True stability results when presumed order and presumed disorder are in balance. A truly stable system expects the unexpected, is prepared to be disrupted, waits to be transformed" (Tom Robbins, in Billman, 2020: 2)

The introduction of homeostasis can be understood as an advancement within the realm of medicine and science, as such fields advanced. As expressed throughout this paper, Humourism in ancient medicine was meant to address such bodily imbalances, but did so in less scientifically backed up ways, that have since been expanded upon through the introduction of concepts such as homeostasis.

5.4: *Impacts of Humourism*

With such changing concepts and the advancement of medicine and theories of health in mind, it is important to recognize the impacts of past theories of Humourism. The concept of Humourism led to the stigmatization of diseases, which can be reflected in our current day and age. Individuals who fell ill were considered dirty, unhygienic, and poor, which was later refuted by Germ Theory and the revelation that it was not people directly causing their illnesses, but rather other factors such as pathogens and viruses spread by more than sinful actions. However, despite such ideologies of people causing their own illness being proven to have no scientific relevance, there is still a large stigma

associated with disease and illness within society. For example, people who fell ill from the COVID-19 virus were blamed as being irresponsible and unhygienic; while this may be true for some, most people were exposed due to uncontrollable factors such as relying on public transit, working in a high risk setting such as a hospital, or simply not having access to preventative measures such as adequate hygienic practices. Though Humourism is not a reliable or accurate theory, the concept of there being various factors associated with illness and disease is still applicable today but must be understood in correlation to Germ Theory and scientific evidence of disease such as pathogens. This connection between the stigmatization of disease along with ideas of Humourism and Germ Theory exemplifies the shifts and overlaps in medicine over approximately the past two millennia, and the importance of understanding various perspectives of disease that shape society today. Though perceptions of disease have changed over time in reference to ancient Greece, general concepts of health have continued to be relevant in today's world. For example, conditions that were discovered in ancient Greek times such as diabetes, eclampsia, coma, paralysis, mania, panic, hysteria, epilepsy, and more, are still used in the realm of medicine today, some of which remain treated as medical complications (Kleisiaris *et al.*, 4: 2014). This suggests that western, modern medicine has greatly evolved regarding scientific knowledge and understanding of medicine and health, such as the genetic makeup and causes of disease,

but that general terminology and diagnoses have remained similar throughout time.

6.0: Conclusion

To conclude, medical interventions and understandings of health have substantially advanced throughout human history and will continue to advance as time moves forward. Through surviving text from the ancient world, society is given the opportunity to evolve from the populations that came before us and learn from past civilizations. Specifically, through the works of Hippocrates and Thucydides, modern scholars can interpret the knowledge of past physicians to correct or enhance current medical treatments. Though many ancient works have been disproven over time, various medical interventions practiced in antiquity remain present and influential in modern medicine such as the evolved theory of Humourism developed by Hippocrates, and *The Hippocratic Oath*. Medical approaches have greatly evolved over time, especially from more philosophical views in the ancient Greek period to primarily scientific perspectives in our western modern world.

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