

Seeing Politics Through Medicine: Examining Changes and Continuities in Second Intermediate Period and New Kingdom Medical Papyri

Isabella Heffernan
Stanford University

The war at the end of the Second Intermediate Period lasted from around 1700 to 1550 BCE, and it shaped almost every aspect of life. Understanding of this war does not just come from ancient bureaucratic sources. Analyzing wartime and post-war medical texts provides unique insight into military and political views. Different sources can give invaluable insight into changing perspectives based on their variations in who is the subject of treatment, why they are being treated, what they are treated with, how they are treated, and when the treatment is occurring. The answers to these questions also reveal what a society is prioritizing at the time. This can be applied to two medical papyri dating from the end of the Second Intermediate Period and the beginning of the New Kingdom. The Edwin Smith Papyrus dates from around 1600 BCE. It reflected the renewed need for surgical treatments for acute traumas as a tool to succeed in war. Contrarily, the Ebers Papyrus, written around 1550 BCE, reflects the stability of peace during the beginning of the New Kingdom. The differences in illnesses, patients, methods of treatment, and even structure of these medical papyri reflect the complex nature of ancient Egyptian medicine during this transitional period. Medicine is far from apolitical. It is an invaluable tool in understanding shifting political and military situations. By examining the Edwin Smith and Ebers Papyri, a better picture of the transition out of the Second Intermediate Period and into the New Kingdom is achieved.

At the end of the 17th Dynasty of the Second Intermediate Period, Ancient Egypt was gripped by an immensely bloody war between the Egyptians and the Hyksos for control over Egypt. Eventually, the Egyptians would win the war, reunifying Upper, Middle, and Lower Egypt under one rule and ushering in one of the most prosperous eras of Ancient Egypt (Shaw, 2000, pp. 172-220). While much is known about this era from official bureaucratic sources and monuments, such as the military monuments built by the pharaohs of the dynasty, studying seemingly apolitical sources, such as medical texts, offers a much more thorough insight into how the war of this era affected all aspects of human endeavors, not just the lives of the monarchy (Shaw, 2000, pp. 198-200). Examining the similarities and differences of two medical papyri of the era, the Edwin Smith Papyrus and the Ebers Papyrus, allows for a better understanding as to how medicine can reflect military and social variations

in times of war and peace. The Edwin Smith Papyrus, written during the war of the Second Intermediate Period, reflected changes in military and political tensions of the time, notably through the inclusion of treatment for soldiers' battle wounds; this contrasts to the Ebers Papyrus, which was written at the peaceful start of the New Kingdom, which has a total focus on lay-people's quality of life. There have been fewer than 20 major medical papyri recovered from Ancient Egypt. Although the scope of this paper focuses narrowly on the Edwin Smith and Ebers Papyri, comparing and contrasting different ancient medical texts allows for a greater understanding as to how medicine during ancient Egypt shifted alongside changing political situations. By examining the similarities and differences of the Edwin Smith Papyrus and the Ebers Papyrus in regards to the kinds of illnesses they treat, the treatments prescribed, the efficacy of their treatments, and the typos made in the document are essential in understanding how shifts in medicine reflected shifts in the political and military tensions of the end of the Second Intermediate Period and the beginning of the New Kingdom.

The Edwin Smith Papyrus is the oldest known surgical text in the world. Originally purchased in Luxor by its namesake Edwin Smith in 1862, it was not translated into English until 1930 by Egyptologist James Henry Breasted (Breasted, 1930, p. xviii). For the purposes of this paper, the 1930 Breasted translation will be employed. The Edwin Smith Papyrus is 4.68 meters long, divided into 17 columns to present its 48 different medical cases (Breasted, 1930, p. 25). Evidence suggests that the Edwin Smith Papyrus was mostly written by one scribe at the end of the Second Intermediate Period, around 1600 BCE. It is important to note that while the Edwin Smith Papyrus was transcribed around 1600 BCE, the medical information it contains is at least a thousand years older, dating from the Old Kingdom. Likely first written by Imhotep, the chief physician during the North African conquests of the 27th Century BCE, the medical information contained within the Edwin Smith Papyrus is fundamentally rooted in being from a time of war. (Breasted, 1930, p. xviii). During the war of the Second Intermediate Period, with a renewed need for precise surgical information to treat soldiers, scribes copied the medical information into the text now known as the Edwin Smith Papyrus. Alongside the transcription of the medical information, the scribe also provided in-depth commentary for physicians who would use the text. This aided ease of use, because the original surgical treatise, written a millennium prior, had terms that "were no longer clear to the ancient Egyptian reader," (Breasted, 1930, p. xv). Providing this commentary allowed the physician of the Second Intermediate Period to understand the 48 different medical cases presented, ranging from broken arms to complex head wounds. This was especially pertinent as the surgical treatise employed terms like "meninges," that had never been used before in recorded history, and therefore, would not be understood by many physicians without the necessary context clues the commentary provided

(Atta, 1999, p. 1191). Although the medical information contained in the Edwin Smith Papyrus long predates the Second Intermediate Period, its retranscription, commentary, and updating into the vernacular reflects the need Egyptians had during this period to have medical texts they could use to treat acute wartime traumas.

The Ebers Papyrus was written about 50 years after the Edwin Smith Papyrus, at the beginning of the New Kingdom. The Ebers Papyrus can be dated to between 1550 BCE and 1536 BCE, as the text contains calendrical references to the rule of Pharaoh Amenhotep I (Tetley, 2014, p.362). It was discovered among the tombs of Abd-el-Gurnah in Thebes (von Klein, 1905). Originally also purchased by Edwin Smith in 1862, it was eventually acquired by its namesake, Egyptologist Georg Ebers, around 1873. The Ebers Papyrus was first translated into German in 1890 by Heinrich Joachim, with the most commonly used English translation having come from Paul Ghalioungui in 1987. For the purposes of this paper, the 1987 translation will be employed. The papyrus is 20.23 meters long, and contains 877 treatments divided into 108 columns (Hallmann-Mikołajczak, 2004). The text treats a wide array of ailments, many of them chronic illnesses and diseases of old age, such as constipation, burns, and angina. Unlike the Edwin Smith Papyrus, which largely used surgical treatments, the Ebers Papyrus uses a wide range of herbal, medicinal, and prayer based treatments for the ailments.

The physical structure of the two documents themselves provides insight into the political milieu in which they were written, as well as the importance of their usage. The composition of the Edwin Smith Papyrus is highly unusual, with many odd transcription errors and typos in the text, suggesting that it was rapidly copied to be used on the frontlines. In addition, multiple explanations and treatments abruptly stop halfway through, such as in the case of how to treat sprains in the spinal vertebrae (Breasted, 1930, p. 425). The document's scribe was seemingly interrupted in such a jarring manner that he was unable to come back and continue the document. Breasted described him as making "two more very faint strokes with the almost exhausted pen. . . so carelessly that the original faint lines are still visible, [the scribe] laid down his pen and pushed aside forever the great Surgical Treatise he had been copying, leaving 15½ inches bare and unwritten. . ." (Breasted, 1930, p. xvi). There is major speculation that this piecemeal motion with exhausted materials was the result of the scribal work done in the frantic, war-torn state of the Second Intermediate Period, where the scribe's life was on the line in order to produce these materials needed to help soldiers, rather than normal scribal work which was done locked away in the safe confines of bureaucracy. This is completely contrary to the writing of the Ebers Papyrus – the noted transcription errors are only minor typos, generally simple misspelling of words. The typos in the Ebers Papyrus are also still not concretely determined to be typos, with some Egyptologists speculating that the hieroglyphs could actually be new, untranslated words

(Ghalioungui, 1987, p. 174). Major differences in even how these two texts were physically created reflects the changes in military and political tensions of the times in which these two documents were written. During war, medicine was a matter of constant life and death, whereas during peace, there was more time to focus on quality and details.

One notable continuity between the Edwin Smith Papyrus and the Ebers Papyrus that demonstrates their overall importance to the communities they served is that their design promotes ease of use. Both medical papyri are written in hieratic script, an abbreviated style of hieroglyphics reserved for administrative writings. Hieratic script would have been much easier to read than the formal hieroglyphics used on monuments and temples (Breasted, 1930, p. xxi). In both texts, the important symptoms for each ailment were written in bright red ink, allowing for physicians to easily find the pertinent case (Breasted, 1930; Ghalioungui, 1987). These traits suggest that whether on the battlefield or in peaceful villages, the Edwin Smith and Ebers Papyri were essential to physicians' toolbox, allowing them to make the best and most educated treatment choices to promote the health of their patients.

The most fundamental difference between the Edwin Smith Papyrus and the Ebers Papyrus that reflects the shift from the war-torn 17th Dynasty of the Second Intermediate Period to the peaceful New Kingdom is the type of injuries presented in the texts. Out of the 48 cases presented in the Edwin Smith Papyrus, all but three are acute, trauma-related injuries that historically emerge in warzones (Breasted, 1930). Contrarily, the Ebers Papyrus provides treatment for hundreds of mundane and chronic illnesses that arise independent of political and military tensions (Ghalioungui, 1987). The differences in the illnesses being treated by the medical papyri reflect the shift in the priorities of medicine during the time, from needing to promote military advancements of the Egyptian empire to promoting general health and wellbeing of lay-people in the empire.

Assessing the traumatic injuries of the Edwin Smith Papyrus allows for an understanding as to how deeply the warfare of the end of the Second Intermediate Period marked the era. The trauma injuries that the Edwin Smith Papyrus is dedicated towards treating are not the kind of traumas seen in modern countries, or even the kind that would have been seen in periods of peace during Ancient Egypt. These kinds of injuries are uniquely ones that would have been produced during a period of warfare. (Breasted, 1930, p. ix.) This is concurrent with the idea that the original medical information in the text comes from a period of war within the Old Kingdom. It also explains why it made a resurgence during a new period of war. New tools of war used during the Second Intermediate Period created an even greater need for this ancient information. For example, the introduction of copper knives caused a dramatic increase in lethal head wounds. Hence, the Edwin Smith Papyrus focuses significantly on how to treat different head wounds, breaking them down based on location on the

head and the severity of damage done to the skull. The prominence of these head wounds likely explains the need for the Edwin Smith Papyrus to have an updated medical commentary compared to the original information from the Old Kingdom. The Edwin Smith Papyrus is one of the first recorded usages of words such as “brain” and “meninges,” (Atta, 1999, p. 1191). Much greater medical specificity would have been achieved by using these terms, aiding in the determination of different kinds of treatment for varying head wounds. Without the added commentary, those archaic terms likely would not have been understood by the physician of the Second Intermediate Period. Therefore, the inclusion of the in-depth commentary of the different kinds of wounds reflects how during this period, there was both a need to be able to communicate different kinds of head wounds, and a large enough variety of head wounds that people would be able to distinguish them.

The Edwin Smith Papyrus gives very structured procedures to examine head wounds. For example, had an Egyptian soldier been stabbed in the head with a copper knife, the physician would have treated him precisely according to the methods presented in Case 7. First, the physician would be directed by the papyrus to “examinest a man having a gaping wound in his head,” then “palpate his wound” and “cause him to lift his face,” (Breasted, 1930, p. 177). Even in the modern era, standardized treatments for stab wounds to the head are often not developed due to their rarity. The inclusion of a standardized manner of treatment suggests that these kinds of wounds were common during the Second Intermediate Period of Ancient Egypt. This is supported by archeological evidence, with many recovered mummified bodies from the era demonstrating injuries consistent with having been stabbed in the head. Most famously, even the Egyptian ruler of the 17th Dynasty, Pharaoh Seqenenre Taa II, died on the battlefield due to a stab wound reaching his brain stem (Saleem, 2021). The presence of standardized and refined treatment methods to care for stabbings to the head reflect that during this period, an emphasis of the Edwin Smith Papyrus was to be able to treat these common injuries that largely only occur during periods of severe warfare.

The ailments treated in the Ebers Papyrus, however, are completely different to the kinds treated in the Edwin Smith Papyrus. Rather than treating acute traumas, the Ebers Papyrus focuses on mundane and chronic illnesses from many different disciplines, including ophthalmology, gynecology, and internal medicine, treating illnesses such as cataracts, headaches, and diabetes. Further examination into these diseases reveal that many are uniquely illnesses of old age. For example, one disease meant to be treated through the drinking of oil is the “concerning affections of the cardia,” caused by an “obstacle in [the patient’s] cardia,” (Ghalioungui, 1987, pp. 57-58). Assessment of this illness description has led historians of medicine to deem this angina pectoris, which is chest pain due to insufficient blood flow to the heart. This is not an acute illness, but

develops from atherosclerosis, which needs a lifetime of eating a high-fat diet to reduce blood flow enough that it results in angina. In modern times, angina typically occurs in those over the age of 55 (NHS, 2021). Another example of illnesses of old age being treated in the Ebers Papyrus is the treatment of cataracts (Ghalioungui, 1987, pp. 103-105). Cataracts often do not have noticeable effects on patients until they are in their sixties, again making it a disease of older age (Ninn-Pedersen, Stenevi, Ehinger, 1994). As this text focuses on mundane illnesses rather than acute traumas, it suggests that there were likely fewer traumatic injuries in need of urgent treatment. Therefore, there was the time and resources to dedicate to the treatment of mundane illnesses.

It is important to note in times of peace during the Second Intermediate Period, there were other texts that did focus on chronic illnesses like the Ebers Papyrus, such as the London Papyrus. While an analysis of the London Papyrus is outside the scope of this paper, assessing the return to focus on chronic, mundane illnesses, rather than furthering surgical knowledge reflects the general peace and stability of the New Kingdom. In the context of a time of peace, the Ebers Papyrus's ailments suggest that time and resources could be dedicated to treating issues that impacted quality of life, instead of needing to continue to focus only on things that threatened life itself. With many of these diseases being ones of old age, the Ebers Papyrus suggests that Egypt during this time was politically stable enough to allow people to live long enough to get illnesses of old age, rather than die on the battlefield in their twenties. Increase in life expectancy, as reflected in the shift in illness focus from the Edwin Smith Papyrus to the Ebers Papyrus, is incredibly common in regions transitioning out of a period of war (Plümper, 2006). When people do not have to die in a war, they are *able* to live long enough to suffer illnesses of old age. Therefore, the change in medical focus and treatment in the Ebers Papyrus reflects that there were fewer acute traumas during the period, but it also suggests that the trend away from military injuries was so thorough it allowed for life-expectancy increases so that there was a need to treat illnesses of old age.

The beginning of the New Kingdom not only marked the end of the war between the Hyksos in Egypt, but also a reunification of the Egyptian empire. Having previously been split into three parts, with Upper Egypt controlled by the Hyksos, Egyptians ruling Middle Egypt, and Lower Egypt under Nubian control, trade routes became threatened. Although there is debate about the degree to which the war of the Second Intermediate Period affected trade routes, there were likely changes in trade accessibility, especially regarding Middle Egypt's access to Upper Egyptian and Mediterranean goods. At the very least, there were likely concerns about the future of trade routes. On the surface, this may appear to be a highly political statement, with little influence on traditionally scientific endeavors like medicine. However, changes in trade routes affected the way illnesses could be treated in the end of the Second

Intermediate Period compared to in the New Kingdom, through changing the kinds of treatments that could be given to patients.

The manifestation of trade fears and difficulties becomes noticeable when analyzing what is omitted from the Edwin Smith Papyrus. The Edwin Smith Papyrus focuses on healing traumas through surgical means, such as suturing and using linen to bind wounds closed. But it offers almost no herbal prescriptions, not even in conjunction with surgical treatments (Breasted, 1930). When examining trade routes during the 17th Dynasty, the lack of herbal prescriptions becomes understandable. The war between the Hyksos and the Egyptians affected some of Middle Egypt trade routes. With the Hyksos controlling Upper Egypt in the North and by the Mediterranean, they controlled the fertile Nile Delta as well as any trade routes to the Middle East. While trade during the war was mildly affected, there was the understanding that further trade dysfunction, especially with Middle Egypt's access to Upper Egypt, could be ruinous regarding access to herbs traditionally used in Egyptian medication. This was because Upper Egypt and the Nile Delta had the best soil to grow crops, compared to the largely arid desert of Middle Egypt (Shaw, 2000, p.200). The emerging trade issues along with the fear of further trade collapse likely explains the absence of herbal prescriptions in the Edwin Smith Papyrus. It also reflects the added need for surgical procedures, as pharmacological treatments could not be reliably accessed during the war.

Although the Edwin Smith Papyrus does not use many herbal prescriptions, the single one it does administer is honey. Due to honey's antimicrobial properties, it can prevent infections, and it also reduces inflammation. Honey would have been accessible to Middle Egypt even if trade routes completely dissolved, as Egyptians had been constructing hives around the Nile for millennia to promote the sun god, Ra. As the bee was connected to Ra, there was also likely a religious component to prescribing honey. Consuming honey was believed to endow one with blessings and power from Ra, thereby giving a soldier more power to fight in the war (Ransome, 2004, p. 22-34). These medical and religious reasons likely both explain the inclusion of honey in the Edwin Smith Papyrus.

Unlike the Edwin Smith Papyrus, the Ebers Papyrus relies almost completely on herbal prescriptions, demonstrating increased stability of Egyptian trade routes with the beginning of the New Kingdom. Now ruled only by the Egyptian pharaoh, Egypt controlled the Northern herbal-focused trade routes and the Southern mineral-focused trade routes. All of the 877 treatments in the Ebers Papyrus call for some kind of herbal or mineral prescription. For example, one burn treatment calls for Lower Egyptian salt, sycamore leaves, and honey (Ghalioungui, 1987, p. 134-137). Lower Egyptian salt would have been gathered from one Nubian-controlled Lower Egypt. Sycamore trees would have grown only in Upper Egypt by the Nile Delta (Azzazy, 2016). And honey was most harvested along the Nile in Middle Egypt (Patterson, 2016). The consistent usage of multiple different minerals and herbs from all over the empire to treat

singular, often mundane diseases like burns, demonstrates the high level of security and stability felt towards the trade routes under Egyptian rule. Had the constant threat of complete trade route dissolution been present like it had been during the war, the Ebers Papyrus would not have been effective as a medical textbook, as all of the treatments could quickly be rendered inaccessible, and therefore ineffective, if the trade routes collapsed. But the thorough reliance on herbal and mineral remedies, with few diseases having alternative options of treatment, demonstrate the general feelings at the time that the peace of the New Kingdom would be long-standing.

Treatment efficacy varies greatly between the two medical papyri, again demonstrating differences in how medicine was used during times of war compared to times of peace. In the Edwin Smith Papyrus, not only are the prescribed treatments incredibly detailed, but they are especially effective, and in many ways aligned with modern medical standards. In Case 38, the Edwin Smith Papyrus details how to treat “a split in [the patient’s] upper arm. . . [with] swelling protruding on the outside of that split. . .” (Breasted, 1930, p. 362). This has been understood to be an open fracture of the humerus, so severe that the bone has broken the skin. This injury, if untreated, would have resulted in permanent disability, if not death. Effective treatment would not only have saved the patient’s life and limb, but would have also provided the necessary rehabilitation to allow the soldier to return to war after the fracture healed. With such high stakes and the need to rehabilitate soldiers to further the war effort, the treatments detailed in the Edwin Smith Papyrus needed to work the first time. This is confirmed with the treatment in Case 38. The Edwin Smith Papyrus directs physicians to bind the arm with linen, then treat the open wound every day with honey (Breasted, 1930, p. 362). In many ways, this is similar to modern methods used to treat an open humeral fracture—reset and cast the bone, and apply antimicrobial agents to the wound to prevent infection (Johns Hopkins). The linen the bone would have been cast in would have been very similar to modern casts. Honey, noted for its antimicrobial properties, would also have prevented the development of a gangrenous infection, or as described by the Edwin Smith Papyrus, “black and diseased tissue. . .” (Breasted, 1930, p. 263). While Case 38’s treatment would have been very effective, if a complication did arise, and gangrene or another infection developed, there is an entire section of the Edwin Smith Papyrus that presents treatments for these (Breasted, 1930, p. 407). These kinds of fail-safes demonstrate ancient Egyptian medicine’s response to the societal demand that it be effective to promote the war effort, especially with refining the treatment for common war injuries. For example, the fractured humerus from Case 38 likely would have occurred often when a soldier fell from the newly introduced chariots. The inclusion of these fractures in the Edwin Smith Papyrus suggest that these were occurring frequently enough that physicians would have had a vested interest to include, update, and comment on the treatment for these

fractures when transcribing the ancient medical information onto the Edwin Smith Papyrus. It is also likely that the physicians of the Second Intermediate Period would have been seeing firsthand enough of these cases to test and improve the efficacy of these different treatments. This idea is further supported, with James Breasted, the original translator of the Edwin Smith Papyrus claiming that “[w]hile this early surgeon undoubtedly gained much of his knowledge from injuries incurred in civil life,” due to the blood war of the Second Intermediate Period, “it is highly probably. . . that he [the physician] had followed an army and therefore treated wounds received in battle.” (Breasted, 1930, p. xiv). Knowledge of how to treat injuries such as the crushing of the cervical vertebra or a severely fractured humerus would have only been useful to physicians if they were consistently seeing these injuries. (Breasted, 1930, p. ix). As they are unusual to be seen in civil life, as supported by their notable lack in the Ebers Papyrus, this suggests that for a physician to have seen enough of these injuries to be able to accurately update and provide commentary on millenia old medical information, there had to have been a bloody war producing many casualties, such as the ones during the end of the Second Intermediate Period.

This pressure to have treatments that worked the first time did not exist to nearly the same degree when treating laypeople’s mundane illnesses in the era of peace, as demonstrated by the inclusion of multiple kinds of treatments in the Ebers Papyrus, many of which are now understood to be ineffective. One example is the Eber Papyrus’s thirty-two different ways to treat a skin burn, all with varying degrees of efficacy. Some of these treatments are well supported by modern medicine, such as bandaging the skin and applying honey; honey, an anti-inflammatory, would have facilitated healing, and bandaging the wound would have reduced pain. Other treatments were ineffective and likely harmful, such as applying cat feces to the wound. Further, if the thirty prescription-based treatments all failed, the Ebers Papyrus then directed patients and physicians to different prayers they should try, like praying to Isis and Horus (Ghalioungui, 1987, p. 137). Non-severe burns such as the ones described in the Ebers Papyrus rarely kill people, and while easing patient suffering is important, it is much less of a priority than saving soldiers’ lives and ensuring they can continue to fight. As such, there is time to try many different treatment options to determine what helps individual patients, rather than having an emphasis on incredibly structured and precise treatments to save the most lives possible. Differences like these demonstrate the political needs that medicine met across varying time periods. In times of war, there is a special need for medicine to be effective, even if that means it is reserved for just the worst injuries. In times of peace, however, the priority for medicine tends to be to expand the types of people and ailments it could treat, even if that means that care sometimes fails.

The economic prosperity that emerged in the beginning of the New Kingdom is reflected in the notably cosmetic treatments in the Ebers Papyrus. During the strained time of war, all resources were dedicated towards life-saving treatment in the Edwin Smith Papyrus. Yet, the Ebers Papyrus has multiple treatments for cosmetic desires, such as preventing wrinkles, curing baldness, and stopping the graying of hair. Treatments to stop gray hair included adding cat placentas, ox blood, honey, and tadpoles to the head. (Ghalioungui, 1987, p. 127-129). During times of war, extraneous cosmetic treatments often fall to the wayside. This has been seen numerous times in modern history, such as when women during World War II had to give up ‘frivolous’ things such as nylon stockings to support the war effort (Belk, 2020, p. 11). But frivolous indulgences increase dramatically during eras of political peace and success, as reflected in the cosmetic treatments in the Ebers Papyrus. These prescribed treatments likely would not have been easily accessible to lay-people during the war of the Second Intermediate Period, only in a time of peace and material success. Again, this demonstrates how medicine shifts in ways that mirror changes in the surrounding political, economic, and military milieu. When Egyptian society deemed winning war tantamount, medicine was used to provide support for military success. But once there was political stability, the role of medicine shifted so that it not only focused on life-saving treatment, but also improving quality of life.

The differences in the subjects of treatment are another important aspect of the Edwin Smith and Ebers Papyri that reflect changing military tensions of the era. In the Edwin Smith Papyrus, the only people being treated are men. In every single description of symptoms, the words *he*, *him*, or *his* are used (Breasted, 1930). Although this could be an issue of translation, especially since the translation used came from the 1930s, it is important to note that throughout history, Ancient Egyptians would make note when to give men and women the same treatment for an illness. This clarification was never made in the Edwin Smith Papyrus. However, one of the Ebers Papyrus’s prescribed treatment for stomach pain expressly states that the treatment is “for the killing of pain-matter. . . in the belly of man or woman,” (Ghalioungui, 1987, p. 33). The change toward making these clarifications demonstrates the shift in who the subject of treatment is, and thus, who medicine is prioritizing. At the end of the Second Intermediate Period, the general desire and application of the Edwin Smith Papyrus was to save soldiers so that they were able to resist Hyksos takeover and preserve the empire. But during the time of peace in the New Kingdom, the desired usage of medicine was to treat everyone.

The final explicitly medical aspect of the Ebers Papyrus that affirms that it was written not only during an era of political peace, but also of certainty and stability, is the allowance and prescription of female birth control and abortion. The Ebers Papyrus details how to give women birth control lasting between one to three years. It also gives instructions on how to perform abortions (Ghalioungui, 1987, p. 200-205). During times

of war, control of women's reproduction is often a major focus as a political tool. Although there will always be a desire for reproductive freedom during any period of time, women's reproduction is consistently more socially and politically regulated during periods of strife (Hedström & Herder, 2023). Therefore, the presence of statements about reproductive autonomy reaffirms that the Ebers Papyrus was written during a period of peace. It also suggests that this peace will be long-standing and generational. During times of political unrest, women are encouraged to have more children, especially sons, as they can eventually contribute to the war effort (Andresen, 2020). Increased birth control access and reproductive rights are also frequently seen around the globe after regional liberation. Women being given reproductive control at the start of the New Kingdom demonstrates both that the war has ended, and that this peace would be lasting. In times where war constantly feels imminent, there are pressures for women to have more sons, to build a standing arm (Andresen, 2020). But by promoting reproductive control, the Ebers Papyrus demonstrates that the peace of the New Kingdom was stable enough that people believed it would last for at least an entire generation.

The Edwin Smith and Ebers Papyri not only demonstrate changes in the political and military dimensions of the 15th and 16th century BCE, but the translations of these documents show an important shift in perspective in 20th century CE Egyptology regarding the scientific validity of ancient medicine. The Edwin Smith Papyrus was the first translated of the two documents, with the most commonly used translation published in the 1930s by Egyptologist James Breasted. During this time, there was a major focus on the mysticism of Ancient Egypt, with much of his archeological works prior to the translation of the Edwin Smith Papyrus emphasizing sheerly how different Ancient Egyptians were to modern people (Breasted, *The New Crusade*). He argued that in many ways they were the first culture to develop, thereby making it almost unrecognizable to modern cultures. While this mystic and mythical attitude was the dominant view of Egyptology at the beginning of Breasted's career, his translation of the Edwin Smith Papyrus changed his opinion to be one of much greater reverence for the Ancient Egyptians and their intelligence. In translating the Edwin Smith Papyrus, he found "the earliest known scientific discussion," which revealed "man's earliest ability to divest his mind of theological tradition and to contemplate the world from a rational point of view. . . at least a millennium before the rise of Greek civilization," (Breasted, 1928). In many of his official statements after his translation of the Edwin Smith Papyrus, he worked deeply to reiterate the then novel idea that ancient people were rational. He worked towards emphasizing this in the common understanding of ancient Egypt, hoping to replace the idea that ancient people could not understand the differences between divine and rational endeavors.

There is a large degree of continuity with the ideas of Breasted and his translation of the Edwin Smith Papyrus and the ideas of Paul

Ghalioungui and his translation of the Ebers Papyrus. By the time Ghalioungui was translating the Ebers Papyrus in the 1980s, Breasted's hopes that ancient Egyptian science would be taken more seriously and rationally in the context of modern science had come to fruition. Unlike Breasted, Ghalioungui was not formally an Egyptologist. Instead, he was an endocrinologist, whose hobby was Egyptology (Di Bella *et al.*, 2018). In translating the Ebers Papyrus, Ghalioungui used his medical expertise to determine the efficacy of certain treatments, as well as examine specific symptom presentations to figure out what diseases Ancient Egyptians were discussing. The most famous example of this in the Ebers Papyrus is how Ghalioungui eventually determined that the "aaa disease" was schistosomiasis, a disease caused by microscopic parasitic worms (Di Bella *et al.*, 2018; Ghalioungui, 1987). Despite these parasites being undetectable to the human eye, Egyptians were able to refine their practice and examine patients so closely and consistently that they could determine just on external symptom presentation alone when patients had schistosomiasis – something that even today requires examination of blood smears under microscopes (Ghalioungui, 1987, p. 119-120; CDC, 2019). By the time Ghalioungui was translating the Ebers Papyrus, the message he was trying to convey was no longer just Breasted's message that the science of the ancients was legitimate kind of science, but instead that in some ways, the Ancient Egyptians were even better as some forms of science than modern medicine.

Medicine is an incredibly dynamic subject that is fundamentally shaped by the political milieu around it. It cannot exist in the aether, but instead is directed by the goals societies want it to achieve. By analyzing the Edwin Smith Papyrus, one can see how the war of the Second Intermediate Period shaped almost every aspect of life, death, and politics during this era. The weapons, bloodshed, trade disjunction, and the constant need for effective treatment all present in the time of war becomes much more thoroughly understood when studying the Edwin Smith Papyrus. The degree through which peace was present in the beginning of the New Kingdom also can be best understood through studying the changing goals Egyptian society wanted from their medicine. By seeing how medicine changed towards a total focus on treating illnesses of old age and cosmetic ailments, rather than mainly life or death scenarios, there is the ability to see how peace in the New Kingdom directly affected people's lives that bureaucratic documents cannot reveal. As such, it is essential to examine changes in seemingly apolitical topics to best understand the impacts of political and military changes, such as the ones seen in the transition from the end of the Second Intermediate Period to the beginning of the New Kingdom.

References

- Andresen, A. Elvbakken, K. 2020. "In peace and war: birth control and population policies in Norway (1930-1945)." Cambridge University Press.
- Atta, H. M. 1999. "Edwin Smith Surgical Papyrus: The Oldest Known Surgical Treatise." The American Surgeon.
- Azzazy, M. 2016. "The Sycamore in Ancient Egypt – Textual, Iconographic & Archaeopalynological Thoughts." Liber Amicorum–Speculum Siderum:Nūt Astrophoros Archaeopress Egyptology, Archaeopress Publishing LTD.
- Belk, R. 2020. "Little Luxuries." Women, Consumption and Paradox, Routledge Press.
- Breasted, J. H. 1930. "The Edwin Smith Surgical Papyrus." Chicago: Chicago University Press.
- Breasted, J. H. 1928. "The New Crusade." American Historical Association. <https://www.historians.org/about-aha-and-membership/aha-history-and-archives/presidential-addresses/james-henry-breasted>.
- Centers for Disease Control and Prevention. 2019. "Schistosomiasis." <https://www.cdc.gov/dpdx/schistosomiasis/index.html>.
- Di Bella, S. Riccardi, N. Giacobbe, D. Luzzati, R 2019. "History of schistosomiasis (bilharziasis) in humans: from Egyptian medical papyri to molecular biology on mummies." Pathogens and Global Health. <https://doi.org/10.1080/20477724.2018.1495357>.
- Ghalioungui, P. 1987. "The Ebers Papyrus: A New English Translation, Commentaries and Glossaries." Cairo: Academy of Scientific Research and Technology Press.
- Hallmann-Mikołajczak. 2004. "Ebers Papyrus. The book of medical knowledge of the 16th century B.C. Egyptians." Archives of the History and Philosophy of Medicine.
- Hashimoto, M. 1974. "Economics of Postwar Fertility in Japan: Differentials and Trends." Journal of Political Economy. <https://doi.org/10.1086/260299>.
- Hedström, J. Herder, T. 2023. "Women's sexual and reproductive health in war and conflict: are we seeing the full picture?" Global Health Action.
- Johns Hopkins Medicine. 2022. "Humerus Fracture (Upper Arm Fracture)." <https://www.hopkinsmedicine.org/health/conditions-and-diseases/humerus-fracture-upper-arm-fracture#:~:text=A%20humerus%20shaft%20fracture%20may,initial%20management%20of%20the%20fracture>.
- Joukowsky. 2019. "Egypt in the Second Intermediate Period: Weapons, Foreigners, and Fighting." Brown University Joukowsky Institute. https://brown.edu/Departments/Joukowsky_Institute/courses/fightingp_haraohs14/files/27351150.pdf.

- NHS. 2021. "Angina: Overview."
<https://www.nhs.uk/conditions/angina/#:~:text=Angina%20is%20usually%20caused%20by,an%20unhealthy%20diet>.
- Ninn-Pedersen, K. Stenevi, U. Ehinger, B. 1994. "Cataract patients in a defined Swedish population 1986-1990." *Acta Ophthalmologica*.
<https://doi.org/10.1111/j.1755-3768.1994.tb02729.x>.
- Patterson, M. 2016. "Tears of Re: Beekeeping in Ancient Egypt." *Tears of Beekeeping*. Oxford: Oxford University Press.
- Plümper, T. Neumayer, E. 2006. "The Unequal Burden of War: The Effect of Armed Conflict on the Gender Gap in Life Expectancy." Cambridge: International Organization, Cambridge University Press.
- Ransome, H. M. 2004. "The Sacred Bee in Ancient Times and Folklore." New York: Dover Publications.
- Saleem, S. Hawass, Z. 2021. "Computed Tomography Study of the Mummy of King Seqenenre Taa II: New Insights Into His Violent Death." *Frontiers in Medicine*.
<https://doi.org/10.3389/fmed.2021.637527>.
- Shaw, I. 2000. "The Second Intermediate Period." *The Oxford History of Ancient Egypt*, Janine Bourriau, Oxford University Press.
- Tetley, M. C. 2004. "The Reconstructed Chronology of the Egyptian Kings – Volume Two." Barry W. Tetley.
- von Klein, C. H. 1905. "The Medical Features of the Papyrus Ebers." *JAMA*.