Pestilences in Ancient Egypt and Their Relation to Certain Deities and Events

الأوبئة في مصر القديمة وعلاقتها بآلهة وأحداث معينة

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Abstract:

Diseases and pestilences were recorded in Egypt since the earliest times, as were medicines and remedies. This research aims to understand how the ancient Egyptians viewed pestilences and construed their causes, in addition to surveying the major pestilences that occurred in ancient and modern Egypt. Evidence of pestilences and diseases may be found in mummies and texts from ancient Egypt. One of the earliest references in texts comes from the Story of Sinuhe in Papyrus Berlin 3022, 34-45. It refers to the fear of Amenemhat I spreading in the land like Sekhmet's "year of the pestilence". Pestilences in ancient Egypt were often associated with the goddess Sekhmet who was depicted in feline form as a lioness or domestic cat. Her name means strength in ancient Egyptian language. Sekhmet has over 300 statues in the precinct of Mut in Kanak, which were probably made so the goddess would lift a terrible pestilence. Egyptians also considered pestilences were associated with certain creatures known as the "Khayeet", "Dened" and "De.hret". The five Epagomenal Days at the end of the Egyptian year were considered unlucky days. Much like other cultures, the Egyptians associated famine or low Nile inundations with pestilence as the Nile was and still is the artery of life for Egypt. From the study it appears the plague and cholera were among the worse pestilences that Egypt experienced, and Corona or Covid-19 was not the worse pestilence to hit Egypt.

Key Words:

Pestilence, Plague, Sekhmet, Epagomenal days.

الملخص:

عرفت مصر الأمراض والأوبئة منذ عصور مبكرة، لكنها عرفت أيضًا الطب والعقاقير، يهدف هذا البحث إلى فهم نظرة المصريين القدماء للأوبئة وتفسيرهم لأسبابها، بالإضافة لعمل مسح لأهم وأكبر الأوبئة التي مرت بمصر القديمة والحديثة. وقد عرفنا عن الأمراض والأوبئة من المومياوات والأجساد التي وصلتنا، بالإضافة إلى النصوص التي تركها المصريون القدماء. ومن أقدم ما سمعناه عن الأوبئة في مصر القديمة ما ورد في قصة سنوهي المحفوظة ببردية برلين ٣٠٢٢، ٣٤–٤٥، فيقول: "كيف ستكون هذه الأرض الآن بدون هذا الإله الكامل (يقصد أمنمحات الأول، أول ملوك الأسرة الثانية عشرة)، الذي انتشر خوفه في البلاد مثل عام الوباء الخاص بسخمت". وقد إرتبطت الأوبئة في مصر القديمة بعدة أشياء منها الإلهة سخمت التي صورت على هيئة لبؤة، أو أحيانًا بهيئة القطة المنزلية. وكان اسمها باللغة المصرية القديمة "سخمت" يعني القوية أو القوة. ويوجد لسخمت حوالي ٣٠٠ تمثال بمعبد موت بالكرنك غالبًا تم عملها لترفع المعبودة سخمت وباء شديد بالبلاد. وربط المصري القديم بين الأوبئة ومخلوقات بمسميات مثل "خاييت"، "دند"، و"دحرت". وكانت الأيام الخمس بنهاية السنة المصرية

تعرف بأيام سيئة الحظ. ربطت عدة حضارات بين المجاعات والأوبئة فكثير ما تزامنا. وربما لأهمية النيل كشريان للحياة في مصر القديمة فقد ربط المصري بين الفيضانات المنخفضة والأوبئة. وبعرض النتائج سنجد أن أهم الأوبئة التي مرت بمصر كانت الطاعون والكوليرا، وأن الكورونا أو كوفيد ١٩ لم يكن أسوأ وباء ألمَّ بمصر.

الكلمات الدالة: وباء؛ طاعون؛ سخمت؛ أيام النسيء.

Introduction:

Pestilences occurred in ancient Egypt and were recorded quite early on. This research aims to understand how the ancient Egyptians viewed pestilences and construed their causes, in addition to surveying the major pestilences that occurred in ancient as well as modern Egypt.

According to the ancient Egyptians, pestilences were attributed either to the wrath of the gods, particularly the lioness goddess Sekhmet, or to certain evil beings such as the *Khayeet*, the *Dened* and the *De.hret*. The five epagomenal days were a short intercalary month at the end of the Egyptian civil year. They were considered unlucky days where pestilences could occur. The Egyptians had calendars of lucky and unlucky days for every day of the month and unfortunate events were more likely to occur on unlucky days, so one had to exercise caution during those days.

Pestilences have been linked to famines for most of human history. A research paper says that for the first seventeen centuries in the Christian era, famines occurred at intervals of about eight years, accompanied by pestilence every five years or so.[1] In Greek mythology, there were three sisters known as the three fates. They spun, allotted and cut off the fates and lives of humankind. They comprised a trinity of evil similar to war, famine and pestilence who are closely associated like sisters and who caused the untimely death of the inhabitants of the earth.[2] According to the Egyptians, pestilences were also related to low Nile inundations in a sense that the river Nile was and still is the artery of life to Egypt. That is probably why the first Biblical plague of Egypt in the time of Moses consisted of the river which the Egyptians called the great river or *Itru-`a*, turning red. The red waters could hardly have been good for health. In fact, they may have been a cause for the Biblical plague of "festering boils"

[1] CANNON, P.R.: «War, Famine and Pestilence», *The Scientific Monthly* 56, Nº. 1, Jan. 1943, 6.

[2] CANNON, «War, Famine and Pestilence», 7. Instead of war, we could say violence of all kinds which tends to accompany both famine and pestilence.

mentioned in the Book of Exodus (Ex 9:8-12). This particular plague with boils was construed by some doctors as Syphilis or Leprosy.

Factors Contributing to the Spread of Diseases in Egypt:

Egypt has had its fair share of breakouts of diseases for a variety of factors such as its strategic location between two seas of the ancient world; namely the Mediterranean and the Red Sea. Travel between countries is always a major contributing factor in the spread of diseases which is the reason why ports of entry in countries have strict health inspections and a bureau dealing with quarantines and health issues. The pilgrimage to Mecca for Muslims is a major annual occasion. It usually results in the spread of diseases, including the Asian flu virus, an aggressive virus known to cause death. The nature of the Egyptian people contributes to the spread of epidemics or pandemics since Egyptians have generally been known to not comply with orders easily. Many simple people also believe that God will protect them no matter what, so they end up not taking the necessary precautions. Another main factor is the social nature of the Egyptians and their closeness to their extended families as opposed to just the nuclear families. There is also their love for celebrating major occasions by gathering in large numbers, eating and drinking and sharing in happiness or grief. In addition to those factors there is also the size of the population and the strong attachment of the Egyptians to the Nile Valley which results in overcrowding. The population density per square meter in certain areas in Egypt is extremely high. There is also the economic situation and the fact that a majority of the Egyptian people depend on public transportation that has people in close proximity to one another. The Nile as the artery of life to Egypt has long been linked to pestilences since any pollution with a disease to the Nile or other water sources will eventually spread widely throughout the population, particularly in the absence of proper sewage and potable water in many villages and remote areas. Women in villages used to gather by the banks of the Nile to wash clothes and cooking pots and pans. This meant diseases were transmitted through the water to the entire population since the main source of water in Egypt was and still is, the Nile. Al-Ya`qubi linked many of the

pestilences in Egypt to its proximity to the Nile. "A damp putrid river full of vile fumes that engender diseases and cause food to spoil".[3]

On the other hand, it has been suggested that the more reasonable weather in Egypt made it less suitable to parasites and tropical diseases than other areas further south. It is said this is behind the reason the major civilizations appeared in places such as Egypt, Mesopotamia, China, India, Greece and Italy.[4]

Sekhmet and Pestilence:

The ancient Egyptian goddess Sekhmet was the deity responsible for pestilence as well as treatment. Her ancient Egyptian name Sekhmet  means "the powerful one". She took the form of the lioness or the domestic cat. The priests of Sekhmet were usually known as doctors and healers. She was also the goddess associated with pestilences. Egyptologists have long suspected that the large number of statues of Sekhmet in the precinct of Mut in Karnak in Eastern Luxor, were created to appease the goddess to lift a major pestilence. The 300 some statues of Sekhmet were made in the reign of king Amenhotep III of the Eighteenth Dynasty (*c*. 1390-1353 BC). A hypothesis was presented regarding this event where it is believed a pestilence which may have been the bubonic plague, started between the years 12 and 20 of Amenhotep III's reign, following active trade with Western Asia.[5] There is as yet no substantial evidence to indicate this was the bubonic plague itself, but there is more than enough evidence to indicate an epidemic of sorts during the reign of Amenhotep III (*c*. June 1388-December 1351 BC) and the early years of the reign of Amenhotep IV/Akhenaten (*c*. 1351 - 1335 BC).[6] There are more numerous accounts of a

[3] *al-Yaʿqūbī: Kitāb al-buldān*, edited by M.J. de Goeje, *BGA* VII, Leiden, 1982, 236; CONRAD, L.I., «Ṭāʿūn and Wabā': Conceptions of Plague and Pestilence in Early Islam», *Journal of the Economic and Social History of the Orient* 25, №. 3, 1982, 283.

[4] Sallares suggests that the "out of Africa"migration(s) discussed by specialists in human evolution and civilization, may be partly an attempt to escape the original pathocoenosis which affected *Homo sapiens*. SALLARES, R.: «Pathocoenoses Ancient and Modern», *History and Philosophy of the Life Sciences* 27, №. 2, 2005, 216.

[5] KOZLOFF, A.P.: "Bubonic Plague in the Reign of Amenhotep III?", In *Amarna Letters* 5, edited by D.C. Forbes, Weaverville, NC: KMT Communications, LLC, 2015, 48.

[6] The Amarna letter EA 11 from Burnaburiyas, King of Babylon, was sent to Amenhotep IV in response to one where the king told him his father's wife died of a plague. EA 23 dated to year 36 of Amenhotep III from the king of Mitanni Tushratta, brother-in-law of Amenhotep III, mentions a visit from the Asian goddess Ishtar, who was a goddess associated with both healing and fertility. KOZLOFF, Bubonic Plague, 30.

widespread disease during that period from Egypt's neighbours. Amarna Letter EA 35 mentions that the hand of Nergal, the Mesopotamian god of pestilence, hit Cyprus. This may refer to a Mesopotamian origin of the plague of the fourteenth century BC and possibly its travel via Canaanite harbours and ships. The letter states: "The hand of Nergal is in my country, killing many, in particular individuals related to copper mining". The Hittite king Suppi(lu)liumas died in a plague attack as we know from Near Eastern texts. This in itself makes the possibility of plague in Egypt during that time very probable.[7] It is uncertain where the plague started exactly since the Egyptians say it started around Byblos in present day Lebanon.[8] Certain Amarna letters refer to other areas in the ancient Near East such as Amurru which was ravaged by the plague. On the other hand, king Mursili of the Hittites said the plague came from Egyptian war prisoners who were carried off to Hatti. Both accounts may be true. The large hard stone statues of Sekhmet may have been produced and placed in Karnak to appease the goddess to remove her wrath and plague. The second bout of the disease which may or may not have been the bubonic plague, probably came around year 27 following Viceroy Merymose's Nubian campaign of year 26. The date of the Rhind (Papyrus) concerning the burial of a group of harem women and staff coincides with the dates of years 26 and 27. It is believed Amenhotep III's increased emphasis on women came from the necessity of encouraging the regeneration of the population to replace those who had perished in large numbers. This may have been Amenhotep III's reason for exempting three classes of women from paying taxes; namely harem girls, songstresses from the Amen estate, and free women who were servants since the time of his forefathers. This would enable these women to marry poor men and produce offspring which could serve as an incentive to marriage and childbirth.[9] Amenhotep III enhanced the temple of the goddess Mut in Karnak, made all those statues of Sekhmet, elevated his own wife Ti (Tiye) and built huge statues for her in proportionate size to him, in addition to building her a temple in Nubia.

[7] KOZLOFF, Bubonic Plague, 30.

[8] TREVISANATO, S.I.: «The 'Hittite Plague,' An Epidemic of Tularemia and the First Evidence of Biological Warfare», *Medical Hypotheses* 69, 2007, 1371. It is probable that the plague started around northern Lebanon and then spread to other locations in the Near East including Egypt. For further details on the plague or pestilence of the fourteenth century BC refer to: MORAN, W.L., *The Amarna Letters*, Baltimore: Johns Hopkins University Press, 1992; PRITCHARD, J.B. (ed.), *Ancient Near Eastern Texts Relating to the Old Testament*, Princeton: Princeton University Press, 1955-1969.

[9] KOZLOFF, Bubonic Plague, 45.

Amenhotep III deified himself and is believed to have married two of his daughters before year 30 of his reign. A third bout of what may have been the plague occurred in the years of the Sed festival of Amenhotep III and may have resulted in a visit from the Asian goddess Ishtar.[10] The move of Amenhotep III to Malkata and the move of Akhenaten to the new capital of Amarna, may have been to relocate to move a bit away from grasslands where "sylvatic" rats occurred as they were known to carry the disease more than desert rats.[11] The Nile rat *Arvicanthis niloticus* provides a natural reservoir for the bubonic plague and is abundant in Egypt. Kozloff suggests that the fourth bout of plague early in the next reign of Akhenaten, may have been behind Akhenaten's decision to move to a new capital; namely modern day Amarna in Menya governorate, and may have been behind the decision to move his capital to a place not connected to any entity before him. In his own words he mentions the following about the land of the new capital: "no king, no queen, no god, no goddess, no man who would do business there".[12] The dire circumstances of the plague also may be behind his decision to go with a new god who may save the world instead of the old gods.[13] The exaggeration in the number of statues of Sekhmet in Karnak, starting the building of a temple to a particular aspect of the sun god inside of Karnak, the abode of Amun, and even the hundreds of open-air altars placed in grids in the temple of "*Gem Aten*" in Amarna,[14] all make us feel that these actions may be related to panic. It is no surprise that in desperate times people tend to take extreme measures as panic often distorts calm thinking. One thing is for certain and that is the occurrence of some sort of disease during the reigns of Amenhotep III and IV/Akhenaten.[15] It may also have caused the untimely demise of Meket

[10] Dr. Carl Graves Director of the EES, mentioned in a lecture delivered at the Faculty of Archaeology, Ain Shams University in Cairo on 19 Nov. 2021, that the EES excavations at Amarna had uncovered a small figurine of Ishtar.

[11] KOZLOFF, Bubonic Plague, 48.

[12] LABOURY, D., "Aten vs Amun: Religious Politics and Political Religion Under Tutankhamun and his Father Akhenaten", In *Tutankhamun: Discovering the Forgotten Pharaoh*, catalogue edited by S. Connor, & D. Laboury, *Aegyptiaca Leodiensia* 12, Liège, Belgium: Presses Universitaires de Liège, 2020, 241.

[13] KOZLOFF, Bubonic Plague, 48-49. See also ALDRED, C.: *Akhenaten: King of Egypt*, London, 1988, 149, 283. Aldred believed the move to Amarna was an attempt to find a plague-free area.

[14] CHRISTIE, J.J.: "Akhenaten's Amarna in New Kingdom Egypt: Relation of Landscape and Ideology", In *Political Landscapes of Capital Cities*, edited by J.J. Christie et al., Boulder, Colorado, 2016, 41-42.

[15] In a study conducted on the youngsters in Amarna on 79 corpses aged 3-25; 68 of them showed signs of malnutrition as they had signs of *cribra orbitalia* and/or porotic hyperostosis, 33 had linear enamel hypoplasias and at least four showed signs of possible scurvy, rickets, or folic acid deficiency. This is all=

Aten, the daughter of Akhenaten and Nefertiti. It may even have been the reason behind the deification of Amenhotep III and the near-deification of Akhenaten who acted as the high priest of the Aten and we have scenes with people worshipping Akhenaten who then conveyed their worship to his god Aten as some Amarna stelae reflect. The French Egyptologist Georges Legrain noticed that the left arms and legs of the statues of Sekhmet in Karnak had been worn down and were polished by what appears to be years upon years of touching by people who believed, like most Egyptians, ancient and modern, in the power of the good energy or the notion of "*baraka*" بركة which may be transmitted by touch.[16] Sekhmet was also called upon and appeased by offerings and statues of herself to cause wrath and pestilences upon the enemies of Egypt while protecting Egypt from them.

In Exodus 12:12-23, God tells Moses and Aaron that he will "execute judgement on all the Egyptian Deities". In the tenth plague in the Torah, an entity is referred to as the Destroyer. It is believed this Destroyer goddess of the Egyptians, was no other than Sekhmet herself. The tenth Bible plague had the multipurpose of punishing the Egyptians and having them doubt the power of their pantheon of gods at the same time. It should be noted that the feline goddesses of Egypt were shown in forms that alternated with one another. For example, the goddess Bastet is sometimes depicted as a lioness and Sekhmet may be depicted as a domestic cat and vice versa. The same applied for other cat family deities in ancient Egypt such as the goddess Pakhet. We have several cat cemeteries in ancient

=indicative of a poor diet and refutes the scenes in Amarna which indicate the abundance of food there. The plague prayers in Hatti mention a plague that came from Egypt during the reign of Akhenaten. KUCKENS, K.: «The Children of Amarna: Disease and Famine in the Time of Akhenaten», *Master Thesis in Anthropology,* University of Arkansas, August, 2013, 62 and Abstract (not numbered). The Hittite king Mursili in his second plague prayer to the storm god of Hatti, speaks of the events leading to the plague. He said Egyptian war prisoners suffered from an outbreak of illness. When the prisoners were carried off to Hatti they brought the plague to Hatti. Mursili wrote: "But when the prisoners of war who had been captured were led back to Hatti, a plague broke out among the prisoners of war, and [they began] to die. When the prisoners of war were carried off to Hatti, the prisoners of war brought the plague into Hatti. From that day on people have been dying in Hatti. When I found the aforementioned tablet dealing with Egypt, I inquired about it to the god through an oracle saying: "Has this matter been brought about by the Storm-god of Hatti because the men of Egypt and the men of Hatti had been put under oath by the Storm-god of Hatti". SINGER, I.: «Hittite Prayers», *Writings from the Ancient World* 11, edited by Harry A. Hoffner, Atlanta, Georgia: Society of Biblical Literature, 2002, 58-59.

[16] GYŐRY, H.: «I3dt rnpt or the 'Pestilence of the Year'», *Pharmacy and Medicine in Ancient Egypt: Proceedings of the Conference Held in Cairo (2007) and Manchester (2008)*, edited by J. Cockitt, & R. David, *British Archaeological Reports (BAR) International Series* 2141, Oxford: Archaeopress, 2010, 81.

Egypt, most notably in Tell Basta in Zagazig in Sharqiya governorate in the Eastern Nile Delta and in Saqqara. An annual plague related to the goddess Sekhmet was known as the *I3dt rnpt* or pestilence of the year. The exact nature of that pestilence is unknown, so is its seriousness.[17]

The Italian Archaeological Mission (MAIL) working in Western Thebes since 1995 around the large funerary complex of Harwa and Akhimenru, made an interesting discovery. They found a group burial in the tombs between 1997 and 2012 consisting of bodies covered with lime which has long been used as a natural disinfectant. The bodies seem to have been victim to a plague or pestilence or some infectious disease that killed them off at the same time. It is clear that the burial was abandoned after the plague victims were buried there. The director of the Italian mission in the tomb of Harwa, Prof. Francesco Tiradritti, announced that the pottery results show that the group burial goes back to the third century AD around 250-271 AD. The corpses of the victims of the disease were incinerated, then buried together and covered with lime from a nearby kiln. It is now said that the victims may have suffered from what was known as the "Plague of Cyprian," a series of plagues that ravaged the Roman Empire in the third Century AD. Cyprian was a bishop who lived in Carthage North Africa at the time, and described the plague as signaling the end of the world from its severity. He gave an account of how the victims suffered at the end from continually emptying their bowels and vomiting, eyes red as blood, with some limbs festering because of the plague.

The pestilences mentioned above are among the few instances of pestilence which are known with any certainty from ancient Egypt. There are several diseases that are prevalent in Egypt and were known since ancient times such as bilharzia, but they will be dealt with in another section.

The Plagues of Egypt in the Holy Books:

Prior to the Exodus of the Israelites from Egypt during the Pharaonic period, the God of Moses inflicted a number of punishments. Those were water turning to blood (Ex. 7:14-24), frogs (Ex. 7:25-8:11/15), lice or gnats

[17] STROUHAL, E.: «Traces of a Smallpox Epidemic in the Family of Ramesses V of the Egyptian 20th Dynasty», *Anthropologie* 34, 1996, 318.

(Ex. 8:12-15/8:16-19), flies (Ex. 8:16-28/8:20-32), (something about wild animals destroying things in their way), the death of livestock (possible pestilence among livestock or domesticated animals) (Ex. 9:1-7), boils (Ex. 9:8-12), hail and thunder (Ex. 9:13-35), locusts (Ex. 10:1-20), darkness where people had to feel their way around (for three days) (Ex. 10:21-29), and the death of first borns of the Egyptians (may refer to people as well as cattle) (11:1-12:36) which is celebrated by the Jews on the occasion of the Passover or "Pesekh" every year around Easter. The Holy Quran lists seven of the ten plagues of the Bible. The plagues were punishments which took various forms and affected the Nile which was the main source of water to the Egyptians, in addition to crazy weather, disease and death to humans and animals, and locusts which the natural borders of Egypt usually kill before they could reach the Nile Valley. The sixth plague of boils may have been a variety of diseases including bubonic plague and leprosy. Although the pharaoh of Moses is not known by name, there are indicators that he may have been during the New Kingdom or right after it. A city named Ra`amses is named in the Bible. No such city was known before the pharaoh Ramses II of the Nineteenth Dynasty established a new residence for himself and called it "Per Ra`messes" or "House of Ramses", aka Raamses. It is now believed to be in present day Qantir in Sharqiya governorate in Egypt. It is certainly close to the Red Sea, the Bitter Lakes and the Sinai peninsula. Merenptah son and successor of Ramses II, has a stela in which the name of Israel appears clearly in a text written in hieroglyphs. The word "Israel" appears with the determinative of a tribe or group of people and Merenptah said he destroyed them and they now have no seed, on a stela of his at the Egyptian Museum in Cairo known as the Israel stela. Other things also suggest at least a New Kingdom date for the Exodus. The plagues in the Bible are all unusual occurrences in Egypt and the mention of any one of them in Egyptian texts would bring us closer to determining its exact chronology.

While talking of the plagues of Egypt we should mention the text known as the Admonitions of Ipuwer. It is dated to the nineteenth dynasty and is in Papyrus Leiden 1344 recto in the Netherlands. The original composition based on the language used was probably around the late Middle Kingdom *c*. 1991-1803 BC. There are two particular sentences in the text that may be relevant to our topic. One that says: "plague is throughout the land" and the other is: "blood is everywhere". Based on those

statements some Biblical scholars say it could refer to the Plagues of Egypt from the Bible in the Book of Exodus.[18] However, nothing can be proved for certain.

Pestilences in Ancient Egypt:

The ancient Egyptians were extremely religious people. They worshipped deities in a combination of human, animal and insect forms, in addition to celestial bodies such as the sun and the moon and the stars, and things such as the Nile inundation represented by the male god Hapi, whereas the god of the First Nile Cataract was the ram-headed god Khnum. They also worshipped both male and female deities. Some of the most famous deities were the sun god Re, the hidden god Amon, the god Osiris and his consort Isis who became one of the most widely worshipped deities in the Late Period and the Ptolemaic and Roman eras. They also believed in a number of demons or beings that they called the *Khayeet*, *Dened* and *De.hret*.

The Relation of Pestilences to Certain Days:

The ancient Egyptians believed in lucky and unlucky days. Several calendars were found enumerating lucky and unlucky days.as the ancient Egyptians designated all the days in the ancient Egyptian calendar as lucky or unlucky. Lucky days were good for starting new projects and endeavours, while some days were so bad that it was advisable not to leave the house or start anything new or of significant importance. Two are on papyri in the British Museum in London; namely Papyrus Sallier No. IV (dynasty nineteen) and on the verso of Papyrus Budge (dynasty twenty one or later), the recto of which has the text of the Precepts of Amenemope. The third papyrus with a calendar of lucky and unlucky days was discovered in Illahun (dynasty twelve) and published by Griffith.[19] Most days were designated with a hieroglyphic sign meaning good or beautiful  *nfr* which was written with black ink, or with a sign indicating bad  , ,  *ḏw*, *ʿḥʿ*, *ʿḥ3*, Dw, aHa, aHA and we have three varieties of those in the papyri and the bad was written in red. A day could also be divided into three where it was a mixed day with some good and some bad  , but never vice versa.

[18] HABERMEHL, Anne, «The Ipuwer Papyrus and the Exodus», In *Proceedings of the Eighth Conference on Creationism*, WHITMORE, J.H. (ed.), 2018, 1.

[19] DAWSON, W.R.: «Some Observations on the Egyptian Calendars of Lucky and Unlucky Days», *JEA* 12, №. 3/4, Oct. 1926, 261.

Entirely good days were written  , entirely bad  and in the case of a day with only the evening being bad or unlucky  .[20] In the three aforementioned calendars the first and last day of every month of the year were good throughout the three divisions of the day, with the exception of the month of Mechir.[21] In a study about the theory of periodicity, three ancient Egyptian calendars with information about lucky and unlucky days were tested; namely P. Cairo 86637, Pap. Sallier IV, and P. BM 10474.[22] According to the ancient Egyptians the five days at the end of the Egyptian civil calendar, were known to be days in which pestilences may occur, in addition to other unfortunate occurrences. The Egyptians called them the  *hrw diw (5) hrw rnpt*, or the five days over and above the year.[23]

Epidemics and Pandemics in Egypt in Contemporary History:

By definition an epidemic is a disease which spreads widely in a group of people in one place, whereas a pandemic spreads almost throughout the world and occurs on a much wider scale than an epidemic. In the 1940s Egypt suffered from several epidemics such as Malaria (1942-44, also 1940 during WWII where it caused the death of approximately 100,000 in Upper Egypt), a relapsing fever (1946) and cholera (1947). Internationally speaking, the so-called Black Death was probably the worst pandemic in recorded human history. It was a bubonic plague which took place between 1346-1353 AD around Europe and North Africa (or 1347-1352 AD). It bore the name of Black Death probably because it resulted in the extremities of the body turning black and festering and dying. This is probably why the plague and leprosy have such a bad reputation and are so feared as they both resulted in the body festering and parts of it dying prior to the death of the person. It continued to around 1842 in the Middle East. It caused the death of an estimated number of 75-200 million of the population in these areas. In Egypt it first came in the Fall of 1347 and was there until February 1349 AD, but returned several times thereafter. It returned throughout the world around four times. It is said that drier countries such as Spain and Egypt suffered from less mortality rates from

[20] DAWSON, Some Observations on the Egyptian Calendars, 261.
[21] DAWSON, Some Observations on the Egyptian Calendars, 263.
[22] PORCEDDU, S., JETSU, L., MARKKANEN, T. & TOIVARI-VIITALA, J.: «Evidence of Periodicity in Ancient Egyptian Calendars of Lucky and Unlucky Days», *Cambridge Archaeological Journal*, October 2008, 329.
[23] DAWSON, Some Observations on the Egyptian Calendars, 260.

the plague between 1342 and 1385.[24] However, Black Death definitely raged throughout Egypt in the fourteenth century.[25] Following the Mongol conquest of Baghdad in 1258 the centre of the Abbassid caliphate shifted to Cairo. There were ceremonial embassies between Delhi in India and Cairo at the time since the rulers of India paid homage to the Abbassid caliphate in some ways such as mentioning the name of the caliph in the Friday sermon and on the coinage, in addition to paying an annual tribute. It is said that Mujahid, the king of Yemen carried the plague back from Cairo in 1351.[26] In more recent years the Egyptians and the whole world suffered from smaller bouts of pandemic diseases such as SARC H2N1, Swine Flu and Avian Flu to name but a few. The Ebola virus also caused an enormous amount of damage for a while in Africa. Another major pandemic was the HIV/AIDS virus that caused the death of some five million people worldwide since 1981 and until the end of 2020.

Until well into the nineteenth century, Egypt suffered from a number of diseases which were not common in the early Roman Period such as the plague, cholera and smallpox. Those were the ones which usually took the form of epidemics in Egypt, and often world pandemics.[27] Other diseases which were common in the Nile Valley included malaria, tuberculosis, in addition to the ever common diseases in Egypt such as gastro-intestinal diseases and ophthalmic conditions related to the heat and the abundance of flies. The Egyptians were known to worry about blowing winds and feel they come carrying diseases. Al-Jahiz wrote that when the wind blows continuously for thirteen days from the south, the Egyptians buy death shrouds and embalming spices because they are certain a deadly pestilence (*wabā'*) وباء will break out.[28]

The Plague:

[24] RUSSEL, J.C.: «Effects of Pestilence and Plague, 1316-1385», *Comparative Studies in Society and History* 8, №. 4, July 1966, 470.

[25] SUSSMAN, G.D.: «Was the Black Death in India and China?», *Journal of the History of Medicine* 85, №. 3, Fall 2011, 333.

[26] SUSSMAN, Was the Black Death in India, 333.

[27] SCHEIDEL, W.: *Death on the Nile: Disease and the Demography of Roman Egypt*, Mnemosyne, Supplements, History and Archaeology of Classical Antiquity (MnS) CCXXVIII (228), Leiden-Boston-Köln: Brill, 2001, 186.

[28] CONRAD, Ṭā`ūn and Wabā': Conceptions of Plague and Pestilence in Early Islam, 281. Recorded on the authority of al-Thaʿālibī (D: 1038), *Laṭāʾif al-maʿārif*, comments by Ibrāhīm al-Ibyārī and ḥasan Kāmil al-ṣayrafī, Cairo, 1960.

The plague was one of the recurrent diseases in Egypt. It has been suggested that the ancient Egyptian language word *Aat* referred to the plague. It was said that the plague first came during the reign of the Shepherd kings of Egypt (around dynasties 15 and 16). In papyri found in Memphis the *Aat* is mentioned in texts which imply it came annually and the month of Tobi which is the moth following the Nile inundation, was a time when the plague raged. Many scholars of the 1800s and 1900s were mostly convinced that the Nile floods caused the plague (and possibly other pestilences).[29] In fact, some people believed it was caused somehow by Nile floods. There are three main types of plague; namely bubonic plague, pneumonic plague and septecaemic plague. All three are bacterial infections caused by *Yersinia pestis*.[30] Bubonic plague which was transmitted from rats to humans through fleas, is said to have been the least deadly with a mortality rate of 50-60%, an incubation period of six days and was characterized by the inflammation and enlargement of the lymph glands.[31] Khonsu's tumours may possibly refer to bubonic plague although it is thought they are related to leprosy. No human remains to date have indicated the presence of either type of plague in ancient Egypt. It is said the so-called Asian disease whose symptoms are described in the Hearst and London papyri, may have been the bubonic plague. If so it may have manifested itself in ancient Egypt in 1350 BC around the beginning of the New Kingdom, and most probably around1350 BC around the reign of Akhenaten in the eighteenth dynasty.[32] It is suggested that the plague only reached Egypt after the Moslem conquest of the 7th century AD.[33] However, Dionysius wrote of a disease which may have been the plague that affected Egypt, Libya and Syria in the third century AD.[34] Moreover, the plague is said to have come to Alexandria during the reign of the Roman emperor Justinian around 540-542 AD.[35] In another account it came to Pelusium

[29] PALMER, J.F.: «Pestilences: Their Influence on the History of Nations, as Shown in the History of the Plague», *Transactions of the Royal Historical Society* 1, 1883-1884, 243-244.

[30] DESORMEAUX, A.L.: «The Black Death and its Effect on Fourteenth-and Fifteenth-Century Art», *Master Thesis*, Louisiana State University, May 2007, 2.

[31] DESORMEAUX, The Black Death and its Effect on Fourteenth-and Fifteenth-Century Art, 2.

[32] STROUHAL, Traces of a Smallpox Epidemic, 318.

[33] NUNN, J.F., *Ancient Egyptian Medicine*, London: British Museum Press, 1996, 75.

[34] BICAK, L.J.: «Pestilence», *The American Biology Teacher* 49, №. 2, Feb. 1987, 99.

[35] BICAK, Pestilence, 99. The scholar Gibbon mentioned Egypt as the original nucleus of the 544 AD plague during the reign of the Roman emperor Justinian which was known as the Plague of Constantinople. He reports the death of 5000 per day in Constantinople for three months. He says cities were left without

around present day Port Said in 542 AD, then spread to Alexandria.[36] Furthermore, the Black Death reached Alexandria in Autumn of 1347 AD and reached Cairo by 1348 AD. The child Mamluke Bahriya Sultan al-Nasir Hassan is said to have fled from the plague. More than a third of the 600,000 population of Egypt at the time is said to have died of the plague of 1347-49. Russel wrote that after 1385 drier countries such as Egypt and Spain had fewer mortality rates than some European countries which often suffered from death tolls comprising over 50% of the population.[37] According to conventional guesses, a quarter or a third of the population of Egypt perished in the bubonic plague known as the Black Death of 1429/30 AD. There were about 100,000 deaths in Cairo alone. Around twenty 20 major epidemics occurred in Egypt between 1346 to 1517 AD, with intervals of eight to nine years. Between 1571 and 1894 AD, 33 plague epidemics occurred in Egypt. European travellers to Egypt reported the regularity of the plague there. The plague occurred in the years 1625, 1642, and 1784 where it took out one sixth of the population, 1801 during Napoleon's expedition to Egypt, 1822, 1835 which was one of the most severe bouts and killed off about half a million people in Egypt. 25-30% of the people in Cairo and Alexandria died of it while the mortality rate in the countryside was between 10-12%. Many atrocities are known about the way the authorities handled the plague. During the sixteenth and seventeenth centuries the plague was fairly rare, but it came back strongly in the eighteenth century although it had never effectively left.[38] The 1899 plague was well documented where some 55% of the deaths occurred in Upper Egypt.[39] However after the plague of 1844 AD, the 1899 AD bout was considered milder. To conclude, the three major plague pandemics which are said to have changed the fabric of societies occurred around 541 AD, 1347 AD and 1894 AD. In the Alexandria Quartet which was released between 1957 and 1960, Lawrence Durrell refers to the plague in a port city filled with foreigners like Alexandria, but apparently it did not hit it that hard during the time he lived in Alexandria during world war two

inhabitants and caused a noticeable decrease in the human species. PALMER, Pestilences Their Influence on the History of Nations, 246.

[36] SUSSMAN, Was the Black Death in India, 319.

[37] RUSSEL, Effects of Pestilence and Plague, 1316-1385, 470.

[38] SCHEIDEL, *Death on the Nile*, 187.

[39] SCHEIDEL, *Death on the Nile*, 193.

(WWII).[40] According to Contis, between 1889 and the 1940s not a single year passed without the appearance of the plague, either as an epidemic or in "sporadic form".[41]

Cholera:

Cholera is one of the recurrent diseases in Egypt. It was called a number of slang terms in colloquial Egyptian Arabic such as "*al-wabaa al-aṣfar*" or the yellow pestilence, "*al-shooṭah*", *al-karera*", *or "al-ḥida*". It was particularly bad in the eighteenth century as it occurred around nine times in it. Modern cholera is said to have originated in India in the late eighteenth century (*Vibrio cholerae*), but was known there much earlier and usually came during the hot summer season.[42] Until the year 1817 AD, cholera was more of a disease prevalent in Bengal in India, before it spread throughout the world. Luckily the 1817 pandemic spared Egypt. In Egypt it is said to have come from the pilgrimage to Mecca almost every single time it occurred. The second pandemic of cholera around 1826-1837 AD (also called the Asiatic cholera pandemic) spread throughout all of Egypt. The total death toll from it was thought to be 180,000. Clot Bey the French physician responsible for establishing the Kasr al Aini hospital under Mohamed Ali, estimated 30,000 deaths in Cairo and 400,000 throughout the country and the cholera lingered on from 1831 to around 1837 AD. There were less violent outbreaks in 1848 killing about 20,000 people, and perhaps twice that number in 1850.[43] The last two major outbreaks were in 1855 and claimed around 116,000 lives, and 1865 with 122,000 deaths.[44] The cholera of 1865 which was called the Sixth Outbreak is said to have been transmitted through 15,000 pilgrims from Turkey, Marrakesh and Algiers who traveled via Alexandria by rail. It caused the death of approximately 4000 people in Alexandria and more than 6000 in Cairo. The total number of people who perished from the 1865 cholera was about 60,000 people and

[40] BECKETT, B.: "Darkness and Pestilence: Contagious Bodies and Cosmopolitan Boundaries in Lawrence Durrell's Alexandria", *South Atlantic Review* 81, №. 4, Winter 2016, 49-50.

[41] CONTIS, G.: «Environment, Health and Disease in Alexandria and the Nile Delta», In *Alexandria, Read and Imagined*, edited by A. Hirst, & M. Silk, Aldershot, Hampshire: Ashgate, 2004, 235.

[42] SCHEIDEL, *Death on the Nile*, 101, The disease was usually in India in the months May through August, although there were occurrences in October. Its antiquity cannot be determined for sure as there were similar dysentery-like disorders reported in ancient India and China, although cholera is particularly related to India.

[43] SCHEIDEL, *Death on the Nile*, 194.

[44] MCCARTHY, J.A.: «Nineteenth Century Egyptian Population», *Middle Eastern Studies* 12, 1976, 3.

at that time they said it was approximately a sixth of the population of Egypt according to other calculations (a sixth of the population also perished from the plague in 1784 AD). In 1883 cholera recurred during the disruption of the British invasion. It killed from 80-100,000 people in Egypt (McCarthy has between 50,000 to 60,000).[45] The famous German scientist Robert Koch rediscovered the vibrio cholera a second time when he visited Alexandria and took specimens to study from there. There was an epizootic thought to have been *cholera morbus* which occurred in 1841/42 AD and killed almost all the cattle in Middle and Lower Egypt.[46] It also affected sheep. In August and September of 1902 cholera appeared in the village of Moosha in Assiut governorate. It is said the Mayor of the village had returned from the Holy Pilgrimage to Mecca and brought with him water from the well of Zamzam. He emptied the water which carried cholera in the village well thereby affecting the entire population of the village. It spread throughout Egypt and caused the death of more than 34,000 people. The last serious outbreak of cholera was in 1947 and took about 10,000 lives which was considerably less than the earlier attacks.

Smallpox:

Ruffer and Ferguson reported a skin lesion in a twentieth dynasty mummy which resembled variola/smallpox.[47] Eliot Smith described a case of smallpox which is said to have affected Ramses V of the twentieth dynasty (*c*. 1149-1145 BC).[48] The mummy of Ramses V had been discovered in 1898 in the cache of mummies in the tomb of Amenhotep II in the Valley of the Kings, Western Thebes. The mummy had scars which may have been caused by smallpox. It was not mummified with the same care as others and had sawdust in the intestinal cavity. King Ramses V's reign was quite short (around four years) causing scholars to speculate that he may have died from smallpox which left scars on his skin.[49] In addition to those reasons we know Ramses V was not buried in the tomb KV 9 in the middle of the Valley of the Kings and his tomb is as yet undiscovered. He was

[45] MCCARTHY, Nineteenth Century Egyptian Population, 3.
[46] SCHEIDEL, *Death on the Nile*, 199.
[47] RUFFER, A. & FERGUSON, A.R.: «Note on an Eruption Resembling that of Variola in the Skin of a Mummy of the XXth Dynasty 1200-1100 B.C.», *Journal of Pathology and Bacteriology* 15, N^{o}. 1, 1911, 1-3.
[48] SMITH, G.E., *The Royal Mummies, Catalogue Géneral des Antiquités Égyptiennes du musée du Caire (CCG) (Nr. 61051-61100)*, Le Caire: Imprimerie de l'IFAO, 1912, The mummy of Ramses V had scars which appear to have been caused by smallpox. It may also explain his short reign.
[49] STROUHAL, Traces of a Smallpox Epidemic, 317.

buried sixteen months after his death which is unusually long. Several of Ramses V's family members died at close intervals and the workers had to work extremely hard to produce his new tomb and six new tombs in the Valley of the Queens to accommodate family members who had died untimely. It took the workers four months to finish the tombs of the Valley of the Queens and after that they were given a one month vacation which is construed by some scholars as a possible quarantine, not just rest. Moreover, the Valley of the Kings itself (and possibly that of the Queens?) was closed to visitors for six months after the burial which may all be indicative of unusual circumstances such as smallpox.[50]

Smallpox was believed to be the disease of the 'Antonine' plague of 166 AD.[51] There was no trace of smallpox in Egypt from around the time of Ramses V to the Sixth century AD.[52] In 1819 AD Mohamed Ali Pasha issued a decree with the benefits of vaccination, probably under the influence of Clot Bey.[53] Vaccinations were administered by local barbers in the absence of medical personnel. Vaccination probably saved Egypt from the smallpox outbreak that ravaged the Levant in the mid nineteenth century. By 1890 smallpox vaccinations were mandatory in Egypt and by the early twentieth century smallpox was almost eradicated with about 0.05 cases per 1000 of the population.[54]

In 1903 several diseases spread throughout the country including smallpox, measles and typhoid fever. It became compulsory to disinfect one's home with lime. However, there were two bad outbreaks of smallpox and measles in September 1903 in Beni Suef and Daqahlia.

Measles:

[50] STROUHAL, Traces of a Smallpox Epidemic, 318.

[51] There is mention of various plagues or pestilences worldwide such as the Antonine, Aurelian and, Galenic plagues named respectively after the Antonine dynasty, the Roman emperor Marcus Aurelias and the most famous physician of his time Galen, GOUREVITCH, D.: «The Galenic Plague: A Breakdown of the Imperial Pathocoenosis: Pathocoenosis and Longue Durée», *History and Philosophy of the Life Sciences* 27, №. 5, 2005, 59.

[52] SCHEIDEL, *Death on the Nile*, 196.

[53] Mohamed Ali Pasha who ruled Egypt (1805-1849 AD) is considered the founder of modern Egypt as he was a true visionary. In the field of health he founded a high council for health, the school of medicine (Kasr al Aini), a school of nursing, a school for nurses and midwives. He started mandatory vaccination and issued the first known health law in modern Egypt in 1841 AD.

[54] SCHEIDEL, *Death on the Nile*, 198-199.

Measles as a disease was very common especially in the nineteenth century and was usually fatal for children, especially under the age of five. Apparently one third of all deaths under the age of five were caused by measles.[55] Classical or Greek and Roman texts do not allude to a disease which may be construed as measles.[56]

Bilharzia:

Bilharzia or Schistosomiasis was known to have been an endemic disease in Egypt since before the Pharaohs and appeared in Pharaonic era mummies. A disease known as *Aaa* appeared around fifty times in Egyptian texts, is described in the Ebers Papyrus as having blood in the urine. It is said to be caused by worms and the papyrus also has a remedy for worm diseases. It is also said to be a disease that could lead to death.[57] In the nineteenth century *Schistosoma haematobium* was all over Egypt while *Schistosoma masoni* was limited to the northern Delta. It causes bloody diarrhea and dysentery. Perennial irrigation is thought to have been the reason why it spread widely in the Egyptian countryside in the early twentieth century.[58] By 1937 it was believed around half of the population had bilharzia. Although it affects the body continually and may cause conditions such as liver fibrosis, abdominal swelling and bladder calcification, it is not normally known as a disease that caused widespread deaths.

Other worm diseases in Egypt were Dracontiasis (guinea-worm disease) and was described in the second century AD by Rufus of Ephesus. Ankylostomiasis was another common worm disease.[59] Around 1900 hookworm infection spread in Egypt. It was mostly in peasants aged 20-40. Ancient Egyptian medical texts also had remedies against worms.

Spanish Flu:

The Spanish Flu was another epidemic that caused many deaths worldwide. It spread in 1830, 1838, 1882, 1890 and 1920. Severe bouts of

[55] SCHEIDEL, *Death on the Nile*, 102.
[56] SCHEIDEL, *Death on the Nile*, 102.
[57] SMITH, G.E.: *The Papyrus Ebers*, translated by Cyril P. Bryan, London: Garden City Press, 1930, 1-167. GORDETSKY, J. & O'BRIEN, J.: «Urology and the Scientific Method in Ancient Egypt», *Urology* 73, №. 3, 2009, 478.
[58] SCHEIDEL, *Death on the Nile*, 102.
[59] SCHEIDEL, *Death on the Nile*, 103.

influenza appeared in Egypt in 1830, 1837 and 1890. In 1920 it spread throughout Egypt causing many deaths.

Malaria:

Malaria was an endemic disease in Egypt since the earliest times. Two mummies from Thebes showed traces of malaria. Hippocrates described the disease around 400 AD and in the fifth century Herodotus known as the father of history talked about it. It is caused by four different kinds of parasites belonging to the plasmodium family-falciparum, malariae, ovale and vivax. Malaria is transmitted to humans through an infected female Anopheles mosquito.[60] It is not known to be a fatal disease in most cases.

Polyomyelitis: Evidence suggests that the disease was known in ancient Egypt. The mummy of Seti II of the twentieth dynasty showed evidence of poliomyelitis. A stela of an official named Remy at the Ny-Carlsburg Museum in Copenhagen also shows a leg which was affected by what appears to be poliomyelitis.

Conclusion:

Egypt suffered from pestilences from the oldest times, mainly because of its central location causing large numbers of people to pass through it. The most severe pestilences in Egypt were the plague and cholera. A number of diseases were long endemic in Egypt such as bilharzia and other worm diseases, in addition to the ever-present ophthalmic conditions and gastro-intenstinal disorders. In recent years Egypt suffered from pandemics such as SARC, Swine Flu and Avian Flu to mention but a few. The most recent Corona virus with its later variations such as Delta and Omicron, have affected Egypt and the rest of the world. But despite its severity, Corona or Covid-19 is not the most severe pestilence that Egypt suffered from. The spread of television has ensured that even illiterate people could be reached and given advice on how to avoid the spread of the disease. Potable water and sanitary practices have helped reduce the number of cases and the availability of medical care to all has helped reduce the number of casualties. The ancient Egyptians were quite advanced in medicine and usually described the diseases by their symptoms. The medical papyri do not mention pestilences, but there are

[60] LORENZI, R.: "Mummies May Have Had a Real Scare-Malaria", Discovery Channel on NBC News, Oct. 23, 2008. URL: http://www.nbnewsc.com/id/wbna27345796. Consulted online on Sat. Nov. 6, 2021.

various indicators that a pestilence hit Egypt around the reign of Amenhotep III and Akhenaten and there are suggestions that it may have been the bubonic plague. The mummy of Ramses V shows evidence of smallpox. The group burial in the tomb of Harwa in Western Thebes indicates a pestilence of sorts since the bodies of the deceased were incinerated then covered with lime which is clearly indicative of a contagious disease. Egypt suffered from a number of outbreaks of infectious diseases in contemporary history, several of which caused the death of considerable percentages of the population. In the end we can state that the Corona virus was not the most severe pandemic to hit Egypt throughout its long history, but it has been the pandemic that affected it the most in the last century or so.

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