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## After the Plague: An Archaeologist's View

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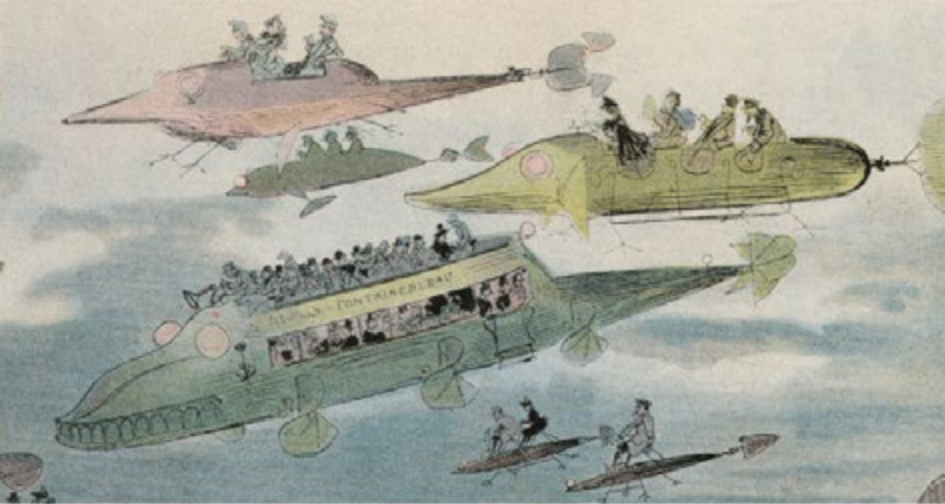
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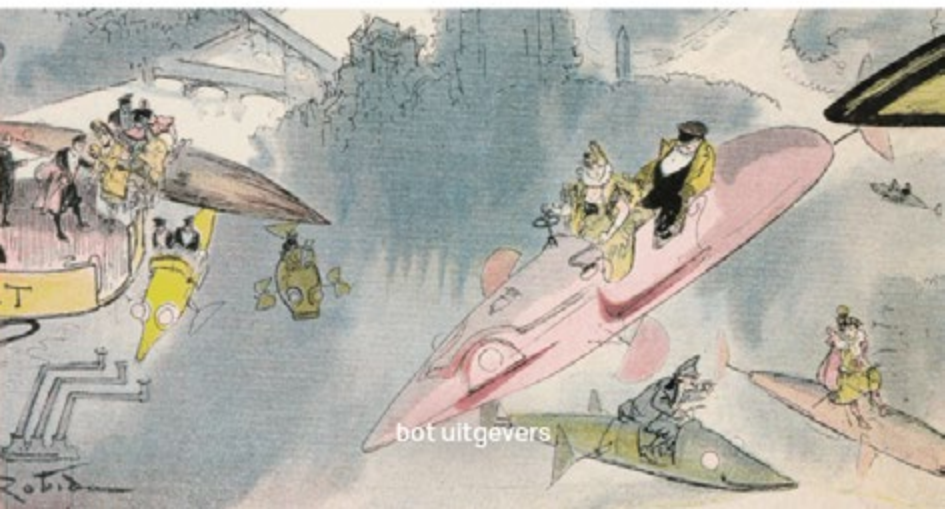
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# BRAVE NEW HUMAN

reflections on the invisible

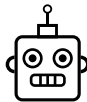
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# Brave New Human

## Reflections on the Invisible



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P R E F A C E



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# Preface

ALEXANDER MOURET



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When we first organized the Brave New World Conference in Leiden we aimed for an event that generated questions that inspired unpredictable answers: we hoped to provoke people to ponder dilemmas they normally would not consider seriously. During the various conferences that we have organised in the past few years, we have discussed questions around controversial topics such as trans-

humanism, immortality, or -perhaps the most harrowing topic of all, future of war. Though the focus of Brave New World is firmly directed towards the future, many of these topics required both an analysis of things that have already happened, as well as things that have not yet come to pass. We aim to do the same in this volume, although the question that is posed here was triggered by things that are happening, not in the future, but right now.

In the face of the COVID-19 virus pandemic, governments around the world have responded in various different ways, and the impact on societies across the globe has been profound. The question rises as to whether these effects will have a permanent effect of society, and if so, to what extent people in various countries will accept, reject or cope with some of the measures that are considered or have already been employed.

We decided to invite the speakers of the past Brave New World conferences, as well as a selected number of colleagues in related fields of enquiry, to reflect on what the world might look like after the Coronavirus crisis. In the free-thinking spirit of the conferences, we did not prescribe any specific topic or scope: all our contributors were given a complete *carte blanche* to express their thoughts and ideas on this topic.

I dare say that the response has been overwhelming. Straddling academia -the Natural Sciences, Technology, the Humanities, and the Social Sciences- and the Arts,

the essays in this volume provide glimpses of how people in the past responded to plagues, how the current COVID-19 crisis is affecting our current and future world, and how crises and future pandemics such as these may be best approached.

This volume should, I believe, be of interest not only to artists and academics, but also to policy makers and, indeed, the general audience.

It is my great pleasure to thank all the contributors to this volume, and the extended Brave New World community for their continued interest and support. I very much hope that you will enjoy the essays presented here, and look forward to meeting all of you again at one of our future conferences.

**Alexander Mouret** is the Director of the Brave New World Conference.

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C H A P T E R



01

# After the Plague. An Archaeologist's View

JORRIT KELDER

Pandemics are a recurrent theme in human history, and they have had a profound effect on European and Near Eastern society. In view of the current 'corona crisis', and the stark messages of death and despair that circulate on social media, it is perhaps good to note that few if any plague alone has ever brought about the collapse of a civilization.

Epidemics could and did cause havoc, depopulate vast regions, and cause immeasurable pain and grief, but they were never -as far as we can tell- solely responsible for revolutions and the collapse of government, the outbreak of (civil) wars. States collapsed because of a combination of factors: rampant corruption and dwindling tax revenues, conflict between the ruling elites, natural disasters, growing social insecurity, and yes, disease -but never any of these alone. Epidemics accelerated social, political and economic developments, but an otherwise robust society could deal with it, adapt, and survive –

even in the past, when medical knowledge was far more limited than ours. In the lines that follow, we will highlight some of the responses that are associated with historical epidemics –from the Black Death in the Middle Ages to what may have been Bubonic Plague in the Late Bronze Age.

### BACK TO THE MIDDLE AGES

Everyone has heard of the Black Death that swept through Eurasia in the mid-14th century; killing an estimated 75 to 225 million people over the course of just a few years. Through contemporary records, we have a pretty good idea about the effects that this particular plague brought about. In Europe, where about 50% of the population is estimated to have perished, it resulted in significant tensions between, especially, the landholding upper classes and those who worked for these landowners. With about half of the labour-force gone, those that remained appear to have demanded higher wages –something the landowning nobles were probably not all too keen on. Indeed, we have various laws and stipulations, most notably the so-called ‘Statute of Labourers’, which was issued in 1351 by the English King Edward III, that explicitly prohibited labourers to demand wages higher than those in pre-Plague times. Moreover, this law also sought to limit the movement of such labourers, in order to ensure that people remained tied to their ancestral grounds and Lords. The fact that the Eng-

lish government found it necessary to impose remarkably harsh punishments -including imprisonment and branding- on those who refused to obey this law, such as serfs that decided to leave their masters in search of better opportunities elsewhere, indicates the difficulties government experienced in upholding this law. People demanded better pay and opportunities (sounds familiar?) and, especially in areas that were affected by war, more security. And they were willing to fight for it. Indeed, the post-Plague century (1350-1450) is marked by outbursts of uprisings, such as (in England) the Peasant's Revolt, the Jacquerie in Northern France, and the Transylvanian Peasant Revolt. Most of these were eventually squashed by military means, though sometimes by agreement between labourers and the nobility, but despite that, wages did (on average) double during this time. Ideas about how society was organized (and how it ought to be structured) were changing, too.

Through contemporary texts, including laws prohibiting the use of certain 'prestige goods' that were hitherto exclusively available to the wealthy landowners, we can glimpse the gradual rise of a middle class. Significantly, this is also the time of the first Christian reformations, such as the Lollard movement in England and the Hussites in Bohemia: both of these movements revolved around vernacular scriptures (not Latin), and thus did not require the presence of a (trained) priest or other Roman Catholic prelates. The Plague, though it may not have been the sole reason for all these changes, without a doubt served as their catalyst. It changed Europe for



good (both in the temporal and qualitative sense of the word).

### BYZANTINE SURVIVAL

Though the 14th century plague, which is also known as the ‘Black Death’ or ‘the Great Bubonic Plague’ (or as varieties thereof), is probably the best-known historical example of a ‘pandemic’ (if we allow for the fact that the Americas were not known at that time, and thus not affected), history is riddled with similar events. We know of the plague in late Roman times —the so-called Justinian Plague— which is thought to have affected not only the Byzantine Empire but also its adversary, the Sassanian Empire (based in what is now Iran). Though it is difficult to assess the exact number of casualties, this particularly long-lasting plague may have resulted in the death of anywhere between 25 and a 100 million people over the course of some 2 centuries (from the mid-6th to mid-8th century AD). It would be logical to assume that, in view of these staggering casualties, Justinian’s Plague would have changed the world in much the same way as its Medieval Successor, the Black Death. But it didn’t, and that may be an important warning to historians, sociologists, and futurists: societies respond very differently to similar crises, depending (of course) on the availability and quality of health care, but also on such things as their respective history, social cohesion and ideology, and the nature and state of their economy.

In the case of Justinian's Plague, for example, recent scholarship has rejected the notion that this particular long-lasting pandemic caused any significant widespread change in the Byzantine world; neither in society, nor in religious or even economic respect. There are, in some areas, archaeological indications for population decline, though it is unclear whether this has to do with people actually dying from plague or whether we are instead dealing with people moving away from plague. On the whole, though, there is precious little evidence to support any notion of permanent population decline. Life, despite local setbacks, seems to have largely continued in much the same way: no major social tensions erupted as a result of the plague, nor can we discern notable ideological rifts. That is not to say the plague had no effect on Byzantium whatsoever. Indeed, it has been argued that Byzantium's inability to prevent the capture of Syria and Egypt by emerging Arab Empire, was at least partly facilitated by the loss of life (which affected conscription) and, as a result of that a decrease of income from taxes (which were needed to pay the army) caused by the plague. In the Sassanian Empire, the effect of the plague may have been more profound, for within a century after the outbreak of the plague, all of Mesopotamia and Iran had been overrun by the burgeoning Arab empire. But even here, the plague is unlikely to have been the sole reason behind the Sassanian collapse and other factors, such as strife within the Sassanian ruling houses, likely played a far greater role. The plague was merely the final nudge that pushed the

empire over the edge in the face of an aggressive, new, enemy.

This brings us to what I think may be the single most important aspect of epidemics, and indeed of diseases in general: their tendency to kill off the weak –both on a micro (human) and macro (state) level. Neither the Justinian Plague nor the Black Death resulted in the destruction of previously stable states or the collapse of a functioning government. Byzantium survived the plague well enough (it finally fell to the Ottomans in 1453, some 6 centuries later), and though there certainly were major socio-economic changes throughout Medieval Europe in the years following the Black Death, many of these changes had been long in the making –the Plague merely sped things up. The weak disintegrated, the strong adapted.

#### A BRONZE AGE PANDEMIC

Even further back in time, we may observe similar state resilience in the face of epidemics. A case in point is a plague that ravaged Turkey (then home to the mighty Kingdom of the Hittites) in the mid-14th century BC. Whilst we cannot establish the exact mortality rate for this epidemic, we know that its effects must have been profound. For in about 1300 BC, the Hittite king Muršili II prayed to the Stormgod to end an epidemic that had ravaged the country since the time of his father, king Šuppiluliuma I, and his brother, king Arnuwanda II:

*“O, Stormgod of Hatti, my Lord, and gods of Hatti, my Lords, Muršili your servant has sent me, (saying) go and speak to the Stormgod of Hatti and to the gods, My Lords, as follows: “What is this that you have done? You have let loose the plague in the interior of the land of Hatti. And the land of Hatti has been sorely, greatly oppressed by the plague. Under my father (and) under my brother there was constant dying. And since I became priest of the gods, there is now constant dying under me. Behold, it is twenty years since people have been continually dying in the interior of Hatti. Will the plague never be eliminated from the land of Hatti? I cannot overcome the worry from my heart; I cannot overcome the anguish from my soul.”*

These prayers were written down, and from these texts – which have survived on baked clay tablets – we know that this plague was brought to the Hittite Kingdom by Egyptian prisoners of war and that it ravaged the kingdom for some 20 years or so, killing seemingly indiscriminately and eventually even claiming the life of both Šuppiluliuma I and his son Arnuwanda II. When the latter died, attacks from neighbouring states let the hitherto mighty Hittite Kingdom crumble to its core territory around the city of Hattusa (in Central Turkey), and it is difficult to escape the idea that the plague must have been a major cause of this disintegration. It is likely, however, that this epidemic was not the sole reason for the disintegration of the Hittite state, and the text also suggest that the

new King's perceived inexperience was a major reason for his former vassals to rebel. But regardless of such additional stress-factors, it is worth noting that even the Hittite Kingdom would eventually survive this epidemic, and Arnuwanda's younger brother and successor, Muršili, would go on to recapture the lost territories and re-establish his Kingdom as one of the superpowers of its day.

Interestingly, there is little textual evidence from contemporary Egypt for a plague, though one diplomatic letter from the King of Babylon to Amenhotep III -who ruled in Egypt in the years just before the war with the Hittites- notes that Amenhotep's wife had died of (an unspecified) plague. The noted Egyptologist Arielle Kozloff has suggested that Egypt was indeed suffering from an epidemic (she suggests Bubonic Plague) during the reign of Amenhotep III, and this may explain various peculiarities in the archaeological and epigraphic record, such as a strange 8-year gap in the written record -a suppression of bad news- or the sudden and remarkable prominence of the hitherto insignificant Sekhmet, Goddess of War and Pestilence; Amenhotep ordered some 700 statues of this particular goddess to be made (compare to some 200 of all the other gods combined).

If Kozloff is right, it is likely that the disease continued to ravage the land of the Nile under the reign of Amenhotep's successor, Akhenaten; under whose reign the war with the Hittites erupted. Indeed, recent research (by, e.g., Kathleen Kuckens) into the demography at Akhenaten's capital city (at modern-day El Amarna) bear

a close resemblance not only to demographic patterns known from the Black Death, but also to those from the Great Influenza Pandemic of 1918. Whilst more research is required to be absolutely sure, the overall impression is that Egypt had indeed suffered from an epidemic, and that it was this plague that spread to the land of the Hittites. It is interesting to note that, in Egypt, this plague would have coincided with what may be one of the most interesting religious 'reformations' in world history. For it was precisely Akhenaten, often referred to as Egypt's "Heretic King", who was responsible for a major revision of the Egyptian system of beliefs –by focusing on a single, solar deity (Aten; the King's name means 'beloved of Aten') and abolishing the worship of other Gods. The repercussions of this move cannot be overstated (if only because it is very likely that some of Akhenaten's ideas eventually fed into other creeds, including Christianity: King David's Psalm, for example, which is sung in churches across the world even today, owes more than a little to one of Akhenaten's 'Solar Hymns'), and are most easily explained as a way to deal with stress –in this case societal stress caused by pestilence. The parallels with the rise of the Lollards and Hussites at the time of the Black Death are clear, although it should be emphasized that in Egypt, religious reform was initiated not by 'the people', but by the King (and, for all that we know, it was never wholeheartedly adopted by the majority of the population: both the new religion and the new capital at El Amarna were abandoned within years after Akhenaten's death).

## RESPONSES TO EPIDEMICS

Epidemics, then, could and did have a profound impact on ancient societies. In an age when medical knowledge was limited, plagues were often ascribed to the wrath of the Gods and -for the Gods had to be angry for a reason- with some sort of injustice done by either the King and his entourage or the population at large. As a result, the Gods had to be placated. This could be done through offerings in the temples, and indeed, in Muršili's Plague Prayers, we find several references to his devotion and his actions to ensure that enough offerings are being made to the Gods (even though many of the temple staff had themselves succumbed to the plague). The very reason that Muršili bothered to have his prayers registered on clay tablets is, I think, so that he could use them as some sort of 'evidence', either for the gods or perhaps to his entourage (and by extension, the Hittite population), that he, the King, had done everything in his power to ward off disaster. Then, as now, people would look to the government to take measures to eradicate a plague. And if these measures did not work (or worked insufficiently), the blame would likely be placed with the government; potentially spawning unrest amongst the population, a rejection of the socio-political or religious status quo, or worse, open rebellion. In this light, Akhenaten's reformation of Egyptian religion may perhaps be seen as a preemptive move to highlight not his, but the traditional Gods' failure to protect Egypt. His decision to move his capital to El Amarna, away from the ancient capi-

tals of Memphis and Thebes, may similarly be considered as a (ineffective, as it turned out) move away from plague riddled, crowded, cities. If this line of thought is correct, Akhenaten's move could be compared to later practices, with Byzantine emperors moving their court to the less populated suburbs of Constantinople (rather than remain at the city's centre) during the Plague, or modern-day government's call for social distancing and preemptive self-isolation.

Isolation, or at least limiting the interaction between communities, has proven to be an effective way to curb the spread of infectious diseases. The Hittites knew perfectly well that a disease had to be carried by someone of something; in their case, they knew this to be Egyptian prisoners. But that did not stop them from trading with foreign countries or, under the rule of King Muršili, to reconquer the areas they had lost -including those territories from whence the plague had come! Justinian's plague, if we may believe contemporary chronicles, spread via the grain trade from Egypt across the Byzantine Empire (but *Yersinia pestis* strains closely related to the ancestor of the Justinian plague strain have been found in the Tian Shan mountain range, suggesting the bacteria originates from this region). But that didn't stop maritime trade, nor did it stop the Byzantine conflict with the Sassanian Empire. Life went on in much the same way. The Black Death is similarly thought to have originated in China, from whence it spread, via the Silk Road, to Genoese trading stations along the coast of the Black Sea. From there, it spread to Italy and the



rest of Europe. But it did not stop international trade, nor did it stop international conflicts (indeed, the plague falls squarely in the 100-years-war between England and France). Today, we know that the new Corona virus originates in Wuhan, China. If there is a lesson to be learned from the past, it would probably be that we should not trade with China, or face the consequences. In view of the fact that few of us are willing to forego on Chinese export-products (the laptop on which this paper was written, though designed in California, was almost completely assembled in that country), it seems perhaps wisest to respond to it with equanimity and not shut down our global economy.

For all our modern technology and biological insights –we understand the genetic makeup of both the bacterium that brings the plague and the virus that causes COVID-19– contemporary societies respond in very similar ways to epidemics as those in the past. Certain groups turn to their God(s) and, indeed, some consider the corona virus as a soldier of their God (until, that is, it turns on their own community), but most of us, in the West at least, simply -and sensibly- have faith in their respective governments. Few if any society so far has collapsed solely as a result of an epidemic. This one is unlikely to change that record.

**Jorrit Kelder** is a historian and archaeologist at Leiden University