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Temporal technologies of epidemics

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Accepted 28 February 2022
Published Online First 11 July 2022

ABSTRACT

The COVID-19 pandemic has largely been made sense of as a *crisis*. However, using *crisis* as a temporal-analytical category arguably obscures the complexity of the different temporalities at work in the pandemic. In this article, we examine how the pandemic outbreak led to numerous acts of synchronisation and desynchronisation—between humans and viruses, between social groups and even between historical ages. In order to make sense of the temporal consequences of an epidemic, we introduce the concept of ‘temporal technologies’, understood as a set of procedures that control, regulate, produce and assemble time in relational networks of both human and non-human actors. This article thus attempts to create a framework for understanding the epidemic experience in temporal terms by using ‘temporal technologies’ as an analytical tool.

INADEQUACIES OF CRISIS-TIME

In temporal terms, the current pandemic has largely been made sense of as a *crisis*, framing it alongside other global crises. By labelling something a ‘crisis’, a set of incidents, large and small, as well as the responses they unleash, are shaped into an event with a specific temporal shape and structure. In ordinary language use, ‘crisis’ is linked to a perceived acceleration of events, mostly with a beginning and an end. The concept has one of its origins in medical discourse, in the Hippocratic tradition, in which ‘crisis’ designates the moment when the fate of the patient reveals itself, whether the patient will live or die (Koselleck 1982). As Reinhart Koselleck and others have pointed out, however, the event-character of a crisis in social and political discourse might be more difficult to pin down, ranging from an inherent mechanism of progress (financial crisis) to the end of the world as we know it (climate crisis) (Anderson 2021; Koselleck 2006; Roitman 2013). In every case, however, crisis has the ability to assemble a large swathe of incidents, practices, actors, measures and outcomes, and give them a recognisable temporal shape, so that they can be acted on by the authorities (Jordheim and Wigen 2018). In global public health, a crisis has to be publicly declared. On 30 January 2020, WHO declared the spread of the COVID-19 virus a ‘public health emergency of international concern’. By consequence, an entire set of protocols came into operation to stop the spread of the virus and to search for ways to cure people infected by it. At the same time, WHO declaration instilled a strong feeling of urgency in politicians, health workers and publics all over the globe. Everything started to

move faster. By naming what was then just a local epidemic a global crisis, WHO unleashed a process of acceleration, due to both a felt and a real increase of the number of events within ever-shorter time-spans. In this sense, the label and not least the act of labelling served the same purpose as the proverbial and highly cinematic ‘panic button’: once someone has pushed it, everyone starts to move faster, run and yell. In hindsight, WHO had good reasons for declaring a crisis and thus mobilising all accessible resources to contain the virus and alleviate its consequences. Maybe they should even have done it sooner. However, that a concept is effective in terms of a speech act, in what Austin (1962) would call ‘perlocutionary’ terms, does not mean that it forms the best, most adequate analytical framework for studying the same event (Koselleck 2002).

If we as scholars explicitly or implicitly adopt crisis as our temporal-conceptual framework for analysing the pandemic, we risk blinding ourselves to much of the temporal complexity unfolding in the event. As an analytic, *crisis* mystifies more than it clarifies. By labelling something a crisis, we—much like WHO—activate an entire battery of analytical strategies that serve to streamline and homogenise the multiple temporalities involved in the pandemic (Jordheim and Wigen 2018). Crisis-time emphasises the now as a moment for decision and action, and at the same time obscures everything that does not belong in this now-time, including structures of repetition, long-term durational processes as well as sedimented meanings, which all play into the actual unfolding of the events at hand. What was by the actors called a ‘crisis’ had a multiplicity of different ‘nows’, many of which had very little kairos-like quality. As one German COVID-19 film put it, the way the average German youth could help their country save lives in the great crisis of 2020 was to ‘be lazy as raccoons’.¹ Crisis typically calls on urgent mobilisation for action and collective synchronisation, but the contention over what to do means that the crisis is left unresolved both substantially and rhetorically. At global and national levels, crisis declarations continued to spur feelings of acceleration and haste, whereas people’s everyday lives kept slowing down, till the point of stopping completely. As Sari Edelstein has described, many people entered into states of waiting and inactivity, ‘killing time’ instead of using it to improve their lives (Edelstein 2020). For many people, the pandemic meant a great demobilisation, deactivation and desynchronisation, as temporal technologies directed at pandemic management. Moreover, we are living in times that are enmeshed with several ‘crises’, climatic,



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To cite: Wigen E, Azak AN, Eskild I, et al. *Med Humanit* 2022;**48**:e1.

emigrational and, now, pandemic. What does the fact that we are simultaneously inhabiting several crises at once do to the sense of urgency? Has there been an inflation in the discursive use of ‘crisis’? Would this, accordingly, change the temporal saliency of the word itself? How does crisis-time function in a world where there are both ‘slow’ and ‘fast’ crises, such as the climate crisis versus the pandemic crisis? And how is this further complicated by the claim that the pandemic is conditioned by climate change, as several people have contended?

These are just some of the questions that come into view as soon as we start to question crisis-time as the only viable temporal framework to understand the pandemic. In this article, we introduce the concept of ‘temporal technologies’ as a means to restore to the COVID-19 pandemic some of the temporal complexity, the non-synchronicities that emerge from the real-time events that were overlaid and blended out by the ubiquity of crisis. If we were to mobilise a concept from the theory of history, ‘crisis’ might not be the most salient one. Instead, we could suggest that the COVID-19 pandemic is an example of what Reinhart Koselleck and others before him has called ‘the contemporaneity of the non-contemporaneous’, or ‘the synchronicity of the non-synchronous’, in German, *die Gleichzeitigkeit des Ungleichzeitigen* (Koselleck 1979). The tendency to temporalise social difference is not an obsolete remnant of the past, resolved after the intervention by Fabian (1983) in his seminal *Time and the Other*. Instead, we find that it was actualised and made useful in the discourse on COVID-19. As humanists and social scientists, we like to maintain critical distance towards notions of being ‘behind’ and ‘ahead’, but the pandemic has shown those to be ubiquitous in political and social discourse. Our repertoire of coping mechanisms proved to be deeply temporal, highlighting the temporal nature of central ideologies guiding human coexistence. The ease with which politicians and laymen alike turned to a discourse on ‘who were 2 weeks ahead in the pandemic’ and ‘who were behind in the race to vaccines’ shows how temporalisation of human experience is an easy conceptual space to enter, and the rhetorical potency of timelines in power relations for mobilisation and synchronisation of behaviour. Indeed, the temporal technologies we deal with in this article served to mend and align social behaviour to the ‘acceptable timeline’ of pandemic unfolding. The event of the pandemic is in reality an assemblage of elements—arguments, practices, plans and strategies—that originate in different moments and periods of history and thus have different durations and rhythms of repetition and change. In the following, we will use the term ‘temporal technology’ to single out these elements and analyse their inherent temporal structures. When and where were they shaped? How have they been transferred? What is their ‘effective history’ (*Wirkungsgeschichte*)? What are their rhythms and structures of repetition? How are they adapted to address present concerns, etc? In this way, we can analyse the pandemic as a synchronic now, or a ‘crisis’, and as a complex multitemporal event, in which different pasts, presents and futures keep unfolding, often in tension or complex with each other. The temporal technologies we will focus on are (1) mediated real time, (2) ruptured rhythms of the everyday, (3) the ‘new normal’ and (4) waiting and hurrying in the practice of medicine. We see this not as an exhaustive catalogue of temporal technologies, but rather offer these as particularly pertinent examples that serve to highlight the usefulness of the concept. We start by elaborating on our methodological framework of multitemporality and synchronisation.

SYNCHRONISATION

A central philosophical premise for this article is that time cannot just be understood as linear, Newtonian clock time. As argued by Herder (1799), every individual being, organism as well as natural features such as rivers, mountains and so on, have their own pulse and their own rhythm ([1799] 1998: 360). Different phenomena, then, cannot easily be reduced to one another’s temporalities or lifetimes. Humans do things to synchronise these temporalities, by measuring them, aligning them, making them seem to move at the same pace or by reference to the same events or markings on a clock or calendar. As processes, however, they are radically out-of-synch, and we may call this the work of synchronisation. Social time emerges as we do things in relation to one another by synchronising our actions to a common temporality (the more intense form of synchronised social time is explored in the study by McNeill 1997; see also, Kern 2003; Wishnitzer 2015). Being out of sync with one another is therefore a fundamentally asocial kind of behaviour.

Humans are not the only ones engaging in synchronisation (Schrader 2017). Other phenomena may synchronise too, or at least induce us to engage in synchronisation (Strogatz 2004). One such phenomenon is that of the epidemic, intimately entangling human and natural processes into momentous events that we all need to relate to and hence synchronises natural and social processes. Pandemic events synchronise a range of different temporalities, across states, knowledge fields and bureaucratic sites, as well as between humans and non-human organisms. Suddenly, we are all relating to the same phenomenon, making it the great synchronising yardstick for our social time. The epidemic is frequently represented as a ‘race’ between humans and the virus. Some states may be ‘behind’ or ‘ahead’ in infection rates or vaccination roll-out, but such representations are only possible by reference to the pandemic as a point of global macrosynchronisation (Ytreberg and Jordheim 2021). By using the set of temporal technologies that we here explore, humans have, through the pandemic, been synchronising in novel ways. Some of the effect of this is to fall out-of-synch with people we have previously been synchronising with (such as those sharing offices at work), yet we have also ‘super-synchronised’ with the epidemic as a whole.

By ‘temporal technology’ we understand a set of procedures that control, regulate, manage and indeed, produce and assemble time in relational networks of both human and non-human actors. The paradigmatic temporal technology is undoubtedly the clock, which has turned into a label for a specific kind of time, ‘clock-time’: empty, homogenous, abstract and put into the world by means of a specific technology. As already mentioned, clock time is not the only temporality around, and an analysis of complex social-natural interactions like epidemics requires taking into account multiple temporalities. The temporal technologies we have in mind here are more complex. Although they often involve some kind of time-keeper or time management gadget, they also involve a range of other less openly time-related practices (Kern 2003; Ogle 2015). For instance, the case of the quarantine clearly uses a concept of clock-time and calendar-time, marking the moment when quarantine begins and ends. Likewise, curfews have durations similarly marked by clock-time. However, these temporal technologies are put into practice by means of other more spatially oriented, large-scale practices, which involve people being locked up in rooms or camps. In other words, our concept of ‘temporal technology’ also owes a debt to the German media historical idea of *Kulturtechniken*, ‘cultural technologies’, which in addition to

mechanical gadgets include highly formalised social practices. As Bernard Geoghegan puts it, cultural technologies describe ‘how signs, instruments and human practices consolidate into durable symbolic systems capable of articulating distinctions within and between cultures’ (Geoghegan 2013).

Temporality and power are inextricably linked (Clark 2019). From Wishnitzer’s (2015) story of how Ottoman power holders would let underlings wait to Sharma’s (2014) service industry workers having to synchronise to their clients’ temporal needs, critical time studies abound with examples of this insight. Thus, temporal technologies are technologies of power, or at the very least involving power, and should not be seen as entirely separate from their political and structural use. Power may be most visible in temporal technologies such as quarantine, which forces individuals to wait it out for the benefits of others. Who has to wait for whom and who gets an exemption from the rules that imposes delays, restrictions and waits is a matter of power. In quarantines as in vaccination, we also see counterpower, or resistance, that Foucault tells us is a feature of all power, with individuals refusing, resisting or shirking. The story of accelerated vaccine development and distribution is also one that reveals and reinforces power relations, through who gets their vaccine first and who has to wait.

In this article, we will study ‘durable symbolic systems’ that deal with time in a pandemic. In other words, we will take a special interest in the fact that they are ‘durable’, and hence that similar cultural technologies have been part of different pandemic events in history. By breaking down the event of the pandemic into multiple temporal technologies, we hope to offer an alternative to *crisis* as the all-dominant temporal framework for understanding and acting in our current situation.

THE MEDIATISED REAL-TIME EPIDEMIC EVENT

Since a pandemic brings an increased vulnerability that has to be countered through physical distancing, social connection becomes more of a concern. And, since media are the main means of such connection, a pandemic will tend to increase reliance on them, both in social and informational terms. As for the latter, current news media are dominated by a ‘real-time’ temporal rhetoric of availability and updating that produces a mediated national and global instantaneity (Peckham 2020). In many respects, this real-time represents a continuation of broadcasting’s rhetoric of liveness. In the case of COVID-19, an avalanche of information is available via continuous live television coverage and on the many web pages that offer continuously updated quantifications of those infected, tested, hospitalised and dead. While this no doubt enabled a close monitoring of developments, it also exposes media audiences to frustrations that researchers have pointed to: media reporting in ‘real time’ brings an imperative to keep updating, and this may be a defensive action as much as a way to keep us on top of things; an ‘updating to remain the same’, as Chun 2016 puts in. Anxiety and frustration may result, particularly if basic uncertainties persist, as they have done in the COVID-19 event. In the case of COVID-19, anxiety is further provoked by the constant churn of media controversy and conflict, as well as the tendency for news media to emphasise drastic scenarios and demand ever-more drastic measures to meet them.

Research on the mediation of other types of disasters by digital and social media suggest yet other sources of tension. A study of the mediation of virus pandemics from the Spanish influenza to COVID-19 shows how newspaper coverage of the former pandemic did not focus much on the responsibility of

authorities, politicians and medical experts to halt or check the advance of viruses (Ytreberg 2022). Pandemics were perceived in the media to come over the border and pass through like weather, in the sense that individuals or authorities were not to blame. Between 1969 and the 2020 COVID-19 pandemic, however, there emerged a plethora of parties to hold responsible. Journalism historian Michael Schudson has called this the ‘rise of the right to know’ (Schudson 2015). It was however also a rise of new roles of authority. The intense media coverage featured a great number of medical experts and authorities, from the heads of the Health Directorate and National Institute of Public Health, the Directorate for national security, medical experts in immunology, epidemiology, microbiology and related medical sciences, hospital directors and doctors. These were all variously used as authoritative sources and held to account, as were the top politicians, particularly the prime minister and minister for health, who would join top medical experts in daily briefings from the decision on 12 March 2020, to shut many of Norway’s vital societal functions down. These political and medical authorities also wrote op-eds, thus actively joining public debate with journalists and editors. Generally speaking, op-eds and opinion journalism now played a central role, as opposed to the mediation of pandemics before 1970. This meant the unfolding of the pandemic became a site of continual political contestation. Medical, political and medical actors were often pitted against each other on how to handle the pandemic and internal disagreements were also highlighted within these professions.

A further challenge with the way information was mediated in the COVID-19 event lay in the prominence of future scenarios based on mathematical data modelling. These had been developed as key means of increasing pandemic preparedness. The harnessing of ever-increasing computer processing power made it possible to crunch data on the genesis, spread and impact of the virus, in order to model what was likely to happen in the future (Anderson 2021). Ideally, this would pinpoint risk more accurately and help authorities in their actions to contain and defuse the virus, for instance, ‘flattening the curve’ of those in need of intensive care. The information produced in this way, and eagerly relayed by the media, was cloaked in the authority of quantification and ‘big data’ computerisation. The so-called probabilistic logic that could be used by means of these technologies enabled a fine-tuned description of the risk of some future viral spread and damage. At the same time, the reality status of such models for the future was diffuse and hard to comprehend. It described complex sets of possible developments, virtualities rather than realities. Probabilistic logic was much harder for audiences to fathom than simpler assertions of fact and they were also hard for the media to communicate in a climate of intense competition for media attention.

CHANGED NORMS AND DISRUPTED RHYTHMS

The media’s ‘real-time’ information machinery coupled with an increasing presence of medical authorities arguably spurred a collective alertness to any demands on social behaviour. The unfolding pandemic was presented in numbers: statistics over rates of infection, numbers of hospitalised and deaths, but they were closely followed by calls on individuals and groups to align to acceptable behaviour in order to ‘flatten the curve’. The media, often also acting as a conveyors of official policy, thus offered an ‘understanding of (altered) life conditions’, thereby changing the nexus of warranted practices. In some places, this took the form of coercive measures and disciplining, while in others it had features of what Foucault would call governmentality; instilling

in citizens why they must act in a certain manner *for the common good* (Foucault 2008). At the core here is the government of self-government in ways that disrupted established and traditional ways of proper behaviour.

Traditions represent inherited modes of being which through physical or discursive repetition become embodied experiences (Shotter 1993). What is learnt through repetitive action is stored as subconscious mechanisms that come into play in social interactions. A general sense of ethics is part of these mechanisms and rhythms, meaning that we usually do not have to stop and think about the way we should behave in everyday situations (Schatzki 1996). In this way, the commonly accepted norms for social conduct—or traditions if you will—help smoothen the interaction between people. Tradition is thus not the idea of a past that lingers on in the present, but a complex temporality that comes into play in various interactions in the social realm (Asad 2015). It is, in short, a temporal technology. What happened in the course of this pandemic, however, is that some of the basic ideas of common conduct were altered. We were no longer supposed to touch when we met. Being observed in crowded public areas without wearing a face mask was suddenly a violent breach of norms. The new rules of conduct were suddenly implemented, throwing our finely tuned social apparatuses off guard. Nevertheless, within a very short time, people internalised the practices that the pandemic measures laid on them, using a new set of rules as well as media to synchronise to the extent possible. As social beings, we quickly adopted the sense of living together in ‘a new time’, arranged symbolically in alternative greeting forms, alternative clothing (face masks) and other changed forms of conduct. Claiming that everyone reacted, or indeed were able to react, homogeneously, is of course erroneous, as we will further explore below. However, the strong impetus from officials and media to change practices laid down normative claims for acceptable and unacceptable behaviour, framing those who did not adhere to the rules as outsiders in the ‘collective effort’, indeed as not able to ‘keep together in time’ (McNeill 1997).

The arrangement of collective social conduct is deeply temporal (Lefebvre 2004). Therefore, a sudden rupture of the normal rhythm brings about reflection of the temporal regimes we inhabit. If one temporal regime is the conception of linear time, its social function is that it reduces temporal saliency: its smoothness and flatness is its primary trait. In the modern era, the sensation of living in a time that is linear and ‘empty’ has arguably helped to remove the sense of time itself, pushing temporal experience into the background. This idea of time that has arisen in the modern, Western epistemology, most illustrative in Kant’s postulation that time is a priori, is perhaps also what has allowed for the feeling of rapid acceleration. Just like a car cannot accelerate on a severely bumpy road, man cannot speed up his tempo unless his temporal sensitivity is flattened. By ruling out time, if you will, or at least reducing its saliency, the modern human can focus on ‘more pressing matters’, such as materially improving her living conditions.

What happens, then, when we experience time as coming to a halt, is that we become aware of this perceived linearity itself. The longing for things to ‘go back to normal’ is in this sense a longing for living in a time where time itself is not something to reflect on. A lot of the vocabulary that is invoked when speaking of other crises, such as the climate crisis, reflects this longing, especially the vernacular of the ‘green shift’ that posits that humanity can continue their march towards the future in the same straight-line manner, although exchanging fossil fuels for so-called green energies. The idea of ‘flattening the curve’ or reducing epidemic ‘waves’ in the COVID-19 response brings

about the same metaphor. These vocabularies do not address what is arguably a phenomenologically different sense of time, or the sense that there are multiple times and multiple temporal schemes. Rather, they accommodate a nostalgic idea of a past time when things were simpler, notwithstanding whether linear time indeed ever was the ‘only’ temporal regime for humans or not.

NEW NORMALS

A common response expressed around the world at the beginning of the COVID-19 pandemic was that ‘we are all in this together’. The expression of this statement, especially by politicians, is rightfully problematised for implying a sense of shared experience that relies ‘on a false assumption of equality’ between everyone who is affected by the pandemic and for not acknowledging the differences in exposure and vulnerability to the virus (Caduff 2020). In many places, access to clean water is a challenge, making it hard to comply with the advice to regularly wash hands. Furthermore, ‘shelter in place’ is simply not an option for many. However, the prevailing expression ‘isn’t it strange that the whole world is suddenly affected by this, everyone at the same time’ is not necessarily always a privileged assumption of equality either. It is indeed pointing to the reality that the pandemic is a common concern and problem for everyone in the world. Regardless of how differently we experience and relate to this viral disease, we are all trying to adjust to the temporalities of the pandemic.

From an evolutionary perspective, this pandemic is the beginning of a process whereby two different organisms that have never met each other will learn to live together (Varlık 2021). Everyone is simultaneously trying to keep up with and slow down the speed of the virus. The strategy of the virus is to kill slowly and spread quickly; killing its host slowly ensures a longer time of infectiousness while mutations work towards increasing the rate of replication, hence spread (Nguyen 2019). Our ability to live together in our own species depends on our ability to adapt to living with the virus. The social factor that plays an important role in this speed equation is the ‘infrastructures of connection’ (Nguyen 2019, 158). This involves ‘the actual practices involved in the making of epidemics as embodied, encultured and materialised events’ (Nguyen 2019, 163). One of the apparent reasons why we very quickly became engulfed in this pandemic ‘all together’ is also because of the social, financial and industrial connectedness of the social world we live in. The different regulations and restrictions imposed to keep up with the temporality of the virus can thus be understood as an attempt to interrupt our *normal* ‘infrastructures of connection’. Nonetheless, these interruptions are eventually paving the way to our ‘new normal’ ways of living. As the pandemic is stretching into an unforeseeable future, we are repeatedly adjusting our daily routines and life to rapidly changing measures and restrictions. The ‘new normal’ is becoming a collage of the answers we can provide to the question: “how and through what mechanisms can we continue to live together” (Kelly, Keck, and Lynteris 2019)?

It is not uncommon for a ‘feeling of temporal discontinuity’ to arise with the disorientation of our daily life and inability to plan into the future (Frederiksen and Dalsgård 2014, 3). Our lack of control over time and how we live our life challenges our ‘sense of agency’ (Frederiksen and Dalsgård 2014, 2). Although ‘new normal’ ways of living are in the making with imposed quarantines, curfews, requirements to wear face masks and working/schooling from home, we cannot assume that

these ‘temporal technologies’ are exempt from interpretation and judgement. They are not homogenous pandemic survival kits. Every new rule and instruction is also an opportunity for individuals to reinstate a sense of agency. When living life as we used to do is declared ‘risky’ or in some cases ‘illegal’, our mundane behaviours and practices suddenly afford multiple layers of reflexivity and become morally charged actions. The consequences of complying with these rules that are constantly in flux have different consequences for individuals depending on their social situatedness and circumstances. Another reason for our ‘feeling of temporal discontinuity’ is the out-of-synchness of and between our social lives. The lack of shared movement inevitably reduces our emotional sensations and capacity for cooperation, which weakens what McNeill calls our feelings of ‘muscular bonding’ (McNeill 1997). When the temporalities of our individual lives are out-of-synch, we can no longer ‘keep together in time’ and therefore phenomenologically struggle to keep ourselves in the continuum of time (McNeill 1997). Maybe one commonality across our ‘new normals’ in the making, is therefore that of waiting in a temporal discontinuity. Whether it be waiting in quarantine, waiting for a vaccine, waiting for the right time to take risks and naïvely waiting to see the end of this biological threat, the state of active yet temporally detached waiting frames our daily lives. Yet, looking at the social history of epidemics, we are reminded that ‘the biological epidemic and the social epidemic do not necessarily recede on the same timeline’ and “social lives of epidemics show them to be not just natural phenomena but also narrative ones: deeply shaped by the stories we tell about their beginnings, their middles, their ends” (Greene and Vargha 2020).

MEDICAL WAITING AND HURRYING

The fact that the highly temporal concept of *crisis* comes from Hippocratic medicine may give some indication to the importance of temporality in the practice of medicine. There are critical times, when a lot of things have to happen quickly in order to have the intended effect, and there are times when waiting is just the best cure and the best prevention technique. Because the medical side is so temporal, and that this temporality is so crucial for the handling of an epidemic, we deal with temporal technology both under a subheading of quarantines and under the subheading of vaccines.

Quarantine

In the repertoire of temporal technologies used to handle epidemic outbreaks, few have such a long pedigree as that of quarantine (Bashford 2016). While most other medical technologies have come into being and passed away, the practice of quarantine has remained surprisingly similar over time. Or, to put it in historian of quarantine Alishon Bashford’s words: ‘There are very few medical practices that cast back and forward in time with such full and easy comprehensibility’ (Bashford 2020)² Hence, there are few that to the same extent invokes a ‘contemporaneity of the non-contemporaneous’. Quarantine was at the same time a practice which took part in the connections of trade, capital and empire, and yet a practice which hindered such connections. As such, it became increasingly controversial during the 19th century, as a result of the increasing economic globalisation (Katrina (2007). According to Engelmann and Lynteris (2019, 14), ‘What was sacrificed [in quarantine] was the key component of capital production: quantifiable time’. Quarantine came to be seen as a threat to commerce and the wealth of nations, and became regarded as outdated, anticommercial and antisocial.

And yet, the fact that quarantine measures were reinstated in response to the COVID-19 pandemic is a careful reminder of its historically prominent role in disease management.

Quarantine has been in use for centuries, since the gloomy days of the Black Death, and is the most well-known and widely applied among those technologies. It was first practiced by the authorities of the 14th-century Ragusa (modern day Dubrovnik). By denying ship crews and the goods that they brought entry for a limited amount of time, Ragusan authorities aimed to make sure that ships from distant lands did not cause the spread of a possible contagious disease. Primarily designed as a 30-day period, this practice was adopted by other states such as Venice and its duration was then increased to 40 days, hence the name quarantine (from the Venetian dialect *quaranta giorni*, which means 40 days). There is no agreed on reason behind the number 40 among historians, however some scholars have claimed that it might be related to its symbolic significance in Christianity:

The forty-day period regularly features in the Bible: it was the period of the flood in the Old Testament; Moses went to Mount Sinai for forty days before receiving the Ten Commandments; Jesus was tempted in the wilderness for a period of forty days; he appeared to the disciples forty days after the Crucifixion. (Crawshaw 2012, 7–8)

In addition, Hippocratic medical tradition also offered 40 days as a critical period to discern whether a disease was chronic or acute (Gensini, Yacoub, and Conti 2004).

Whether influenced by Hippocratic teachings or religious symbolism—though one cannot claim that they were mutually exclusive at all times—this precautionary practice persisted in the premodern world mainly relying on a theory that aimed to explain contagion, namely the miasmatic theory. Attributed to Hippocrates and Galen, this theory asserts that miasma (bad air) is the fundamental cause of epidemics. That is to say, vapours from polluted or decayed materials (eg, corpses of animals and humans, excreta of the sick, spoiled food) could corrupt the air and lead to diseases. Further scholarly contributions of physicians supported the miasmatic theory to some extent, such as Girolamo Fracastoro’s treatise *De Contagione* (1546), which underlined that direct contact might cause the spread of the plague.

Quarantines defined the pace and the structure of maritime commerce and travel. As the crew, the passengers, and their cargo were directed to *lazarettos*, where they would stay for the required period, all the goods brought to the port were cleaned by fumigation. Historian Daniel Panzac points out that in Mediterranean maritime commerce, the waiting period was determined according to the ship’s place of departure. If it was coming from a town where there was a recent plague outbreak, the ship was viewed as ‘high risk’ (*brute*). It was categorised as ‘suspect’ (*souçonnée*), if there were some rumours about plague in the departure town. The ship was regarded ‘clean’ (*nette*), if there were no cases of disease in the place it weighed anchor from. The waiting period for the goods could go up to 60 days in cases of high risk, whereas passengers and their cargo could spend relatively less time in quarantine on the condition that they travelled from ‘clean’ towns (Panzac 2010).

Effectuated by WHO’s declaration of ‘crisis’ and the media’s constant real-time coverage of the virus’ development, ideas of ‘high-risk’, ‘suspect’ and ‘clean’ items and individuals were once again actualised in the public’s imagination. However, there was initially resistance to implementing quarantine in Western countries. Both WHO headquarters as well as many Western countries warned against lockdown and national and

geographical quarantine. WHO report of the WHO-China joint mission on the COVID-19 disease concluded that ‘Much of the global community is not yet ready, in mindset and materially, to implement the measures that have been employed to contain COVID-19 in China’. In Norway, the National Institute of Public Health warned first in January and then again in February that measures such as quarantine on entry and of close contacts was a measure that was too comprehensive (Tobiassen, Lie, and Aavitsland 2021). Pandemic plans prior to COVID-19 was to a large extent modelled on influenza, and in a systematic review on non-pharmaceutical interventions published by WHO in 2019, it was concluded that quarantine would not be applicable in any stages of an outbreak, due to ethical aspects, use of resources and lack of feasibility. Dolan and Rutherford (2020) have argued that the difference in response in the Asian and the Western countries can partly be explained by previous experiences. Whereas in the West, influenza pandemics in the 20th and 21st centuries were the main template, in Asia it was the SARS pandemic that patterned the response. Several countries including China quickly introduced quarantine, social distancing and other measures severely restricting individual movements to the minimum. Vietnam and Singapore used the same pandemic plans they used in the SARS pandemic, while countries in the West turned towards existing plans for influenza.

As the pandemic drew on, however, quarantine practices were implemented and accepted as reasonable measures in countries all over the globe. The need to use all resources available led to the reinstatement of measures that up to that point had been thought of as anachronistic, thus mediating historical experience to present-day needs. An interesting side effect of this sense of the contemporaneity of the non-contemporaneous was that many people, suddenly finding themselves in quarantine in the spring of 2020, turned to novels about historical epidemics to make sense of their own situation (Flood 2020). It is also interesting to note that while resources are being poured into vaccine research, these older public health measures that governments and societies turned to during the pandemic are subject to much less scientific inquiry.

Vaccines

Among the various temporalities synchronised by an epidemic, research and development—perhaps most crucially that of vaccines—are the seemingly slowest. The development of a vaccine against COVID-19 happened at an unprecedented speed, and the first was ready in just 11 months. While this depends on the kind of microbe to be vaccinated against, it is not rare for a vaccine to take a decade to develop. Since the first news of the spread of COVID-19, historians of epidemic diseases have compared it with humans’ experiences with past epidemics. Even though we have found ways to eradicate some of them (eg, smallpox) or mitigate their effects (eg, tuberculosis), some diseases are still present in parts of the world. In the case of cholera, this serves as a reminder of global inequalities and perhaps also the contemporaneity of the non-contemporaneous. This is also the case with plague, which from time to time breaks out in central Eurasia or the southwestern USA. As scholars of global health have pointed out, human-microorganism interactions will give way to new forms of diseases as they have for millennia. The discussion on inoculation that was taking place in 18th-century England was strikingly different from discussions about the effectiveness of vaccines and the highly politicised decisions of today’s governments to buy one brand over the others. At that time, the issue at hand was whether to apply

an unfamiliar folk medical procedure called ‘engrafting’ as a way to fight the smallpox epidemic. This method, which included putting a piece of pus from an infected body to the vein of a not yet infected person, had been observed by an Englishwoman named Female Mary Wortley Montagu (d. 1762) during her stay in Ottoman lands as the wife of the English ambassador to the Sublime Porte, Edward Wortley Montagu.³ “The small-pox, so fatal, and so general amongst us, is here entirely harmless by the invention of *ingrafting*, which is the term they give it”, she said, in one of the letters she sent to her friend Sarah Chiswell in 1717 (Montagu 1861, 308). According to Montagu, this procedure was applied by a group of women, not authorised physicians, to tens of children. Moreover, she was ‘patriot enough to take pains to bring this useful invention into fashion in England (Montagu 1861, 309). In fact, she had her own children inoculated by using this method. The transfer of knowledge from a group of women empirics living in the Ottoman Empire to England can to a great extent be called the work of an elite woman, who was bold enough to administer it to her own children, along with those scholars who were willing to support her in these new methods, which were already being experimented with in different ways in other parts of the world (DeLacy 2016). However, this was not a smooth import of know-how at all. Challenging established medical practices, inoculation caused a lot of contention among prominent physicians of the Royal Society.

Smallpox was announced to be eradicated in 1980 as the result of a global human effort (Bollet 2004; Greene and Vargha 2020). While waiting for our turn for the COVID-19 vaccine shot, the story of variolation we have briefly covered here, whose *dramatis personae* primarily consist of Ottoman folk medical practitioners and an English elite, might create an optimistic illusion of ‘we are all in this together’ in times of pandemics, fighting for the same cause. We are certainly not. Those who have the privilege to work from home could hashtag #stayhome, whereas many others have to work outside their dwellings. Drawing attention to the age of great acceleration we are in, Monica Green urges us to think about the connections between the infrastructures we have created and the pandemic we are facing:

A disease perfectly suited to the networked global economy, the speed of aviation, and the poverty and vulnerability of manual laborers, COVID-19 has exploited the weak social infrastructures of our interlinked global economy. Internationally transmitted primarily by jet-setting classes that moved the disease around the world in January and February of 2020, those classes—once they found themselves infected or at risk—could quickly self-isolate and ensure for themselves access to high-quality medical care. Such measures did not protect all the wealthy and well-situated. But they protected most. Thereafter, the disease has been sustained and amplified by moving through the classes of local service-worker populations—the (usually low-paid) workers who sustain the jet-setting classes by tending to their physical needs for food, cleaning, grooming, and entertainment. And then it moved into the infrastructures of major metropolises and the classes of workers that keep the engines of those societies running. (Green 2020, 242)

This is certainly the case in the distributions of vaccines as well. The political game of who gets vaccines first has shown the gross global inequality between countries, and a race between states for becoming ‘first’ in vaccinating their populations. Consequently, the various temporal tensions that humanity have been subjected to during the course of this pandemic, such as waiting in quarantine, experiences of being out-of-synch with one’s fellow members of society and increased anxiety and stress due to incessant media coverage, will have longer durations for

some than for others. Therefore, as we are waiting for WHO to declare the pandemic's end, this 'end' will not be as synchronous an event as the outbreak was.

CONCLUSION

Understanding pandemics as *crises* gives us a poor analytical frame for understanding the fuller complexity of temporalities involved. Moreover, it gives little leverage to understand how the pandemic is experienced and the measures we employ to contain and deal with them. Pandemics are met with a repertoire of different technologies and practices, most of which have a temporal aspect that is crucial to how they work. As extraordinary measures, they are typically also instituted on a *temporary* basis, but often also with long term consequences. The desynchronising of social time that many of these technologies produce, deliberately or as a side effect, fragments society at large into clusters of households and other smaller units. Just as fragmenting global governance structures actualised nation-states as loci and actors of pandemic response, so has the deliberate desynchronisation of social times actualised smaller units as the temporal yardstick of people's lives. The anecdote of Newton closing himself in to wait out a plague in the 17th century is the story of someone who was able to function desynchronised from society at large, perhaps in a situation where the society fragmented through a sudden disruptive and desynchronising of social temporalities.

Correction notice This article has been corrected since it was first published. The licence has been updated to open access CC BY.

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Contributors The authors have contributed equally to the article.

Funding This study was funded by Norges Forskningsråd (283375).

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not applicable.

Ethics approval Not applicable.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data sharing not applicable as no datasets generated and/or analysed for this study. There is no data to share.

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NOTES

1. 'Be lazy, save lives', Germans urged in COVID video. Reuters 16 November 2020, <https://www.youtube.com/watch?v=FS1DDn2ekIU> (accessed 3 February 2022).
2. <http://somatosphere.net/forumpost/beyond-quarantine-critique/>
3. It is important to emphasise that we are strictly talking about the British case here, which has been investigated meticulously in Margaret DeLacy's book 'The Germ of an Idea: Contagionism, Religion, and Society in Britain, 1660–1730' (2016).

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