Researching Pandemics from Below

An Interview with the Medical Historian Frédéric Vagneron
by Janina Kehr & Ehler Voss

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Janina Kehr & Ehler Voss As a historian of medicine and science, you have been working for a decade on the science and epidemiology of the 1918 flu in France, also known as the Spanish Flu. During your extensive archival research across the country, you have become increasingly interested in a historiographical approach that one could term "from below". Historians like Arlette Farge (2019) and Michel Foucault have advocated this approach, for example in Foucault's famous text "La vie des homes infâmes" (1977). One aim of this approach was to give visibility to the voices of those who are rarely heard in official, institutional accounts. To what degree is this approach relevant for the Spanish flu? And where do you see its originality?

Frédéric Vagneron I think I need to start with the historiography of the Spanish flu: it bears the mark of an American historian, Alfred Crosby, who wrote the book "Epidemic and peace" in 1976, and it then became "the forgotten pandemic" ten years later when it was republished during the HIV/AIDS pandemic (Crosby 1976, 1989). This book was innovative in many ways: it framed the story of the Spanish flu pandemic in an American context as a "forgotten" event. This narrative has been the leading one for a long time for the scholars working on the 1918 pandemic.

It's a very provocative way to frame the story of the Spanish flu, considering the huge death toll of the 1918 flu in the US and elsewhere: you may know that the last estimate of the death toll during the Spanish flu is between 50 and 100 million people (Johnson & Mueller 2002). Hence the big enigma: how is it possible to have a forgotten pandemic and at the same time something that was so deadly? That was my starting point as a scholar: was it forgotten? In what ways was it forgotten? Is it a question of memory? Is it a question of the event as a process? Is it the official and national sources used by historians and the questions they brought to interrogate them? A lot of different questions!

In different national contexts, historians have been working with this US-centric narrative. But other historical narratives are also crucial to understand how the Spanish flu has been experienced.

In Europe for instance, the prominent narrative was that of the Great War, the tremendous human loss and its social consequences. In France, 1.4 million people died during the Great War: the Spanish flu broke out only at the end of the war and represents only a fraction of the population loss during this time of crisis. The pandemic started during the spring of 1918 and ended during the negotiations leading to the Treaty of Versailles in 1919. From the statistics, it is difficult to say precisely how many people died from the flu pandemic in France, but roughly 250,000. In France and in Europe, the Great War has been a leading field in historiography, which made it more difficult to study the Spanish flu event per se, while placing it in the specific context of the war.

Working on the Spanish flu "from below" means trying to access how the population experienced the pandemic and its many temporalities and social traces in societies profoundly affected by the war. What are the temporalities of the pandemic? It sounds like an easy question! But it is much more complex than what you might think. You need to question the temporalities of an epidemic proposed by Charles Rosenberg (Rosenberg 1989). The story of epidemics as dramaturgic forms (with a beginning, a peak, and an end) does not fit so well when you are working on the Spanish flu in 1918 (and probably even less in the

face of a disease like Covid, which is caused by different strains with various temporalities of propagation and epidemiological signatures). The beginning of the pandemic remained "silent" during the spring of 1918, the peak of the autumn wave was blurred by the last military offensives and the armistice, and the end of the pandemic stayed rather unnoticed if you look at the main official archives ...

What was the experience of the people not only through the lenses of the state, science, and medicine? When you work in the archives, you collect new material and start to build a new understanding of the Spanish influenza that connects small insights gathered in different archival stocks. Some come from soldiers, some from families. The war itself created its specific archives: for instance, the correspondence between the soldiers on the front and their families. This type of archives is interesting because, despite the military censorship, you access other layers of experience: what is happening to the soldiers at the front, how they tell their relatives or what they don't say about the epidemic, what they actually know about the epidemic elsewhere in the country, and how they worry about what is happening on the home front.

From that starting point, "the forgotten pandemic" narrative is challenged by various local archival traces. This alternative account of the pandemic is important, because it makes you think about the variety of experiences from one place to the other, from one community or social group to the other, from one individual to another. In 1918, the population and the authorities had some understanding that the pandemic was international in its propagation, but that does not mean that its consequences are similar everywhere.

It sounds obvious in the light of the Covid-19 pandemic, but it is a challenge to document a century-old event that now is remembered as a global scourge. What becomes clear when you collect the sources is that the experience of the epidemic, even in one country, is really fragmented both in temporalities and geographically. Variability becomes an essential concept; it describes the variety of the symptoms, of the experiences, and the tremendous challenge for the medical profession, scientists, and states.

Janina Kehr & Ehler Voss Let's stick with the question of fragmentation and regional and national variability, also to get a better idea of how you work as a medical historian. You have worked on France in particular. How was the 1918 flu archived there? You have already mentioned military archives, as well as communications between soldiers at the front and their homes. So what were your different archival sources, where did you find them?

Frédéric Vagneron The main archival places where you find some information about the influenza pandemic are, of course, the public archives. But in France in 1918, there is no ministry of Health or Public Hygiene. The main department of health belongs to the "Home Office" (*Ministère de l'Intérieur*). And most of its archives burned during World War Two ... Furthermore, the Great War had a huge impact on the way the population's health is handled. The military medical archives (*archives du service de santé militaire*) are crucial for understanding how the pandemic was dealt with in 1918. Most of the men were in the army and the incorporation of civilian doctors in military service had a profound impact on the management of health in the civilian population. But these military archives had no detailed catalogue before the first decade of the 21st century. These archives tell you a story of the epidemic in the military, but you also gain some insight about what was going on in the countryside and cities far away from the battlefield, as military doctors were sent to the civilian population in emergencies.

Local archives are then the bulk of the sources. During my PhD, I went to many towns in France, around 25 municipal archival settings, to look at both municipal and departmental sources. The *department archive* provides you with information not only on the bigger cities, but also on villages and the countryside. That's almost the only way to know what is going on, on this local scale.

But the sources there are very heterogeneous. I went to Brest in Brittany, for instance, because the influenza epidemic was reported first in the American troops crossing the Atlantic during Spring 1918: but you have no mention of influenza in the archives before late August 1918. Then I went to Paris, of course, Lyon, Montpellier,

Tours, Grenoble, etc. I went to Marseille; surprisingly, there was almost nothing about the flu even during the peak of the pandemic in September-November 1918. Public health officials were still talking about the cholera of the 19th century and the risk of epidemics coming from the Mediterranean Sea. In the beginning of 1919, there was also a minor typhus epidemic, on which all public attention focused, because such an epidemic would be a major blow to public health after the war. You know at the same time that the influenza pandemic was in its third wave in the country: but in the archives, you have almost nothing about influenza.

So, at first, I was trying to collect all the traces that I could find, starting with the public health institutions, but more and more I found documents showing a silent tide of the pandemic that needed additional inquiry. For my research, a way to focus more on this approach of the "history from below" was to look at funeral services.

Janina Kehr & Ehler Voss Why the archives of funeral services?

Frédéric Vagneron Why did I use this approach to work on influenza? It's because influenza was and still is a difficult disease for doctors to name because of its many complications and its blurry clinical picture. When practitioners or civil registrars wrote the cause of death on the death certificates, it was sometimes influenza, but most of the time it was other diseases: bronchial pneumonia, pneumonia, etc. Of course, this raises questions about the reliability of the statistics. But whatever the cause of death is—if influenza is written on the death certificate or if it is something else—authorities and families had to deal with the dead bodies. So how did they manage to deal with these dead bodies in this time of crisis?

Here I was building on an important body of literature available about different recent health crises, such as the big heat waves in Chicago in 1995 and in France in 2003. Hurricane Katrina was also something that was really interesting to me, because you have this "natural" event revealing social inequalities. The question of the management of dead bodies, hidden behind the mortality figures or medical controversies, is fascinating (Laqueur 2015). It brings up the ways the community faces an event that might be invisible elsewhere in the sources and the potential rupture that the health crisis brings in public opinion when the deceased are not treated with the dignity that corresponds to the norms of the time. It also brings up the memory of past pandemic events and "the plague narrative" associated with mass graves: that's something that came back again during Covid in New York, in Manaus, Brazil, and in France (Rungis, a Paris suburban area, became a temporary place to store coffins and bodies at the end of March 2020 because of the increase in mortality in the Paris area). So, this line of research became a way to systematize my research on this other narrative, going beyond the hypothesis of the forgotten pandemic.

I compared the management of corpses in Paris and in Grenoble in 1918. Grenoble experienced a major crisis. The local administration had outsourced funeral activities to a private company: they were unable to deal with the huge number of dead bodies in October. There were public investigations following this crisis, and the socialist press accused the municipality of mismanagement.

In contrast, in the archives in Paris, I found much information about the management of dead bodies in 1918, which was striking in comparison with the lack of documents in the public health boxes. That's the pleasure of the historian: I always think that there is a mine of information somewhere in the archives and I just need to find the right key to order the right box. If it is not the one labeled "Influenza pandemic", then it's just that you have to order something else. What you need here is the right question: and for me it was the role if the funeral service in the crisis process. I found that the organization of Parisian funeral services made it possible to continue acting to cope with the sudden increase in burials. But you need to relocate what happened in 1918 in the situation of the service the previous years. Paris had built its own municipal service after a law in 1904 and used a big building in the North of Paris, created at the end of the 19th century, and employed more than 1,000 people to organize the funeral services. They called it "l'usine de la mort"—the "death factory"—and in this huge building, people sawed wood for and assembled the coffins, there were tailors, there were the grooms and drivers

of horse-drawn carriages … At the end of October 1918, the Parisian funeral services carried out nearly 500 burials daily. Thanks to the hard work of hundreds of employees, the epidemic in Paris did not cause a scandal like the one that took place at the same time in Grenoble.

These two cases allow us to contrast certain decisive factors. The political choice to delegate direct responsibility for the management of the dead to the municipalities: this was the case in Paris in the form of a municipal funeral service under the direction of the Prefecture of the Seine, which most certainly made it possible to deal with the mortality crisis. In contrast, the Grenoble funeral service, subcontracted to a private firm, was unable to adapt as quickly to the influx of victims, leading to a radical questioning of the municipal authorities, who were deemed responsible for the dramatic situation.

This work shows that the capacity to manage a situation of extraordinary mortality rates also rests on previous transformations in how bodies were buried: based on the archive material, I can emphasize the role of the new cemeteries created on the outskirts of Paris, which made it possible to "absorb" the quantity of corpses, often of people belonging to the least privileged classes of the population. Many new cemeteries were located extramurally, outside of Paris, but they belonged to the municipality. The famous Père Lachaise cemeteries and the cemeteries Montmartre and Montparnasse were the big ones in the 19th century. But they were crowded. They created new ones in Pantin, Evry, etc. at the end of the 19th century. The lower social classes were buried in these cemeteries outside of the city. The rich people would still have some vaults in the cemeteries in Paris. Rich families would still have the traditional gathering of people coming to the funeral service during the pandemic in 1918. But most of the population was burying its dead with much less visibility in the big cemeteries outside Paris. One local politician in Clichy, for instance, tells in his Great War diary, that he is attending the funeral of his niece in October 1918. He describes this event in a very shadowy and lugubrious tone. His narrative depicts how the service works to bring the coffin to Pantin.

Overall, in Paris, the invisibilization of death in the time of the epidemic is the result of the public management's success: the extreme flow of mortality was mitigated thanks to an extraordinary adaptation to the epidemic challenge and to a differentiated spatial treatment of the dead according to their income. Maintaining an industrial, but decent management of death in the autumn of 1918 avoided the political scandal that was rampant in Grenoble at the same time. But it was at the cost of a drastic restriction of the funeral rite and of a generalized anonymity, breaking with the fast that distinguished previously individual funerals and with the emerging celebration of the lost heroes of the war (cp. Vagneron 2022).

Janina Kehr & Ehler Voss What material would you like to be available for Covid-19 historians in the future?

Frédéric Vagneron That is a difficult question, because what you want to document is the variability of the disease and of the experience of the sickness: not only telling the story of people who died from influenza or Covid—but also the story of the people who got sick (including with this debated category of Long Covid) and those who had no direct contact with the disease.

One thing that is really important in the Covid pandemic is the role of the hospital system. The lockdown policies in France, for instance, were related to the fear of having a big wave overwhelming the hospital system. The challenge was to avoid forcing professionals in the hospital to implement triage between two different patients diagnosed with Covid or something else. The lockdown policies were really related to the hospital infrastructure. It is really different from one country to the other. In general, I find it enlightening to think about how hospitals in the most developed countries encountered problems of lack of beds, staff, or drugs—shortages that have historically been associated with the most disadvantaged countries in the world.

On a more pragmatic and dramatic level, there is an obstacle to telling the story of people dying in the hospital. We read in the news many articles about people who entered the hospitals with a cough or short of breath and who didn't feel so bad at the beginning of their sickness. Many of them stayed for several weeks in intensive care

without their families and eventually died. How do you tell this story? How can you relate their experience and the experiences of their families? More generally, the experience of the health care professionals is also at stake, the nurses and doctors, etc.: all the grieving process becomes really difficult to document and to interpret. A year and a half later, with the vaccination campaigns now implemented and the political concerns about the return to normalcy (fueled by the health passport device), this aspect of emergency is already difficult to bring back.

Janina Kehr & Ehler Voss In our Curare Corona Diaries project, we collected diaries and intended to record the everyday aspects of the Covid-19 pandemic in different locations, also in anticipation of potential future historical research. As a historian of the present, how would you research this archive?

Frédéric Vagneron You first need to know who the people are whom you are investigating. You cannot compare one diary and the other just like that because of Covid-19. Covid-19 is a really fragmented experience … even for the doctors. The pediatrician looks at something, the dermatologist finds new symptoms, the internist looks at something else … and to me, the danger is in recreating an artificial common experience under the label Covid-19.

It is crucial to collect these diaries with all the methodological precautions. It's well documented in sociology and anthropology: people are going to answer your questions; the interview setting is not a natural discussion, but an artifact that carries many biases. Even if the person never thought about the question you ask, you will get an answer. It also means that you need to design your research in such a way as to find people who, for many reasons, did not care about Covid and its experience, to elucidate a sort of "zero" in the statistics. You need these other testimonies to control that you are not creating the information and the interpretation that you originally wanted. The list of questions that you use will somehow artificially connect people. Then I think it is interesting to enrich the analysis and your corpus with other documents to recreate the environment that is specific to each individual.

Janina Kehr & Ehler Voss Your methodological caution ties in well with our following question. The Covid-19 pandemic is being portrayed as a profound transformation of life for everybody, and yet, not everybody experiences or is impacted by the pandemic in the same way. Covid-19 is without doubt a global crisis in multiple ways, but many voices also question this crisis narrative, this narrative of exception. What was it like in 1918? How did the 1918 flu affect people differently? With 100 years of hindsight, what can be said about the tension between the crisis, the state of emergency, and the continuation of everyday life in 1918?

Frédéric Vagneron There are really interesting studies that have been done, mainly in North America, and I really recommend a look at the work of Esyllt Jones (2007). She worked on the Spanish flu in Winnipeg, Canada, and she explains how people dealt with having a father who died, what kind of solidarity emerged from this situation, and how the pandemic gave more visibility to women in the public sphere. The epidemic revealed the burden of inequalities in Canadian society, for instance in status and ethnicity. Nancy Bristow (2012) also worked with family archives in the US: both show that the idea of the" forgotten pandemic" does not work on the family or community level. When you lose your father who is also the household's breadwinner, then you have to deal with a totally new situation (see also Fanning 2010). In Scandinavia, in Norway for instance, the difference in mortality and its consequences between the indigenous population—for instance the Sami ethnic group—and the ethnically Norwegian population was really important during the influenza pandemic. In many countries, social inequalities worsened despite the narrative of influenza as a "democratic disease" that long prevailed because statisticians couldn't really demonstrate, as they did in the 19th century for tuberculosis, that influenza was a social disease. But in 1918–1920, if everyone was susceptible to the virus because we know retrospectively that it was a "new" virus, not everyone was equally exposed. We have the same with Covid-19: it depends on your occupation, where you live, your access to care, etc. Who can work from home and follow the public health recom-

mendations and who cannot? The social world of health care comes back: social distancing measures are interesting phenomena because they are based on science, but totally ignore the everyday life of large parts of the population. What they dismiss is the social inequalities in health among communities, which is reflected in your body, your occupation, your age, and your access to healthcare.

Something striking to me when working on the French case is that, in 1918–1919, the influenza pandemic was only one episode embedded in many different events. People had so many other issues to deal with: the last military offensives, the reconstruction of the country … the pandemic was not the main headline. All the northern part of France was totally ravaged by the war and you had 1.4 million people who died during the Great War: there was a great shadow of death and mourning hiding the pandemic. It does not mean that the pandemic was forgotten: 50 years later, you can listen to the testimony in the recording of the radio broadcast of Robert Debré (1973), one of the leading medical practitioners in the country after 1945; he recounts how vivid and awful his memory is of the flu when he was a young military doctor in Tours in 1918.

Janina Kehr & Ehler Voss Current media play an incredibly important role in the Corona pandemic. And we can hardly grasp how they influence experience and action on so many levels. What role did the media play in 1918? Are there differences from and/or similarities to today? The media landscape back then is probably difficult to compare with today.

Frédéric Vagneron During the spring of 1918, there is a massive German offensive on the Western front, and the French censorship controls most of the news circulating in the public since 1915. As a consequence, the name Spanish flu, which circulated in the news at the end of the spring, reflected this desire not to demoralize public opinion during the war, by designating an epidemic event abroad. Yet, in the archive, a massive but mild influenza epidemic is mentioned in the troops in April, May, and June 1918. During the summer of 1918, some information about the epidemic in France is emerging. The main narrative is "We do have the flu in France, it is a European epidemic, but don't worry it is worse in Germany." And the telegraphic information network also informs the population of the pandemic elsewhere in the world. A pandemic is a global event only if you know that societies are affected in many areas of the world: the Spanish flu, like the Russian flu pandemic in 1889–1890, was broadcasted by the new worldwide telegraphic network built at the end of the 19th century. From September on, there is an avalanche of information in the news. In France, censorship is less strict because the authorities feel that from August on, they are going to win the war and the magnitude of the epidemic becomes difficult to hide. The medical controversies about the epidemic and the nature of the disease, the diversity of and often contradictory medical advice make the epidemic exist in public opinion. In that sense, all the scientific controversies that we have been facing since 2020 are something not really new.

But, when you study one epidemic, you need to keep in mind the risk of singling out this specific event and cutting its many ties to previous events. In my PhD, I worked on the Spanish flu. But it was inseparable from the memory of the previous pandemic, the Russian flu of 1889–1890. The memory of the Russian flu was pretty much still there and framed many discussions in 1918 in the press, but also in the memory of individuals. For instance, the first doctors in France who identified the flu on a clinical level, very early in April-May 1918, didn't have any knowledge of the virus at the time in 1918; the virus research starts in the '30s; so the first understanding that they were possibly facing an influenza pandemic in 1918 came from older physicians who had dealt with the Russian flu, 28 years before. During the Russian flu, there were many big controversies in the medical community about the etiology of the epidemic disease. These older doctors were very vigilant in 1918: there was no conclusive bacteriological proof at hand, but the complex clinical picture of the disease during the spring of 1918 looked like what they faced in December 1889. At the time, they had dismissed the severity of some cases of influenza and the consequences of such a "popular", even if not very lethal disease.

What I want to highlight is that you have to be careful, because you want to single out what is

going on now, just like when you are working on the Spanish flu you could think all the story is in the archives of 1918–1919. But the experience of the people is also a historical one; they do have a memory of their own, and it frames the event. Of course, if you bring this layer of historical experience of individuals, even when all the world is somehow struck by a similar disease, then it has a lot more complexity from one country to the other.

Janina Kehr & Ehler Voss Back in 1918, it was quite difficult for doctors to get a clear clinical picture of the disease and thus to write death certificates. The so-called bacteriological revolution was still ongoing, but viruses as such were unknown. How were the natural causes of the disease established? How did a clinical picture of the disease emerge? Which actors participated in the establishment of disease classification and based on what knowledge? Also, was there a discussion of mild vs. severe forms of disease, like we can see today? And, given that viruses were not discovered yet, what *was* the Spanish flu in 1918 and as what does it count today? What do you think about the question of retrospective diagnosis?

Frédéric Vagneron Here you need to make a detour through the social history of disease. To quote Andrew Cunningham (2002), what is the identity of the disease at the beginning of the 20th century after the so-called bacteriological revolution? Influenza is an interesting case because it was too complex to be "reduced" by the laboratory knowledge of the new germ theory ("one germ = one disease"): you have many controversies between bacteriologists, epidemiologists, and clinicians in the 1890s after the Russian flu, because they disagree about the role of the potential causative agent, the environment, or the individual terrain. With the laboratory revolution, medicine is moving to a more etiological perspective and the pursuit of the invisible causes of disease. Influenza fueled debates among the different medical disciplines. The clinicians referred to historical accounts and to the specific clinical picture of influenza, especially with the sudden fever at the onset of the sickness in comparison with mild winter colds. The bacteriologists tried to single out one causative agent. The Pfeiffer bacillus was once thought to be the influenza microbe: only later did scientists show that this microbe was in fact what we call now *haemophiles influenzae*. It is a common bacterium in the complication of influenza. The statisticians were really important, too. Their question was simple: how do you count a case of influenza? It is a similar debate we had with Covid-19, and a way to assess the burden of the disease is to count excess mortality. The statistician raises the issue of the complications related to the influenza infection. This debate has practical consequences. In the medical community in France in 1918, there was a wide consensus that influenza is not so important as a cause of death: what actually kills you is pneumonia, bronchopneumonia, etc.

All these debates came back during the Spanish flu pandemic. Was it a mild or severe disease? The debate raged about the etiology of the disease in the medical profession. Was it severe in most cases? Was the worsening situation during the autumn of 1918 related to an increase in the unknown microbe's virulence, or to the propagation of opportunistic diseases, or to environmental factors, or to the deprivation of the population during the war? Should the medical and sanitary institutions focus on prophylaxis against influenza or on the prevention of opportunistic diseases in hospital following a primary infection? The controversies in the medical communities were one of the main forms in which the pandemic drew attention in the news. One very specific signature of the disease in 1918 was the huge death toll among the young adult population. Most of the severe cases afflicted those between 18 and 60 years old, according to the statistics. This fact was highlighted at the time and it is, of course, an epidemiological feature very different from the situation with Covid-19 and its affinity with the elderly and people with comorbidities.

Janina Kehr & Ehler Voss Numbers, thresholds, and models largely determine current national and international public health strategies to manage the Corona pandemic. Where does this "trust in numbers", to cite Theodore Porter's work (1995), come from? Was this already established in 1918? What, in your point of view, has since changed?

Frédéric Vagneron The role of statistics is really important in the public sphere from the 19th century on. A basic question with these numbers circulating everywhere is: what are you counting and what for?

We need to go back to what "counting" mortality means practically. This person is dead from Covid, this one is not, this one is likely to have died. If you count Covid-19's mortality or the Spanish flu's mortality, you are supposed to count what is written on the death certificate (Cunningham 2002). But what you write on the death certificate depends on where you are. There are huge discrepancies in the world in 1918–1919. Why do you have the 50 to 100 million gap in the mortality of 1918? Because we have no idea about what happened in countries with no or very weak systems of death certificates and mortality registration. This impressive estimate of more than 50 million deaths is a construction of retrospective surveys made in the 20th century. During the 1918–1919 pandemic, the death toll was not precisely updated every day, as has been calculated since January 2020. But in 1918 as in 2022, it is striking how difficult it is to count the dead: it is an administrative, scientific, and political operation that cruelly shows social and political inequalities on a global scale.

With a new disease such as Covid, how the death is attributed to this new disease on the certificate is obviously crucial. What is needed is some infrastructure and some kind of agreement among the people who are counting. Historically, the WHO has been one of the main institutions trying to standardize this. In February 2020, a WHO committee working on the classification of disease tried to synthesize what the identity of the disease was, to go back to Cunningham, so that medical doctors and public health officers could write Covid-19 in Lusaka and St. Petersburg with the same clinical and pathological features in mind. But this official classification does not solve everything when you have comorbidities, especially if the most susceptible people are the elderly. It's becoming really complex. If countries are not collecting the mortality data in the same way, what are you going to compare? The numbers that are circulating in France are pretty accurate, thanks to the work of institutions such as the Institut national de la statistique et des études économiques (INSEE) and the Institut national d'études démographiques (INED), which have great experience in this matter. At the beginning, they even may have attributed too many deaths to Covid-19. Which is very different in Russia, for instance, where the authorities acknowledged at the beginning of 2021 that up to one third of Covid-19 mortality was not included in the official statistics (Guilmoto 2022; Taylor 2022).

The level of "trust in numbers", of course, is totally different from one country to the other. And here I'm only discussing that through the lens of the reliability of the system. More general questions arise about your trust in your government and how governments behaved during previous crises. Some countries in the world are less keen to publish their mortality figures. So, in the end: what do you compare when you use national statistics? What is the political value of benchmarking countries based on statistics coming from infrastructure that do not apply the same methods?

Janina Kehr & Ehler Voss Currently, there is often quite vague talk of deaths "by and with" Corona …

Frédéric Vagneron Managing mortality as a means to monitor the population became a political matter in the 19th century. Mortality is becoming a public tool, while the way you die, the death, is increasingly becoming a private matter in the 20th century; that's the work of Philippe Aries. This double movement is a general feature in Western countries and is related to the growing number of people dying in hospitals in the 19th century. But a crisis may develop when there is a breakdown in managing dead bodies. Then collective death can turn into a public problem again, even if the mortality is not so great, when what had become a private ritual is not handled by the authorities on either a local or a national level. That's what happened, for instance, during the Big Heat in Chicago in the '90s or in Paris in 2003 during the "Canicule crisis" (Klinenberg 2002; Keller 2015).

Janina Kehr & Ehler Voss In the "Corona crisis", there have been various and changing images and criteria used to justify the necessity to take non-medical protective interventions, such as keeping distance, hygiene, and wearing masks.

In the beginning, this included the goal of "flattening the curve" with corresponding graphics, then (at least in Germany) the reproduction rate became a decisive criterion, and today it is the seven-day incidence rate, and new mutations emerge as a new rationale for maintaining the measures. With which arguments and by what means were which public health measures propagated and enforced by governmental and medical institutions during the time of the Spanish flu, and were they always the same or did they change as well?

Frédéric Vagneron In 1918, because of the blurry picture of the disease, the measures that were recommended were environmental. They didn't talk about "social distancing", but people tried to avoid public meetings, they closed theaters, etc. You were ordered to clean the ground and open the windows to have some fresh air. But at the same time, because of the approaching end of the war, soldiers would come back to their homes for a week away from the battlefield to rest. Fearing social unrest, the military decided that during the influenza pandemic they could not stop these social rights because they feared that the troops might mutiny. So, the official sanitary measures were close to what we call now social distancing. But more pragmatically, in October 1918, officials allowed some big gatherings celebrating the victory in the war. The authorities not only managed the epidemic, but also public opinion: preventing people from gathering, yes, but not if it would interfere with the celebration of the nation's victory in the war, which would risk fueling the troops' unease.

The "flattening the curve" metaphor is really related to statistical knowledge and the use of mathematical models. At the time, mathematical "modelization" of epidemics was in its infancy. Sir Ronald Ross proposed the first example of modelization a couple of years before in relation to the transmission of malaria. It became more central a little bit later with the work of Kermack & McKendrick (1927) on the now-famous R0 (basic reproduction number). Flattening the curve aims to limit the spread and the number of deaths, but it also limits the tension in hospital capacity measured by the number of beds. This question of the availability of beds was important in 1918, too. But not with a hospital infrastructure such as what we have today in the wealthiest countries, built after World War 2 and the "therapeutic revolution". Should people go to the hospital or not? It was really controversial in 1918. Some doctors said, "Yes," to care for patients with complications, for instance. Others would disagree for fear that hospitals would be overwhelmed and the risk to see the hospital transformed into a source or breeding ground of the epidemic.

Janina Kehr & Ehler Voss In the course of the current protests against the measures to contain SARS-CoV-2, we have learned that there was also a movement against wearing masks in 1918, especially in San Francisco. How common were these protests in other parts of the world, and what arguments were used to explain the rejection? Was there criticism of other measures beyond wearing masks, and if so, what were the arguments? And were there debates in different publics, as there are today, about assessing the harmfulness of the disease?

Frédéric Vagneron The first historian who mentioned the story of the anti-mask league, in my opinion, is again Alfred Crosby. He was a really fine historian, and this episode really belongs to the American experience with the flu and the American narrative. To my knowledge, it happened only in California and only for a short time. This shows the degree to which the memory of the Spanish flu in 2021 is recalled as an American experience. The anti-mask league was really an exception in the world for a simple reason: not so many people wore masks, almost none. In Lausanne, Switzerland, you had a public campaign for people to wear masks; in France, it was already a debate among bacteriologists and hygienists. Some of them were really trying to provide scientific evidence of the preventive role of the mask. They experimented with patients coughing and a series of petri dishes at one meter, at two meters, etc. to measure how far expelled droplets would travel. These experiments were tied to the recommendation to wear masks. But recommending masks and producing them in quantity are two different things. Today you can imagine that in 1918 everyone was

wearing a mask. In Europe, I don't think it was the case, and I never read it was the case in Africa or South America. Japan may well have been another exception. Public health reports on the national level in 1919 present wearing a mask as a means to avoid the disease. In 1918, protests came from workers in theaters, who wrote letters or petitions asking the mayors to help them during the closure of their workplace. In these letters, sometimes published in the press, they do not really challenge the public health rationale for the closure, but merely ask for public support.

It is not so different from today with lockdown policies. But in 1918, only small parts of the population were directly impacted by these sanitary measures. With the Covid-19 lockdown policies in many countries, this has happened on a totally different scale.

Janina Kehr & Ehler Voss As a historian who has examined the media on the 1918 epidemic, you have often been confronted with the question what we can learn from the 1918 flu. We do not wish to reiterate this question, but rather to turn it around: how and why, from your point of view, has the 1918 flu become the blueprint for Covid-19? What problems do you see in such comparisons?

Frédéric Vagneron There is indeed an important narrative in the media and among public health experts today drawing on the so-called "lessons of the past". What can we learn from the 1918 management of the pandemic? Many newspapers described in 2020 how many people used masks in 1918/1919 and the mitigation policies in different countries, in the US and elsewhere. Most of the time, these accounts focus on one object, one location, one measure and try to draw parallels with our current situation to explain what we should do and asking in what ways we are better or worse. But "lessons" about what? What kind of common experience of the flu in 1918 in France, Germany, the US and elsewhere? Forging an artificial common experience to serve as a template to establish or enforce our contemporary policies is a simplistic way to use history. It's not answers and successful tools we can learn from the past, but unsolved questions that this uneven experience raises. How do you communicate in a time of uncertainty? How do you build confidence in a public health infrastructure when the system is drained by financial cuts or weakened by a shortage of personnel? How do you build a public health response that both shares the costs of a pandemic but also provides a flexible local response that fits the local challenge that a global pandemic poses? How do you deal with a disease that can cause a very mild sickness as well as severe cases and large numbers of fatalities? That's not "lessons of the past", but challenges from the past, from a totally different context. I don't see how we can find ready-made recipes from 1918 when nobody had "modern" scientific understanding of viruses. But I see many interesting ways to think, using some questions from the past.

To go back to your question: influenza has been an important historical precedent in the 20th century because it was a viral disease that could not be directly controlled during a large part of the 20th century. But the influenza pandemic of 1918–1919 was not a major blow to the modern narrative of scientific progress and the long-term victory over infectious diseases in Western countries. Influenza escaped the so-called "therapeutic revolution" after 1945, even if the bacterial complications of influenza could now be dealt with. But it was not possible to prevent the 1957 Asian flu or the 1968 or the 1997 Hong Kong flu from happening periodically. Influenza remained a moving target during most of the 20th century and fueled the pandemic narrative in Western countries, where the burden and the common experience of infectious diseases progressively disappeared.

The memory of the 1918 flu pandemic became more salient in the 1970s and during the HIV/AIDS pandemic: remember the new title of the second edition of Alfred Crosby's book when it was published again in the mid-1980s: "Epidemic and Peace", a very contextual title, became "The Forgotten Pandemic". Historians then gained the status of experts in the public health agenda when the label "emerging diseases" gained some traction after the 1989 conference in Washington, D. C. William H. McNeil (1976) and other historians participated along with biomedical experts, sharing their expertise on the history of pandemic events (Morse 1993). The same thing

happened with anthropologists working during the HIV/AIDS pandemic to combat the population's irrational "resistance" to science and to foster "acceptance" of public measures ... sometimes also participating in the stigmatization of the population (Fassin 1999). The expertise of the social sciences in health dates back to this period of the early 1980s. In the 1990s, influenza and influenza pandemics became a global model of the threat that could come from anywhere in the world because of its animal origins. The influenza pandemic became the blueprint of the global threat that (wealthy) countries had to be prepared for. That also includes special features of public health influenza campaigns, such as the challenge to vaccination with its many strains. This has, of course, some echo today with the mutations and variants of Covid-19. Thus, influenza can also be a template for studying the contemporary vaccine hesitancy.

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