

The Rhetoric of Covid-19: Numbers and Stats and Maps – Oh My!

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Abstract

From February 2020, media coverage surrounding the spread of Covid-19 (acronym for the coronavirus disease of 2019) accelerated to the point where it has become the most exhaustively covered pandemic in recent times. In particular, numerous information visualisations surrounding the extent of the disease were released. One reason for such acceleration may be that, in an increasingly digital world, growth in media coverage is inevitable. However, when compared to the concurrent Middle Eastern Respiratory Syndrome (MERS) pandemic, which has a significantly higher fatality rate, coverage surrounding Covid-19 has been inordinately more expansive. One key difference between the two pandemics is that Covid-19 spreads more rapidly. In this article, the author examines the rhetorical potency of information visualisation as a means of visually expressing the spread of Covid-19. He comments on the efficiency and clarity with which information visualisation distils content surrounding the pandemic. Further, the author delineates rhetorical agents that arouse fear and urgency in depicting the concept of the “spread” of Covid-19 in a palpable way.

Keywords: Covid-19; visual rhetoric; Robin Kinross; spread; map design; information visualisation

From February 2020, media coverage surrounding the spread of Covid-19 (acronym for the coronavirus disease of 2019), caused by the novel coronavirus 2019-nCoV that first appeared in December 2019, erupted. Numerous reports surrounding the spread of the disease were released – a considerable number of which took the form of information visualisations alongside eerie images of the desolate Wuhan market – a wet market where vendors densely pack a variety of live seafood and animals that are slaughtered on site – in the Hubei Province of China; Chinese citizens wearing face masks; and containment teams in hermetically sealed suits, spraying disinfectant chemicals, quarantining those infected, as well as carrying corpses. Dramatic depictions such as these are intended to shock and thus generate public interest. As most advertising agencies will acknowledge, little sells as well as shock.

Compared to recent pandemics and epidemics, Covid-19 has been the most exhaustively covered in recent history, having reached 2.1 billion mentions in the media as of 16 March 2020 (see Figure 1).

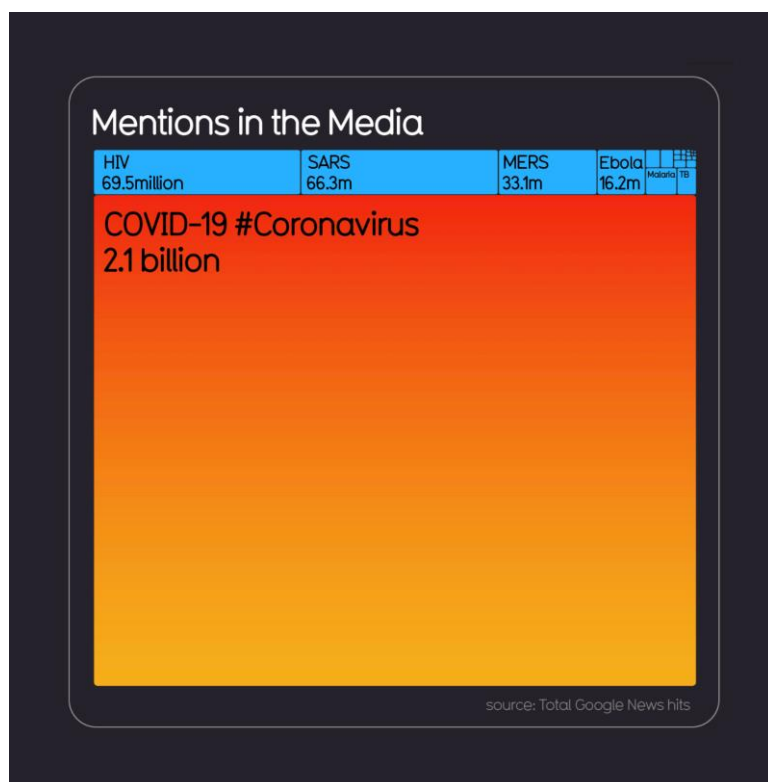


Figure 1: Information visualisation depicting the number of Covid-19 mentions in the media compared to other viral epidemics (McCandless 2020)

It is of course reasonable to argue that in an increasingly digital world, growth in media coverage is inevitable. However, the Middle Eastern Respiratory Syndrome (MERS) pandemic which, running concurrently to Covid-19, has a significantly higher case fatality rate, yet has received considerably less media coverage.¹ Like Covid-19, MERS is caused by a novel (or new) strain of the coronavirus, and like Covid-19, the primary symptoms of the disease include fever, coughing and shortness of breath (CDC 2019). There is, however, one key difference between these viruses: Covid-19 spreads far more rapidly² (see Figure 2).

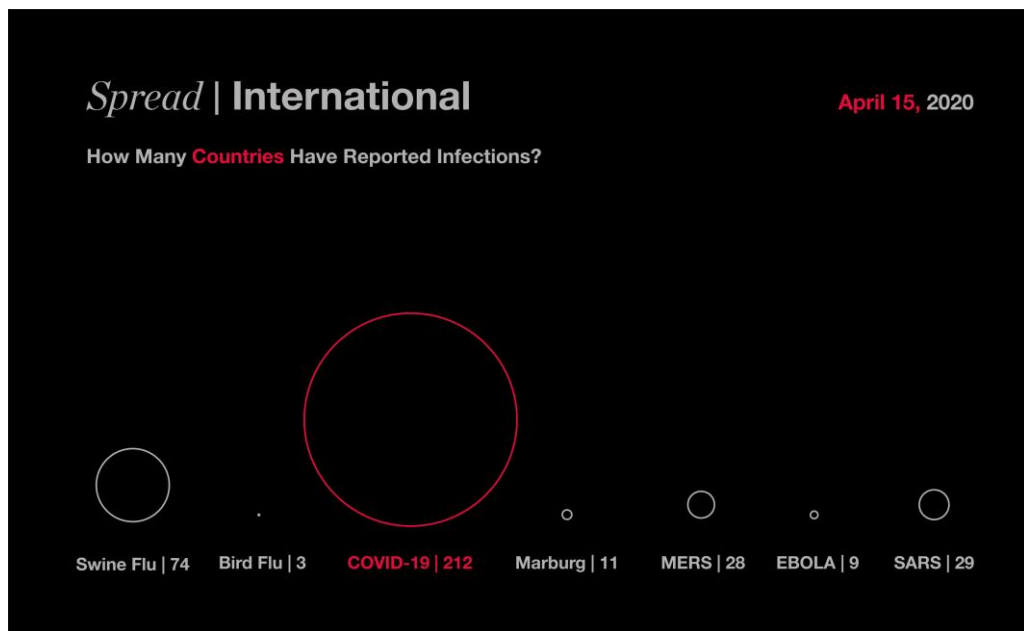


Figure 2: Information visualisation depicting the spread of Covid-19 compared to other recent virus outbreaks as of April 2020 (Designed by the author 2020)

In this article, I examine the remarkable popularity that information visualisation³ has enjoyed as a means of expressing, in visual terms, rapidly incoming updates on

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- 1 All statistics and data provided in this article were gleaned from reports on the novel coronavirus up to 6 August 2021. It is worthwhile to note that as the virus continues to spread, statistics will change. At the time of writing, there was some degree of variation in the statistics from different sources, depending on the precise time at which sources were updated. Therefore, for accurate statistics, I turned primarily to accredited and reputable news outlets and appropriate medical health sites.
 - 2 Spread rates for viruses are represented by R0 numbers (basic reproduction number). A reproduction number of R0 = 1 (or R1) means that each infected individual is likely to infect one other individual. For MERS, the reproduction rate is R0.3, whereas for Covid-19, it is in the region of R2–2.5. This may not seem dramatically different, however, Figure 2 depicts the impact of this difference on a global scale.
 - 3 I use the term “information visualisation” to indicate designed graphics that are rhetorically imbued.

Covid-19. I comment upon the efficiency and clarity with which information visualisation distils authoritative and meaningful content surrounding the pandemic, as well as the rhetorical potency it imbues in delivering it. In other words, I investigate the rhetorical capacity of data visualisation,⁴ with particular regard to how it illustrates the concept of “spread”, both factually and emotively. In doing so, I take my lead from Kinross’s (1985) seminal work to contextualise data visualisation (particularly spread maps) as rhetorically potent imagery – even more so, perhaps, than most other forms. With the aim of contributing to the growing discourse on visual rhetoric in information design, I unravel the perceived function of information design as not only an apparently “objective” representation of data, but a gripping storytelling device.

Background and Context to the Article

I remember when the Ebola virus reappeared in 2014 – at least, as it appeared in the media. Globally, the Ebola outbreak was met with trepidation, and all eyes turned toward Africa, waiting to see the extent and ferocity of it. But 2014 was of course not the first occurrence of this disease, which initially appeared in 1976 in the Democratic Republic of Congo (DRC), and again in Zaire in 1995. While the 2014 outbreak had a lower case fatality rate (CDC 2014)⁵ than prior ones, the disease killed significantly more people during the later outbreak (WHO 2014).⁶ It is interesting that, despite substantial developments in medicine which meant fewer deaths and better containment protocol, a much greater sense of dread loomed in 2014.

Living in South Africa, I recall experiencing a sense of fear and helplessness as online articles and social media platforms recorded the virus’s spread from Guinea to other West African regions, including the DRC, Liberia, Sierra Leone, Nigeria and Senegal (Belluz 2014). What concerned me was that, at the time, no vaccine was available. What terrified me though, was that living on the African continent, the virus might find a quicker route to South Africa. That is to say, what caught my attention was not so much the image of the virus, nor accompanying images of evacuation, contagion and death. What shook me most was a single evocative image. An image of a spread map.

4 I use the term “data visualisation” to indicate what may be perceived as objective, scientific documentation or the direct translation of statistics.

5 The case fatality rate was 90% in 1976 and 80% in 1995, compared to 74% in 2014 (CDC 2014 – 2016).

6 According to the WHO, in 2014 the Ebola virus caused 11 325 deaths, compared to 254 and 280 in 1995 and 1976, respectively.

Spread

Six years later, in March 2020, the world was once again enshrouded by mushrooming media panic. This time, it was Covid-19. The disease is reported to have originated toward the end of 2019, in the Wuhan food market, supposedly because of unhygienic and uncontrolled live animal trade in the period 2003–2004 (WHO 2014). Interestingly, however, amidst criticism (Leung, Gunia and Mansoor 2020) that China had concealed the viral outbreak in order to avoid economic repercussions to the Chinese economy,⁷ news surrounding Covid-19 only went viral globally two months later, in mid-February 2020, when the disease began to move beyond East Asia.

However, the coronavirus is not new. True, it is a new *strain* of the Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV) family (it is, in fact, described medically as SARS-CoV-2), but it is not nearly as deadly. Compared to SARS, Ebola and MERS, the case fatality rate for Covid-19 is noticeably lower (3.4%, compared to 9.6%, 40–80%, and 34.4% for the other viral outbreaks, respectively). Thus, although it is difficult to predict how the coronavirus might evolve or spread going forward, so far it has infected considerably more people compared to the other viral outbreaks.⁸

Unfortunately, statistics such as these are cold – science is too rational and complex figures tend to confuse us. In a climate rife with statistics fatigue, we often do not turn to institutions, such the World Health Organization (WHO), the CDC, or other well-regarded health authorities, but rather to global and social media and, more expressly, popular culture. We do so because we are looking for more than numbers – we look at how these numbers affect us and the foreboding stories they tell. The fundamental problem with a statistic is that it jams empathy and is often a counterpoint to emotion. Without emotion, we cannot engage – without affect, information lacks meaning (Joffe 2008, 89). A simple, striking, relevant visual, on the other hand, is arguably worth much more. The communicative symbolism that design artifacts represent impacts profoundly on how we gauge cultural concerns. That is, design artifacts entice individuals as their visual articulation and cultural significance come together to tell a story (Atzmon 2008, 2). A design artifact's narrative is extremely important – an effective artifact is one where the designer has mastered not only the codes of communication, but also how it relates to the viewer (Emanuel 2010, 15).

7 It should be noted that there have been various reports that the coronavirus may have been manufactured in the WIV, and that it accidentally (or even purposefully) escaped to immediately surrounding areas. At the time of writing, these observations remained speculative (Maxmen and Mallapaty 2021).

8 As of 6 August 2021, the worldwide cumulative cases of infection for Covid-19 were 202 710 418. Compared to Ebola, for instance, the worldwide cumulative cases of infection were as follows: 1976: 318 infected worldwide; 1995: 315 infected worldwide; 2014: 28 600 infected worldwide (Kadanali and Karagoz 2014).

I am reminded of my first glimpse at the micrograph of the worm-like Ebola virion under a microscope, recorded and photographed in 1976 by Dr Frederick Murphy, a CDC virologist (see Figure 3).

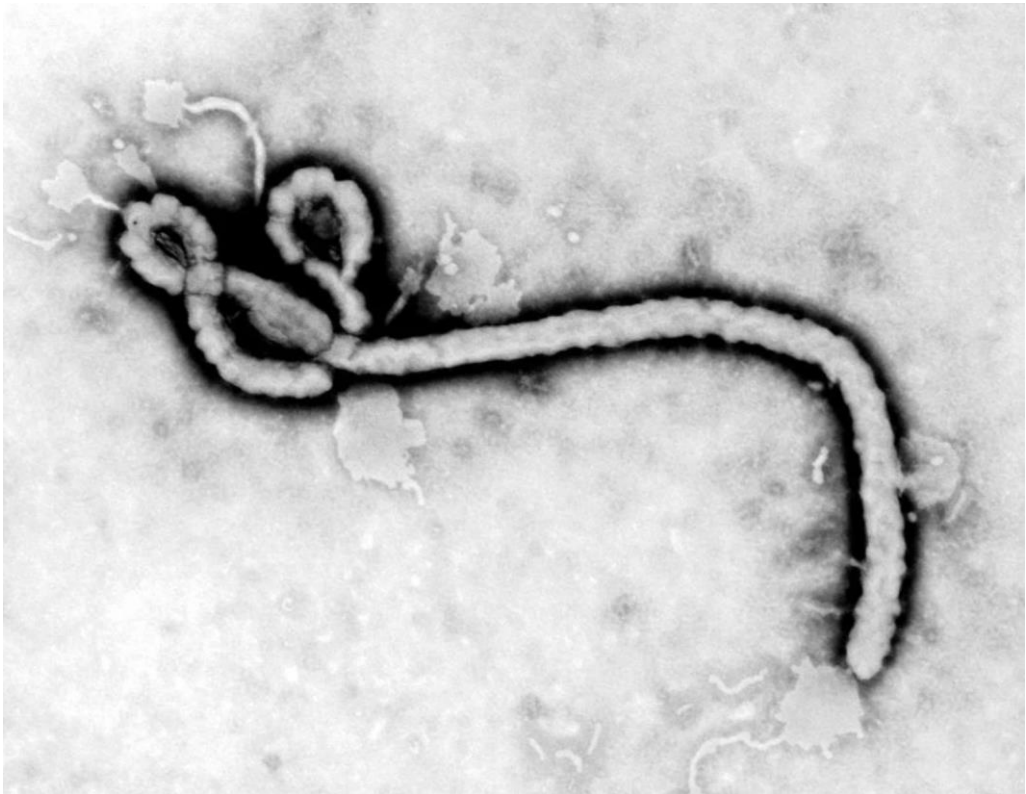


Figure 3: First recorded and photographed image of the Ebola virus (Frederick Murphy 1976)

In particular, the image is reminiscent of the typical depiction of a virus in outbreak genre films – a universal idea of a “virus” that is found in films such as *Contagion* (2011), *Outbreak* (1995)⁹ and *The Crazies* (1973). Micrographic renderings of a virus’s structure are the go-to imagery to indicate the “first signs of a possible virus” in most outbreak genre films. However, it is rarely the image of the actual virus that contributes to the inevitable outbreak hysteria. Indeed, its alien form attracts attention, but what captivates and excites people is something far less contained. What triggers havoc and despair in these thrillers, what stirs tension and escalates anxiety in the viewer, is the

9 Interestingly, since February 2020, both *Contagion* and *Outbreak* have had notable resurgences on the media-streaming platforms Netflix and Hulu, respectively.

possibility of what the virus might do – what it might do, that is, if it spreads. And in these films, spread is almost always invoked by a spread map (see Figures 4a and b).



Figure 4a: Screenshot from the film *The Crazies* (1973), featuring an example of a spread map



Figure 4b: Screenshot from the film *Contagion* (2011), featuring an example of a spread map

The mental image that viral spread conjures is often articulated by speed – the pace at which a virus spreads can evoke an overwhelming feeling of inevitability and hopelessness. If a virus spreads, and spreads fast, it seems somehow to be far more severe because it “cannot be stopped”, and therefore “it will get you”. Contagion thrillers sell intensity and severity so that viewers become fixated. Fear captivates and perturbs; it keeps viewers interested and enthralled. Most importantly, fear sells (Ruiter et al. 2003, 466).

For a similar purpose, spread maps that trace the spread and speed of Covid-19 are often distributed in the media. As authoritative graphics, they systematically unfold all the necessary ingredients to conjure fear surrounding an outbreak and thus generate site clicks. Technology, too, has helped spread maps gain momentum. Real-time and interactive spread maps of Covid-19 illustrate, hour-by-hour, a live blow-by-blow account of the virus replicating, and are readily accessible across a plethora of websites (e.g. Esri’s StoryMaps, Johns Hopkins University, NextStrain).

Covid-19 spread maps take on many visual forms, but if the idea is to engross and overwhelm, there are two that we turn to in particular.¹⁰ The first, and most common, is a map indicating “concentration”. In Figure 5, for example, red pox-like circles, varying in size, are plotted against a dark, foreboding world map.

10 Another interesting depiction of Covid-19 is via a phylogenetic tree map that tracks how the virus divides and compounds. For an example of phylogenetic mapping, see NextStrain (2020).



Figure 5: A spread map, captured in March 2020, depicting the concentration of infection as the Covid-19 pandemic accelerated infection spread (Johns Hopkins University 2020)

Alternatively, in Figure 6, a fibrous network of directional lines extending from the point of initial outbreak – a dizzying representation of a frantic infestation – represents the global *reach* of the virus.

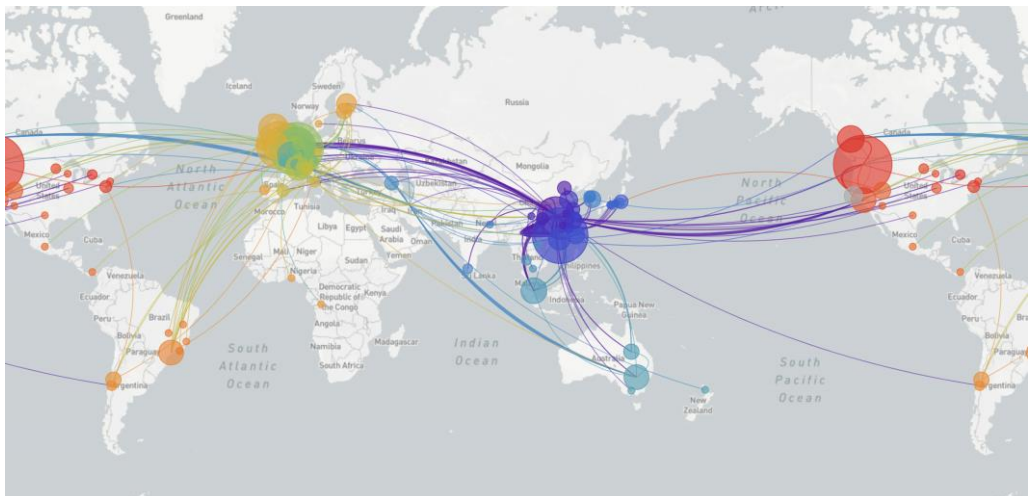


Figure 6: A spread map, captured in March 2020, as the Covid-19 outbreak accelerated infection, depicting the migration of Covid-19 from Wuhan, China (NexStrain 2020)

Whatever form a visualisation takes, the virus is given movement, graphically. Spread maps arouse fear of the spiralling pace of a pandemic. In doing so, the visualisations “move” us as the viruses “move” toward us. It is precisely this genre of infographic that I argue substantially accelerated the panic surrounding Covid-19.

The Rhetoric of Spread

Initial spread maps of Covid-19 circulated in January 2020, once the coronavirus moved beyond China’s borders into Thailand, Japan, South Korea, Cambodia and Vietnam (see Figure 7a). Moreover, these maps gained significantly more traction and widespread distribution in early to mid-February, more than two months after the start of the Covid-19 outbreak, when it spread beyond East Asia to the United States (US), Italy, France and Australia. These maps are not dissimilar to those distributed during the 2014 Ebola epidemic where, initially, spread maps pointed to cases of infection as they extended beyond Guinea (see Figure 7b). That is, once the first cases of Ebola reached the US, Italy, Spain, and the United Kingdom (UK), these maps took on a different rhetoric. That is, the outbreak of Ebola was seen not only as a medical issue, but a rhetorical one too.

Figures 7a and b show a comparison of spread maps during the early stages of the Covid-19 (2019) and Ebola (2014) outbreaks, respectively.



Figure 7a: A spread map indicating the start of the Covid-19 outbreak, released on 31 January 2020 (*New York Times* 2020)



Figure 7b: A spread map indicating the start of the 2014 Ebola outbreak, released on 2 July 2014 (Thompson 2020)

That is to say that the narrative of an “uncontrollable outbreak” is not new. I mentioned earlier that, as a South African, I grew nervous as Ebola began to spread to other Western and Central areas on the African continent. True, it was a long way away from my own country, located on the southern tip (roughly 3 378 miles or 5 597 km away), but without a significant body of water between South Africa and Guinea,¹¹ spread seemed inevitable. I noticed then that the way I perceived the threat of Ebola was very different to attitudes in other parts of the world. That is, the West observed closely as the virus spread, but they did so at a safe distance. Again, like with most outbreak genre

11 The irony here is that the Ebola virus is named after the Ebola River (a significant body of water) in the DRC. Owing to serious and ongoing sanitation issues throughout Western and Central Africa, the virus spread from person to person via bodily fluids in the river (including urine and excrement).

films, once a virus is detected, “authorities” (governments, scientists, etc.) approach from a position of cautious observation. So, although Ebola drew significant worldwide attention, the rhetorical slant adopted by international media was to reassure the West of the improbability that the virus would spread – at least not in any significant way – beyond Africa.

In terms of information visualisations, an infographic distributed by the *Washington Post* illustrates how the Ebola outbreak is visually mapped in terms of distance away from the outbreak area (see Figure 8).¹²

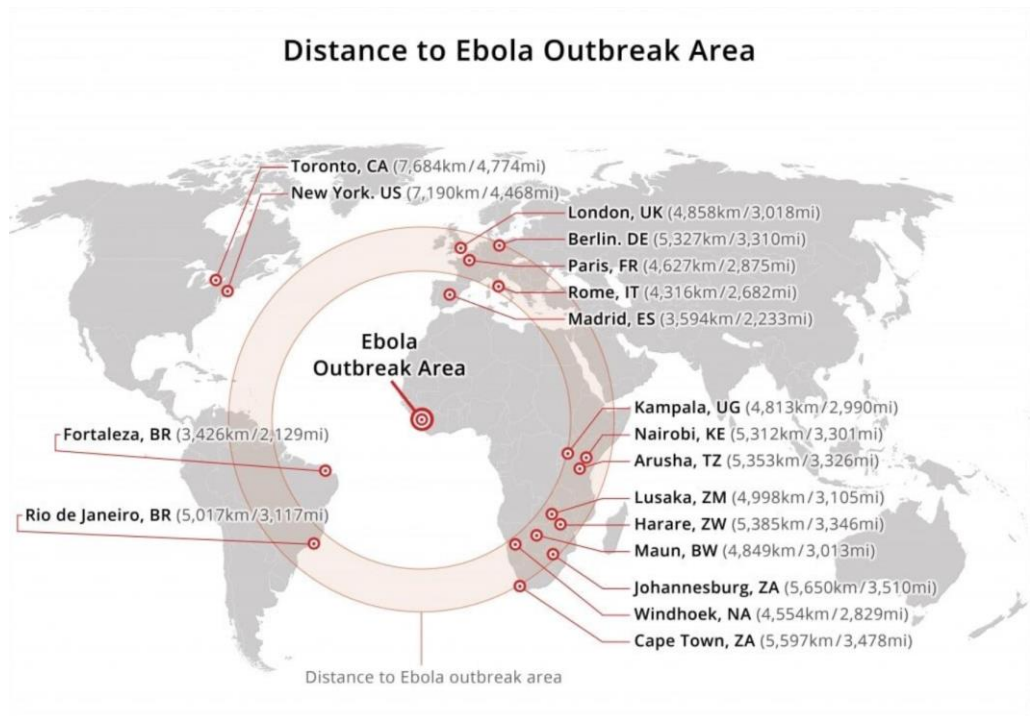


Figure 8: Information visualisation indicating various geographic distances from the point of origin of the 2014 Ebola outbreak, released on 14 October 2014 (Dionne and Seay 2014)

Here, two red lines encircling a notably clear expanse may be read as a kind of barrier between the “target” of the outbreak and the rest of the world. This is further enhanced by the distances *away* from the origin, indicated both in miles and kilometres.

12 The article by Dionne and Seay features a spread map originally published by Jeroen Beekwilder in 2014.

The social and visual representation of the Ebola outbreak was thus packaged as an “African disease”. The WHO and the CDC, for example, identified key conditions for the spread of the virus in Africa: the poor state of Africa’s sanitation infrastructure and health systems; lack of education; over-population; and poverty (CDC 2014; WHO 2014). In a 2014 article for *Time*, then editor Nancy Gibbs explained that Ebola “wip[ed] out a public-health infrastructure that was weak in the first place”, while Belluz (2014) similarly described Africa’s “fragile health systems”. While these observations may be accurate, the situation provided an opportunity for the media to paint Africa as “fragile” and “other,” thereby reassuring the rest of the (Western) world that they are somehow immune (Monson 2017, 3–5). During both the 1995 and 2014 outbreaks, UK tabloids and newspapers often included supplementary inserts of “accessible” information graphics, to reassure audiences of the West’s “dedication” to containing the Ebola outbreak. In an infographic designed for UK Aid (see Figure 9), for example, a step-by-step depiction of UK funding, sensibly composed on a calming green background and military-tight grid, is designed to assure Britons that “aid from the British people” meant that they had contributed to solving the “African” problem.

Although the first African patient to contract the disease in the 2014 Ebola outbreak was documented in March, the “true” threat of the virus came toward the end of that year, when Dr Kent Brantly, who had contracted Ebola in West Africa, returned to the US for treatment. Even though the virus ultimately infected only 11 US citizens (with one fatality), a succession of spread maps quickly littered news articles, igniting panic and portraying Ebola as an “African invasion”:

These events sparked immediate panic and a rapid succession of news stories, such as “Close to Home: First Case of Ebola Diagnosed in U.S.” (Fox 2014) and “American Nurse with Protective Gear Gets Ebola: How Could This Happen” ... The language in these headlines – “Close to Home” and “How Could This Happen” – captures brewing anxiety about an Ebola outbreak in the United States and sends a metmessage: Ebola is foreign, it is other, and it should never have entered US territory, because, it is African. Once it did, however, Americans paid attention. (Monson 2017, 3–4)



The UK has released

£5 million

in total funding to combat the
Ebola outbreak in West Africa



This includes:

£1.25 million to provide **treatment and care** to Ebola patients in Sierra Leone and Liberia.



£1.5 million to increase **community awareness, expand investigation, monitoring and tracing** of new Ebola cases. Ensure **safe burial** of victims.



£1.25 million to help the governments of Sierra Leone and Liberia **strengthen their national health systems.**



£500,000 to provide **relief packages** including **clothing and sleeping mats** for 1,000 families affected. Provide **counselling support for 200 orphaned and abandoned children.** Boost **health information bulletins** for remote rural communities.



£500,000 to provide **front-line staff for UN agencies and partners** leading the response.



Figure 9: Infographic indicating UK relief efforts during the 2014 Ebola outbreak, released on 15 August 2014 (UK Aid 2014)

Covid-19 Spread

For Covid-19, the scenario that played out in the media was notably similar and there were considerable parallels between the means of visually representing each stage of viral spread. Firstly, the outbreak evoked stigmatisation and stereotypical illustrations of China and its citizens. Speculation also surrounded the “synthetic” makeup of the Covid-19 viron which, it was thought, may have been developed in the biolab at the Wuhan Institute of Virology (WIV). Moreover, various aspects of Chinese culture were attacked on social media and other broadcast platforms, arousing a widely shared xenophobic assumption¹³ as to why animal-based viruses “always begin in China”.¹⁴

As mentioned, the virus is believed to have originated in the Wuhan market. According to Burton (2020) the coronavirus had spread from a bat to a pangolin and then to humans. He continues that while viruses are known to move between species, it is less common for a virus to make its way to humans. The likely reason that it did, according to Li (2020),¹⁵ was that owing to limited space in the market, vendors often stack animals in cages atop each other, where faeces, urine, puss and blood drip between cages, exacerbating inter-species spread. The animals, in the process of being slaughtered, are handled by the vendors, who contract the virus and then pass it on to customers through touch and close contact.

It is quite a leap to suggest that international media intentionally encouraged xenophobia.¹⁶ However, several outlets opted to underscore “infestation” and “unhygienic” conditions in the wet market and China’s population “problem” in general. In doing so, they also foregrounded questionable laws instituted by the Chinese government surrounding illegal animal trade as the cause for the outbreak. In a widely viewed motion infographic, “Why new diseases keep appearing in China,” Burton (2020) illustrates in depth how the government gradually lifted bans on wildlife trade by declaring wildlife as a natural resource. The infomotion further illustrates how laws banning the trade of endangered species, such as rhinoceroses, pangolins, and tigers, along with more commonly traded wildlife,¹⁷ were rescinded, which ensured that, over

13 Roger Keil, a professor in the Faculty of Environmental Studies at York University, is cited by Cummins (2020), where he explains how “othering” during the Covid-19 outbreak fuels latent xenophobia: “With this new virus, something was triggered that is always latently there, under the surface, which is this fear of the other and the idea that bad things come from elsewhere.” The article continues: “It also echoes old prejudices. In the 19th century, Europeans feared a so-called ‘yellow peril,’ brought about by ‘primitive’ people with emerging global power.”

14 It is worthwhile to note that Western food practices are believed to have brought about mad cow disease and that meat consumption has contributed to antibiotic resistance (CDC 2020; WHO 2017).

15 Li is an associate professor of East Asian politics at the University of Houston-Downtown. He is also a specialist on Chinese policy at the Humane Society International.

16 Arguably the most outright xenophobic rhetoric came from then US President Donald Trump, who labelled Covid-19 a “China virus”. This led to a propaganda back and forth between the US and China (Rasheed 2020).

17 Such as bats, snakes, dogs, cats, hares, peacocks, turtles, bears, civet cats and raccoons.

time, they would become staple commodities in the wet markets (see Figure 10a). Over time, animal trade became a way of life in China, not because of a “strange” national diet,¹⁸ but because it contributed significantly to the Chinese economy (see Figure 10b).

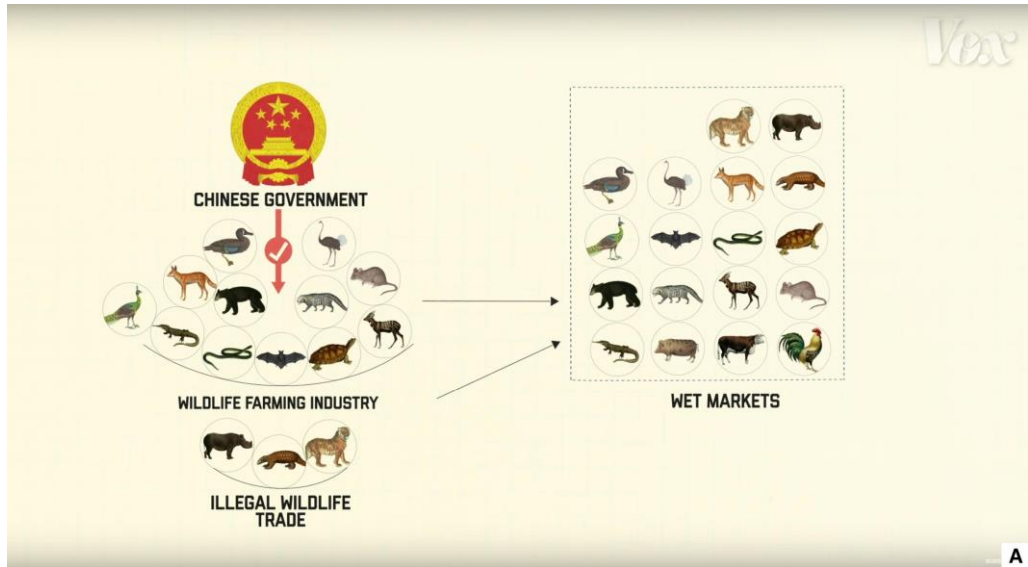


Figure 10a: Still from “Why new diseases keep appearing in China” infomotion illustrating the context of wildlife trade in China (Burton 2020)

18 As Li (2020) points out, most Chinese citizens do not eat these animals. They are sold as delicacies, primarily to a rich Chinese minority, as tonics for sex-enhancement, body-building, and other health remedies. Nevertheless, the Chinese have become typecast and scrutinised in terms of the strangeness of their diet, not least because the Chinese wet market trade also brought about the SARS epidemic in 2003.

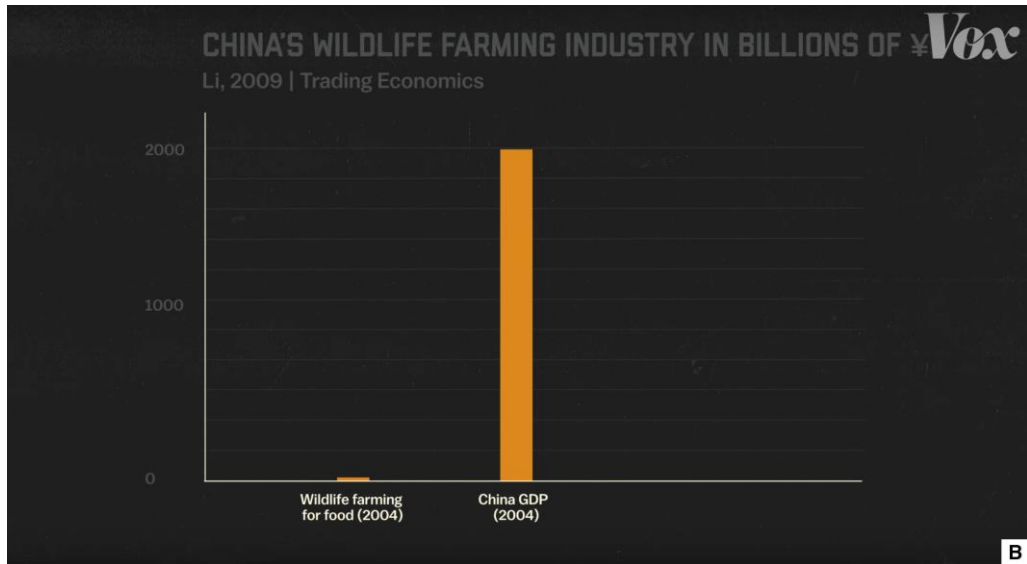


Figure 10b: Still from “Why new diseases keep appearing in China” infomotion illustrating the discrepancy between wildlife trade for farming versus China’s GDP in 2004 (Burton 2020)

Another route adopted by the media, similarly to the Ebola outbreak, was to reassure Western audiences that the outbreak was under control. For example, on 6 January 2020, WHO Director-General Tedros Adhanom Ghebreyesus explained that the WHO’s decision not to declare Covid-19 as a global health crisis

should not be taken as a sign that WHO does not think the situation is serious ... This is an emergency in China but it has not yet become a global health emergency.¹⁹

Two days later, on 8 January 2020, an article in the *New York Times* by Wee and McNeil, documenting the spread within Wuhan, explained that “the new coronavirus doesn’t appear to be readily spread by humans ... and it has not been tied to any deaths” and that “the announcement [by the WHO] signals that researchers are making progress in containing the outbreak, but Asian officials are not likely to relax their vigilance until they learn more”. Later, in a timeline visualisation released in late January 2020 for the *South China Morning Post*, the speed at which China alerted the WHO of the Covid-19 outbreak was compared to that of the SARS outbreak in 2003 (see Figure 11).

19 On 11 March 2020, the WHO declared Covid-19 a global pandemic.

Chinese authorities' reaction compared to Sars

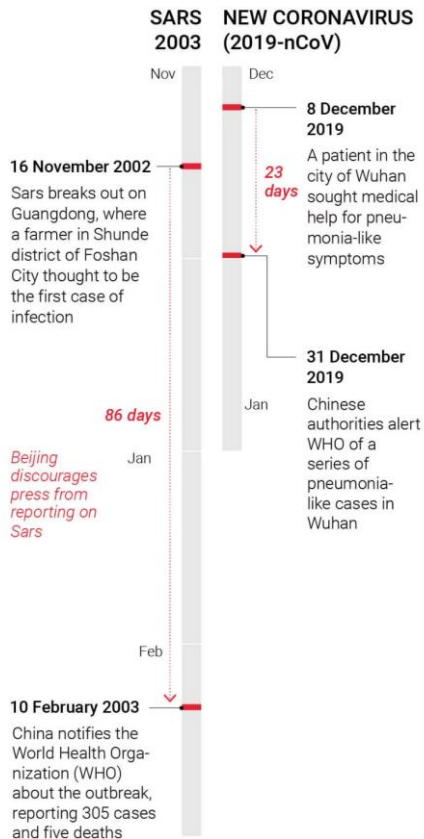


Figure 11: A timeline visualisation comparing the speed at which China informed the WHO of the Covid-19 outbreak, compared to that of SARS in 2003, released on 21 January 2020 (*South China Morning Post* 2020)

Here again, it can be seen that trepidation is tempered by reassurance. These snippets indicate containment – a kind of “positioning power” for Westerners, where foreign depictions of viral spread provide a sense of “dis-identification” and, consequently, relief that they are geographically immune.

On 30 January 2020, Covid-19 struck abroad. After the first human-to-human transmission reached the US, the rhetoric surrounding Covid-19 changed considerably. That is, once the virus escaped “containment”, where the potential for spread increased exponentially, caution was subsumed by fear.

Hundreds of spread maps and other information visualisations were disseminated by the media, illustrating (and perpetuating) worldwide fear of the potentially devastating effects of the Covid-19 spread. During February, the spread was described as “devastating”, “crippling” and “a ticking time bomb”, with some media outlets going so far as to compare Covid-19 to the Spanish flu outbreak in 1918 – a pandemic that ultimately claimed somewhere between 20 and 100 million lives (Matthews 2020). By mid-March, coverage of the pandemic showed major international events being cancelled;²⁰ soaring travel bans; large businesses encouraging employees to work from home; and institutions such as schools and universities being put on lock down. At that point, information visualisations served as reminders in depicting, from a variety of statistical angles, the catastrophic potential spread (see Figures 12a, b and c).

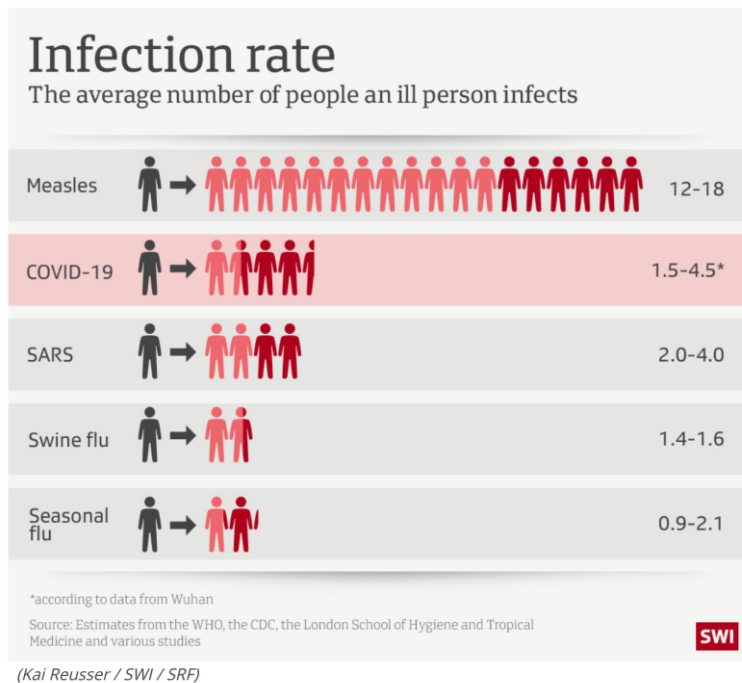


Figure 12a: Information visualisation of the speed at which Covid-19 could spread (R₀ numbers for Covid-19 in comparison to other diseases), released on 3 March 2020²¹

20 For a detailed list of over 100 major international events cancelled due to Covid-19, see Zraick and Garcia (2020).

21 Note the specific set of diseases presented. Measles is arguably the most contagious disease in recent history, and Covid-19 is situated directly under it. Other diseases, such as tuberculosis, zika and pneumonia, do not appear on the infographic – yet they have R₀ numbers greater than that of Covid-19.

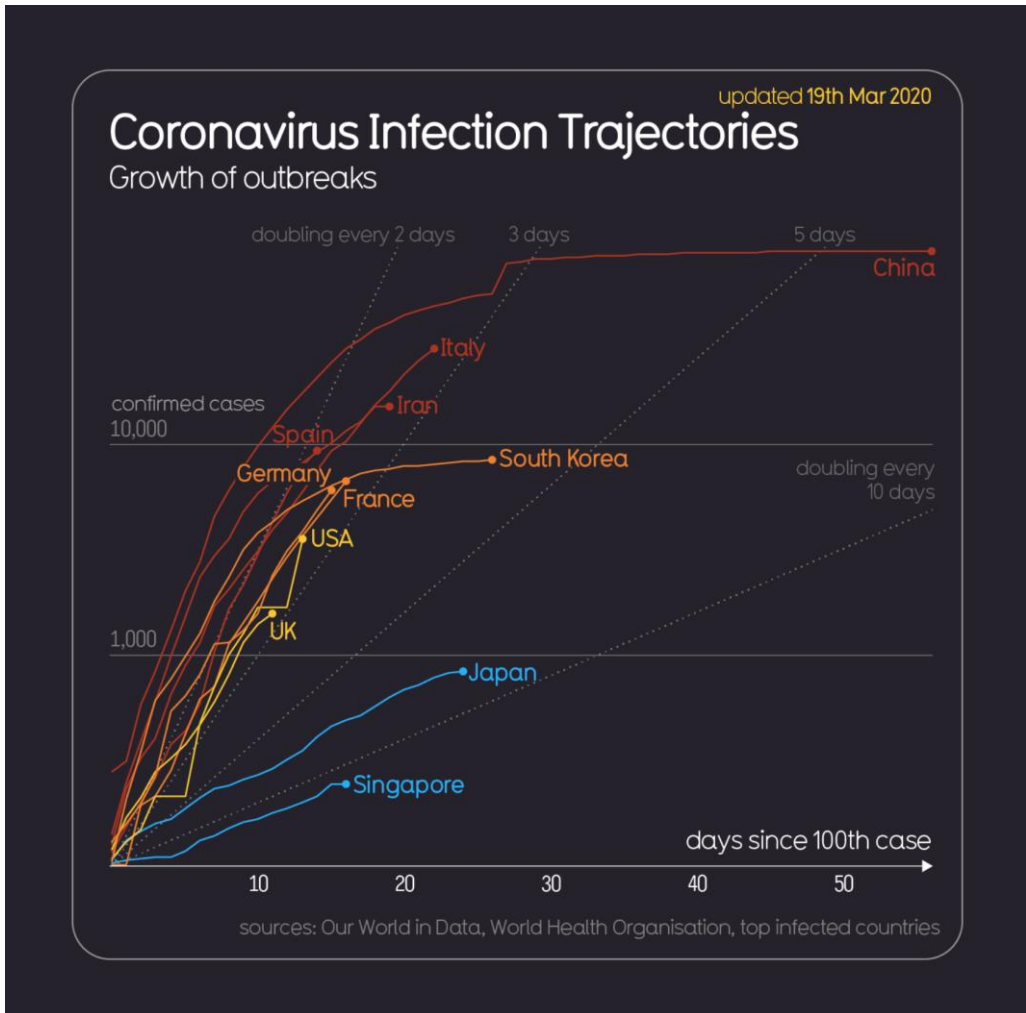


Figure 12b: Information visualisation illustrating the trajectory of Covid-19 per country as of 19 March 2020 (McCandless 2020)

America's coronavirus curve looks a lot like Italy's

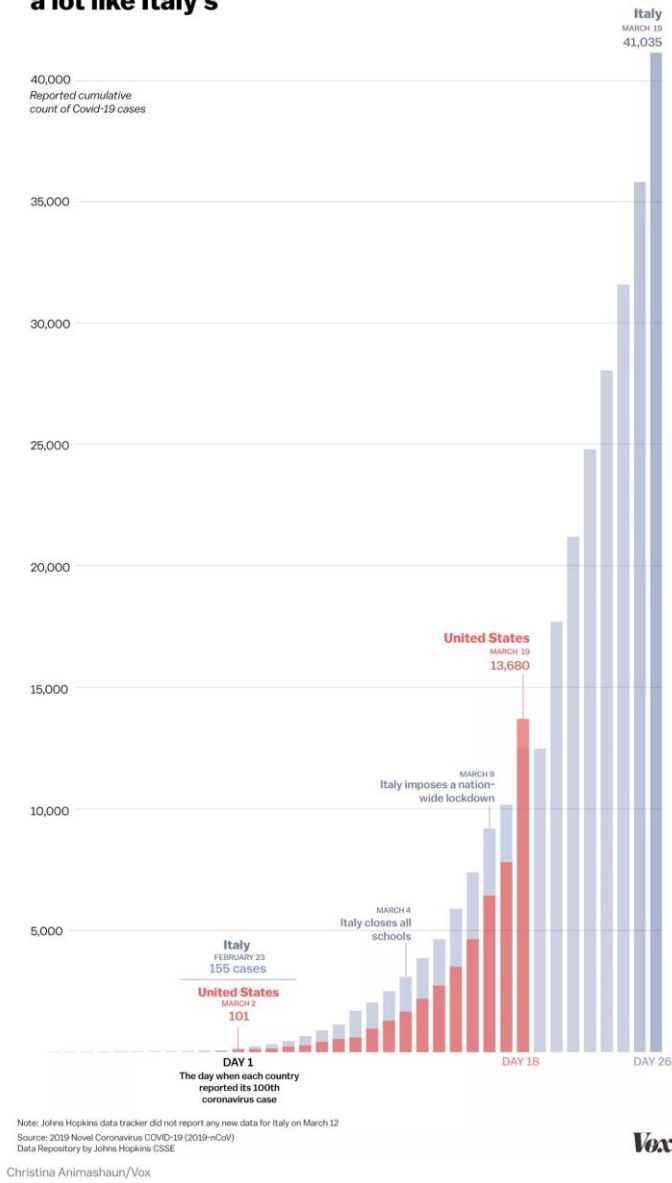


Figure 12c: Information visualisation implying the trajectory that Covid-19 spread might follow in the US, compared to the disastrous infection rate in Italy, released on 20 March 2020 (Piper and Animashaun 2020)

Information (Design) Is Beautiful

We tend to perceive data and facts – from well-known media outlets – as authoritative and rational; they appear objective. In 1965, and later in 1985, design theorists Gui Bonsiepe and Robin Kinross, respectively, noted that the way in which they are presented, as data visualisations, is, by association, as “dependable” and “rhetorically neutral”. This is especially the case when compared to more obviously emotive media such as photography. Kinross (1985, 20), in particular, explains that information design is typically viewed as a means to present “clear” knowledge to the user.

However, as Kinross (1985, 19) points out, “data visualizations, by the simple fact that they organise and articulate and give visual presence to information, use rhetorical means”. Bonsiepe (1965, 30) adds that “‘pure’ information exists for the designer only in arid abstraction. As soon as he begins to give it concrete shape ... the process of rhetorical infiltration begins”.

Kinross’ most pertinent observation is that it is precisely because information visualisations are seen as factual – and thus trustworthy – that they are well positioned to access and arouse sensation. In discussing the rhetorical extent of railway timetables (a form of data visualisation), Kinross (1985, 19–20) explains:

These timetables, by the simple fact that they organize and articulate and give visual presence to inform, use rhetorical means ... suddenly we are seduced. And is not this a rhetorical manoeuvre, in the sense of a set of rules for making information eloquent and more easily understandable, and then – more than this – for sweetening and slipping it down our throats?

Kinross’ (1985) seminal piece forms a base for a network of discourse on visual rhetoric in information design. Authors, including Foss (2005), Atzmon (2008), Jun (2009) and De Almeida (2009) continue to assess rhetoric in information design and in doing so have contributed substantially to their respective areas of interest. The intention of this article is, likewise, to contribute to growing discourse in this vein, as a means of mapping the rhetorical role of information design. I have attempted to do so not to dispute facts concerning the spread or potency of Covid-19, nor to insinuate that information design is deliberately manipulative. The aim is to sharpen analyses on the presentation of Covid-19 in mass media. I do so in an attempt to indicate how the concept of spread ignites fear, and how fear is made visible through data visualisation as a form of directed communication.

I have critiqued spread maps specifically because, in times where we seek information as a means to justify our sense of distress, the maps seize us; we succumb to our fear as it materialises – a fear of becoming “other.” In doing so, spread maps lure us and disrupt our sense of security. We are beguiled by the way in which spread is articulated, because it signals the kind of doomsday seen in the television series *The Walking Dead* (2010–

present), where, if a member of the living is bitten by an infected other, they become a social pariah.

In a global space, where ease of travel revives a kind of geographical pangaea, spread will, more and more, evoke pandemics that are at once viral and rhetorical. Moreover, as the world moves toward an ever more intertwined visual environment, where panic over outbreaks and other disasters will inevitably accelerate, information design will continue to be effective at offering thoughtful perspectives. It is a critical tool that can evoke fear, but also help curb it since it has the potential to effectively distil information in context.

Information design speaks in a language far more complex than numbers. Information visualisations make facts blindingly clear, but also offer insight into the relationships between figures. They sensationalise but can also contextualise. Information design is unique in this way, since it is at once reliable and evocative; it offers sound statistics and makes them come to life. It is palpable to all – even those who have not (yet) been infected. Therefore, it comes as little surprise that an infographic, and a simple call to action – “Flatten the Curve” (see Figure 13) – can serve as an actionable *and* rhetorical strategy to in fact *reduce* spread.

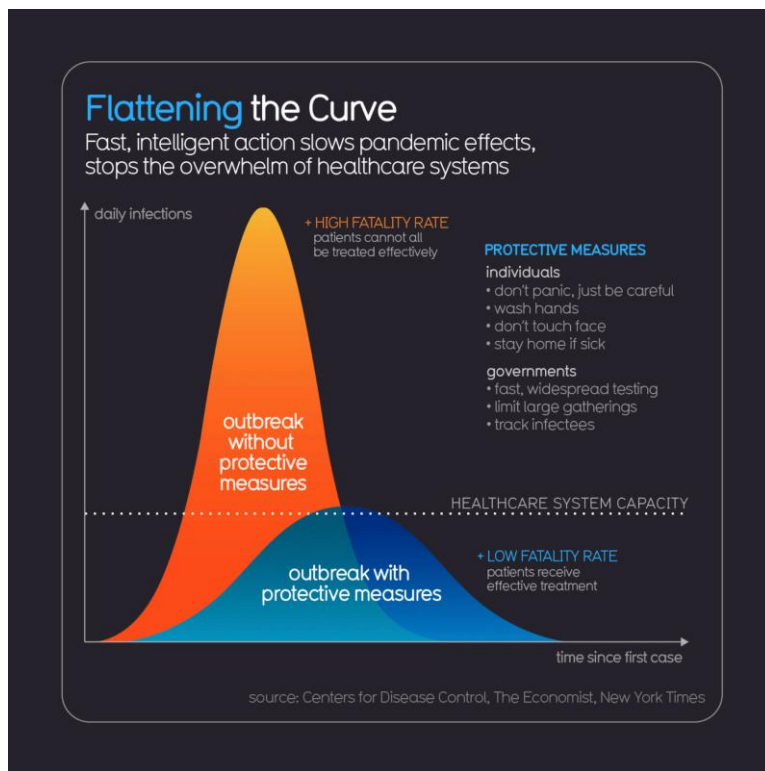


Figure 13: Information visualisation depicting a Covid-19 containment strategy, known as “Flatten the curve” (McCandless 2020)

References

- Atzmon, L. 2008. "Forms of Persuasion: The Visual Rhetoric of Design Artifacts." *Radical Designist* 2: 1–13.
- Belluz, J. 2014. "Seven Reasons Why This Ebola Epidemic Spun Out of Control." *Vox*, April 9. Accessed May 12, 2020. <https://www.vox.com/2014/9/4/6103039/Seven-reasons-why-this-ebola-virus-outbreak-epidemic-out-of-control>
- Bonsiepe, G. 1965. "Visual/Verbal Rhetoric." *Ulm* 14/15/16: 4–22.
- Burton, N. 2020. "Why New Diseases Keep Appearing in China." *Vox*, March 6. Accessed May 12, 2020. <https://www.vox.com/videos/2020/3/6/21168006/coronavirus-covid19-china-pandemic>
- CDC (Centers for Disease Control and Prevention). 2014–2016. "Ebola Outbreak in West Africa, 2014." Accessed May 12, 2020. <https://www.cdc.gov/coronavirus/mers/about/symptoms.html>
- CDC (Centers for Disease Control and Prevention). 2019. "About MERS: Symptoms and Complications." Accessed May 12, 2020. <https://www.cdc.gov/coronavirus/mers/about/symptoms.html>
- CDC (Centers for Disease Control and Prevention). 2020. "Antibiotic Resistance, Food, and Food-producing Animals." Accessed May 12, 2020. <https://www.cdc.gov/features/antibiotic-resistance-food/index.html>
- Cummins, E. 2020. "The New Coronavirus Is Not an Excuse to Be Racist." *The Verge*, February 4. Accessed May 12, 2020. <https://www.theverge.com/2020/2/4/21121358/coronavirus-racism-social-media-east-asian-chinese-xenophobia>
- De Almeida, C. 2009. "The Rhetorical Genre in Graphic Design: Its Relationship to Design Authorship and Implications to Design Education." *Journal of Visual Literacy* 28 (2): 186–198. <https://doi.org/10.1080/23796529.2009.11674668>
- Dionne, K. Y., and L. Seay. 2014. "It's Columbus Day, Let's Talk about Geography (and Ebola)." *Washington Post*, October 13. Accessed May 12, 2020. <https://www.washingtonpost.com/news/monkey-cage/wp/2014/10/13/its-columbus-day-lets-talk-about-geography-and-ebola/>
- Emanuel, B. 2010. "Rhetoric in Graphic Design." Master's diss., Anhalt University of Applied Sciences.
- Esri's StoryMaps. 2020. "Mapping the Novel Coronavirus Pandemic." Accessed May 12, 2020. <https://storymaps.arcgis.com/stories/4fdc0d03d3a34aa485de1fb0d2650ee0>

- Foss, S. K. 2005. "Theory of Visual Rhetoric." In *Handbook of Visual Communication: Theory, Methods, and Media*, edited by K. Smith, S. Moriarty, G. Barbatsis and K. Kenney, 141–152. Mahwah: Lawrence Erlbaum.
<https://doi.org/10.4324/9781410611581>
- Gibbs, N. 2014. "Person of the Year: The Choice." *Time*, December 10. Accessed May 12, 2020. <https://time.com/time-person-of-the-year-ebola-fighters-choice/>
- Joffe, H. 2008. "The Power of Visual Material: Persuasion, Emotion and Identification." *Diogenes* 55 (1): 84–93. <https://doi.org/10.1177/0392192107087919>
- Johns Hopkins University. 2020. "Covid-19 Map." Accessed May 12, 2020. <https://nextstrain.org/ncov?p=full>
- Jun, S. 2009. "Information Design and Rhetoric: Teaching Design Students to Create Effective Communication." In *Proceedings of the International Association of Societies of Design Research 2009: Rigor and Relevance in Design*, 2373–2382.
- Kadanali, A., and G. Karagoz. 2014. "An Overview of Ebola Virus Disease." *Northern Clinics of Istanbul* 2 (1): 81–86. <https://doi.org/10.14744/nci.2015.97269>
- Kinross, R. 1985. "The Rhetoric of Neutrality." *Design Issues* 2 (2): 18–30. <https://doi.org/10.2307/1511415>
- Leung, H., A. Gunia, and S. Mansoor. 2020. "A Second Travel-related Case of Coronavirus Has Been Confirmed in the U.S.: Here's What to Know." *Time*, January 23. Accessed May 12, 2020. <https://time.com/5759289/wuhan-pneumonia-outbreak-disease/>
- Li, P. 2020. "First SARS, now the Wuhan Coronavirus. Here's Why China Should Ban Its Wildlife Trade Forever." *South China Morning Post*, January 29. Accessed May 12, 2020. <https://www.scmp.com/comment/opinion/article/3047828/first-sars-now-wuhan-coronavirus-heres-why-china-should-ban-its>
- Matthews, D. 2020. "Why We Should Stop Comparing the Covid-19 Coronavirus Outbreak to the 1918 Spanish Flu." *Vox*, March 9. Accessed May 12, 2020. <https://www.vox.com/2020/3/9/21164957/covid-19-spanish-flu-mortality-rate-death-rate>
- Maxmen, A., and S. Mallapaty. 2021. "The Covid Lab-leak Hypothesis: What Scientists Do and Don't Know." *Nature*, June 8. Accessed May 12, 2020. <https://www.nature.com/articles/d41586-021-01529-3x>
- McCandless, D. 2020. "Covid-19: Mentions in the Media." *Information is Beautiful*. Accessed May 12, 2020. <https://informationisbeautiful.net/visualizations/covid-19-coronavirus-infographic-datapack/>
- Monson, S. 2017. "Ebola as African: American Media Discourses of Panic and Otherization." *Africa Today* 63 (3): 3–27. <https://doi.org/10.2979/africatoday.63.3.02>

- New York Times*. 2020. "As Fears of Wuhan's Coronavirus Spread." Accessed May 12, 2020. <https://www.nytimes.com/2020/01/31/opinion/letters/wuhan-coronavirus.html>
- NextStrain. 2020. "Genomic Epidemiology of Novel Coronavirus." Accessed May 12, 2020. <https://nextstrain.org/ncov?p=full>
- Piper, K., and C. Animashaun. 2020. "Why We're not Overreacting to the Coronavirus, in One Chart." *Vox*, March 20. <https://www.vox.com/future-perfect/2020/3/20/21179040/coronavirus-us-italy-not-overreacting>
- Rasheed, Z. 2020. "Covid-19 Pandemic Is Testing World Leaders. Who's Stepping Up?" *Al Jazeera*, April 3. Accessed May 12, 2020. <https://www.aljazeera.com/news/2020/04/covid-19-pandemic-testing-world-leaders-stepping-200402201221844.html>
- Ruiter, R. A. C., B. Verplanken, G. Kok, and M. Q. Werrij. 2003. "The role of Coping Appraisal in Reactions to Fear Appeals: Do We Need Threat Information?" *Journal of Health Psychology* 8 (4): 465–474.
- South China Morning Post*. 2020. "Coronavirus: The New Disease Covid-19 Explained." *South China Morning Post*, January 21. Accessed March 12, 2020. <https://multimedia.scmp.com/infographics/news/china/article/3047038/wuhan-virus/index.html>
- Thompson, D. 2014. "Ebola's Deadly Spread in Africa Driven by Public Health Failures, Cultural Beliefs." *National Geographic*, July 2. Accessed May 12, 2020. <https://www.nationalgeographic.com/news/2014/7/140702-ebola-epidemic-fever-world-health-guinea-sierra-leone-liberia/>
- UK Aid. 2014. "Britain to Extend Assistance to Combat Ebola in West Africa." Accessed May 12, 2020. <https://www.gov.uk/government/news/britain-to-extend-assistance-to-combat-ebola-in-west-africa>
- Wee, S-L., and D. G. McNeil, 2020. "China Identifies New Virus Causing Pneumonia-like Illness." *The New York Times*, January 21. Accessed May 12, 2020. <https://www.nytimes.com/2020/01/08/health/china-pneumonia-outbreak-virus.html>
- WHO (World Health Organization). 2017. "Antimicrobial Resistance in the Food Chain." Accessed May 12, 2020. https://www.who.int/foodsafety/areas_work/antimicrobial-resistance/amrfoodchain/en/
- WHO (World Health Organization). 2020. "Middle East Respiratory Syndrome Coronavirus (MERS-CoV)." Accessed May 12, 2020. <https://www.who.int/emergencies/mers-cov/en/>
- Zraick, K., and S. E. Garcia. 2020. "Coronavirus Cancellations: An Updating List." *New York Times*, March 18. Accessed March 20, 2020. <https://www.nytimes.com/article/cancelled-events-coronavirus.html>

Films

Contagion. 2011. Directed by Steven Soderbergh. Hollywood, Warner Brothers.

Outbreak. 1995. Directed by Wolfgang Petersen. Hollywood, Punch Productions.

The Crazies. 1973. Directed by George A. Romero. Hollywood, Pittsburgh Films.

Television Series

The Walking Dead. 2010–present. Developed by Frank Darabont. Hollywood, AMC Networks.