Depicting SARS-CoV-2

A Weird Icon of (and for) the Anthropocene

Michael Fuchs and Martin Butler

In an essay on how visual culture engaged with the first year of the COVID-19 pandemic, Julia Sonnevend (2020) identifies three prevalent types, perhaps even genres, of representations and one iconic image. The first type centers on abstract images of the pandemic, such as charts indicating the number of infections, animated maps showing the spread of the virus, and illustrations trying to convince onlookers that 'flattening the curve' was the only way not to overtax the healthcare system. The second type includes depictions of heroes and villains of the pandemic. Among the heroes were publicly visible virologists and epidemiologists such as Anthony Fauci in the United States and Christian Drosten in Germany (see Butler et al. 2021; Joubert et al. 2023). In addition, heroic representations include photos and other types of images of the 'frontline heroes' of the pandemic–doctors, nurses, and other kinds of healthcare workers. However, where there are heroes, there are also villains, such as right-wing populists in the vein of Donald Trump, who figured themselves in heroic portrayals. (Of course, Trump and his ilk were also heroes for particular parts of their countries' populations, just as Fauci and others were conceived as villains [see Butler et al. 2021].) Sonnevend calls the third major genre the "'stage' of the crisis" (2020, 452), which are the spaces and places associated with the pandemic, such as vacated urban centers, tents set up to confront the high number of infected people, the images of New York City's mass grave on Hart Island that went around the globe, and so on. In the second year of the pandemic, photos of people receiving their vaccination shots and of rapid test results also proliferated in visual culture.

Although Sonnevend mentions one particular visual icon of the COVID-19 pandemic, she does not explore it in further detail: the 3D rendering of SARS-CoV-2 created by two medical illustrators working for the Centers for Disease Control and Prevention (CDC), Alissa Eckert and Dan Higgins. The illustration was published on January 31, 2020, eleven days after the first case of COVID-19 was confirmed in the United States (a man who had returned from Wuhan on January 15; CDC 2020) and about six weeks before the World Health Organization would declare COVID-19 a pandemic. Lukas Engelmann has described the illustration as "the most-used and most-familiar representation of the developing pandemic over its first year" (2023,

249), when the viral image (awful pun intended) encapsulated Priscilla Wald's notion that "[d]isease emergence dramatizes the dilemma that inspires the most basic of human narratives: the necessity and danger of human contact" (2008, 2). As millions of people were sitting in their homes, yearning for unmediated human contact with people other than the ones they shared their households with, the illustration pinpointed the source of COVID-19, offering an easily identifiable starting point for the global spread of a viral disease that would be (en)countered by epidemiological work–quite like the formulaic outbreak narrative that Wald outlines in her book *Contagious* (2008).

In this chapter, we focus on the CDC illustration because we consider it a particularly powerful image in terms of meaning-making potential. In so doing, we follow the idea that while "[i]nfection may be experienced in the fever and fret, […] it is not intelligible as such without […] mediation" (Ghosh 2023, 2). To be precise, our argument connects the illustration to Anthropocene anxieties, for "SARS-CoV-2 is emblematic of our increasingly fraught relationship with the natural world" (Yang 2021, 391).[1] Whereas empirical research suggests that the CDC illustration generates less fear and disgust than the less widely distributed scanning and transmission electron microscope images captured and circulated by the National Institute of Allergy and Infectious Diseases (NIAID) (Li et al. 2022; Illustration II.1), we suggest that the CDC illustration acknowledges the "WEIRD world" (Lorimer 2020, 5) that is the Anthropocenic reality.[2] This age is characterized by the proliferation of pandemics (Morens and Fauci 2020) and an understanding of the human as "an unraveling holobiont–a multispecies chimera that is kept alive, sane, and rational by its microbes" (Lorimer 2020, 4), "a complex admixture of bacterial, fungal, parasitical and viral components on a cellular level in which the strictly human cell (or rather the human as previously understood) is greatly outnumbered" (Shildrick 2022, 77).

Such a conceptualization of the human body (articulated in and through the CDC image) disagrees with the modern idea of the human as a body hermetically sealed off from its environment–a "pastoral bioscope threatened by external or internal invaders (viruses or tumors)" (van Dijck 2005, 12)–and of "health as the absence of microbes" (Lorimer 2020, 4). To be sure, this seemingly posthuman understanding of the human as no singular entity but rather interconnected with the world is not a radically new insight (arguably at least dating back to Chevalier de

1 We acknowledge the critical debates surrounding the term 'Anthropocene,' voiced through various "alter-cene[s]" (Yusoff 2018, 61). As Potawatomi scholar Kyle Whyte rightly stresses, not "all humans are implicated in and affected by colonialism, capitalism and industrialization in the same ways" (2017, 157), nor are culpabilities, responsibilities, and vulnerabilities equally shared. Nevertheless, we use 'Anthropocene' because COVID-19 speaks to these very inequalities—as we demonstrate later in this chapter.

2 Granted, this argument also holds true for the arguably much weirder SEM and TEM representations of SARS-CoV-2, but they function differently.

Lamarck [1816], in whose natural history the environment was essentially part of any organism). However, it seems as if the naturalcultural (Haraway 2016) characteristics of Anthropocene realities increase our (early twenty-first-century, urban, middle-class, white Europeans) sensitivities to "join the dots and see that everything is interconnected" (Morton 2010a, 1).[3]

Illustration II.1: Colorized scanning electron micrograph of SARS-CoV-2 infection (SARS-CoV-2 virus particles in yellow)

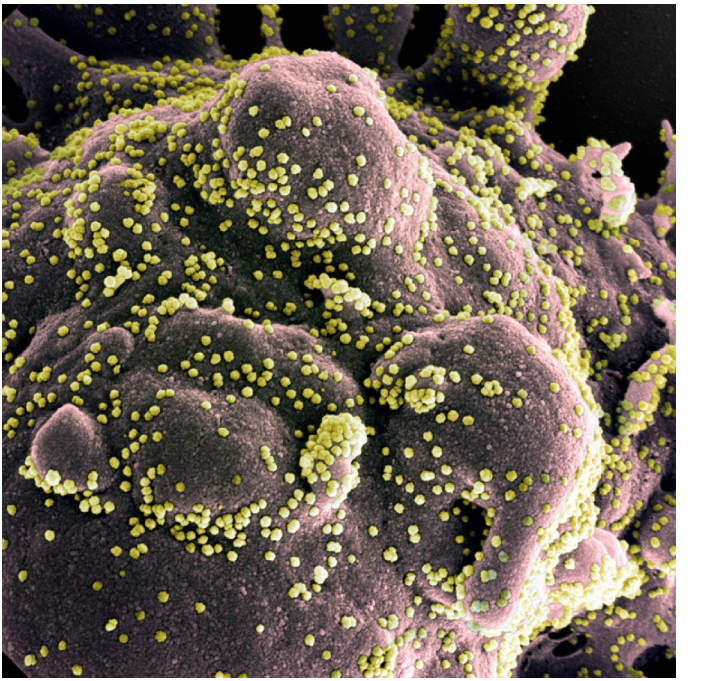


Image by the National Institute of Allergy and Infectious Diseases. Released through the NIAID's *flickr* account under a CC BY 2.0 license, https://flic.kr/p/2iRnmqq.

3 This contemporary emphasis on the significance of (inter)connectedness not only has roots in conceptualizations of Gaia (Lovelock and Margulis 1974) but also colonizes and overwrites indigenous understandings of human–nature entanglements, for this "Euro-Western academic narrative [… is] spinning itself on the backs of non-European thinkers" (Todd 2016, 7). We nevertheless—somewhat problematically—reference white scholars from the Western tradition here because we focus on the CDC illustration's spread and meanings in the Global North.

The cultural significance of the CDC illustration as an icon of the COVID-19 pandemic and the Anthropocene, we thus suggest, lies in its potential to draw our attention to the fact that "[a] 'normal' moment for us […] is one that allows us to forget or ignore the life-supporting work that microbes do even when we are not in a position […] to deny their presence" (Chakrabarty 2021, 332). This potential appears to be particularly high in versions of the CDC illustration in which the virus, usually invisible to the human eye, is super-sized and depicted against a black background. Accordingly, after introducing the biomedical realities that the image tries to capture and briefly outlining how the depiction of SARS-Cov-2 went viral, we will focus on the aesthetics of these super-sized representations of the virus, which, by tapping into science-fictional tropes, capture the strangeness of the pandemic experience; they evoke cosmic dread in view of the "weirdly weird […] strange loop" through which the "Anthropocene binds together human history and geological time" (Morton 2016, 8). By combining anxieties typical of the current historical moment with the notion that COVID-19 does not simply acknowledge that "human nature is an interspecies relationship" (Tsing 2012, 144) but rather captures the "accelerated unusual encounters between humans and nonhumans from ecosystems that were formerly partly isolated" (Aronsson and Holm 2022, 25) characteristic of the Anthropocene, the CDC illustration, therefore, is not only an icon of the COVID-19 pandemic but also an icon of the Age of Man.

Medical Images and the SARS-CoV-2 Illustration

Medical images help record and disseminate knowledge about medicine, ranging from anatomy to the depiction of viruses. Scholars have traced medical images to cave paintings that try to give insight into women's wombs (e.g., Tsafrir and Ohry 2001), and, more directly, to anatomical illustrations of the fifteenth and sixteenth centuries—by Leonardo Da Vinci and Andreas Vesalius, in particular (e.g., Zwijnenberg 2009; Naicker 2023), as "looking into the body's interior has constituted the empirical imperative of medical science" (van Dijck 2005, 4). Although early microscopes were developed in Ancient Greece, the use of microscopes to analyze organic tissue did not become widespread until the seventeenth century. Robert Hooke's *Micrographia* (1665), for example, showed the structures of leaves, the sting of a bee, and the setae on the legs of spiders in then-never-before-seen detail; however, his contemporary Antonie Philips van Leeuwenhoek "was the first to document the existence of bacteria, red blood cells, yeast, and sperm cells" (Chimileski and Kolter 2017, 11). In the eighteenth century, "[t]he development of classification and taxonomic systems for categorizing the visible world according to allegedly natural hierarchies of plants, animals, and humans became the basis for the study of pathology and difference in the bodies of organisms" (Serlin 2010, xx). No matter how vi-

sually pleasing and embedded in aesthetic traditions these paintings and illustrations were, they were generally considered authentic and objective representations of the natural world (Hüppauf and Weingart 2008, 7). The development of photography some two hundred years later revolutionized medical images. Robert Koch suggested that photographing microorganisms was key to studying them ([1881] 1912, 122) and explained,

> The photographic image of a microscopic object may be more important than the object itself. For if I hand someone a microscopic specimen with the intention of examining very specific parts of it, such as lymphatic vessels containing bacteria, I cannot be sure that the correct location will be found and, if this is the case, that the correct setting, lighting, etc. will be chosen. Photography, by contrast, reproduces the microscopic image once and for all, without even the slightest illusion being possible, in the exact setting, magnification, and lighting in which it was when the photograph was taken. (Koch [1881] 1912, 123)[4]

Fast-forward another fifty-plus years and the first virus was visualized through electron microscopy (von Borries et al. 1938). Viruses cannot be captured through standard microscopes because "they are smaller than the wavelength of light" (Bock von Wülfingen 2023, 261); so, electron microscopy "opened up the realm of colloidal dimensions to the human eye" (von Borries et al. 1938, 925). The then-new technology became key to the conceptualization and study of viruses in the years that followed, as "[o]nly the electron microscope could provide convincing evidence that viruses were distinct entities […]. Without a visual criterion for viral identity and integrity, investigation of viruses by other means would have been plagued with far greater uncertainties" (Rasmussen 1997, 219). As Bernd Hüppauf and Peter Weingart have noted, "Whereas illustrating pictures and graphics are concerned with 'the communication of information and results that are already understood,'" electron microscopes "make visible what would remain unknown without them" (2008, 14).

Alissa Eckert echoed these ideas in an interview with *Elemental*, stressing that the CDC illustration of SARS-CoV-2 (Illustration II.2) "was originally designed with the public in mind […]. However, it also serves to help researchers differentiate and visualize their information. Creating visual representations of diseases provides a way to take something complex and abstract and make it tangible through visualization" (Britt 2020). In addition to the illustration, the *Elemental* article included an explanation of the 3D rendering:

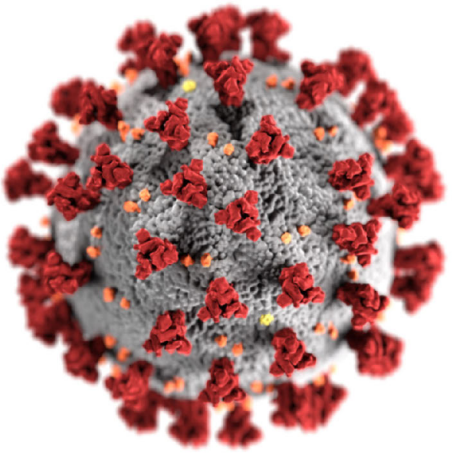
> The gray surface is a spherical envelope that surrounds the nucleus of the virus, containing genetic material.

4 All translations of sources in languages other than English are by the authors of this chapter.

> Orange bits are 'membrane proteins,' or M proteins, the most abundant structural protein in the virus and one that gives it form […]. These and other proteins vary from one type of virus to another, and can be used to help understand or identify one virus from another.
> Yellow bits are envelope proteins (E proteins), the smallest of the structural proteins. They play an important role either in regulating virus replication–such as virus entry–assembly and release, according to other research.
> Red spikes: These clumps of proteins (called S proteins) are what the virus uses to gain entry into and attach to the cell […]. They also create the effect of a halo, or corona, around the virus. (Britt 2020)

By giving the virus visual form, by "bringing the unseeable into view," as a *New York Times* article put it (Giaimo 2020), the illustration contributed to explaining the virus and its effects, and, in so doing, helped make the terrifying world around us seem more comprehensible and the threat containable. Indeed, as Bettina Bock von Wülfingen has noted, singling out an individual virion creates the impression that the viral attack "was manageable," which is supported by the static image (rather than an animation), which "instead of lively movement" (as well as the attendant notions of evasiveness and escape) promotes the notion of "controllability" (2023, 273).

Illustration II.2: The 3D rendering of SARS-CoV-2 designed by Alissa Eckert and Dan Higgins for the Centers for Disease Control and Prevention



CDC Public Health Image Library ID No. 23312. Image is in the public domain.

Bock von Wülfingen's reflections echo Bruno Latour's emphasis on the fact that "[i]n science, there is no such a thing as 'mere representation'" (2002, 22): the depiction of SARS-CoV-2 does not simply mimetically reproduce reality but is a meaningful production of that which is not graspable as a reality–an aspect that is arguably even more apparent in the 3D rendering (which does not *reproduce* the look of the virus but rather *illustrates* it) than in electron microscope images (but even there, questions such as coloration come into play). By making visible what was considered an existential but invisible threat, the SARS-CoV-2 representation was political in the most general sense: it gave shape to something shapeless and, as a central reference point for public debate, provided the basis for rendering the pandemic as crisis in the first place. After all, "contemporary public health crises would be literally unimaginable without […] visual representations. Indeed, one could argue that such crises are *unknowable* without visual representations" (Serlin 2010, xiii).

However, in these political (or politicized) contexts, the focus on the virus (the single virion, on top) tended to ignore "the social, environmental, and cultural conditions of transmission" as well as "the political costs of containing the developing crisis" and failed to "provide particularly insightful information on the pathogen itself" (Engelmann 2023, 236). Some of these shortcomings were critiqued in various types of appropriations, which only amplified the CDC illustration's signifying power.

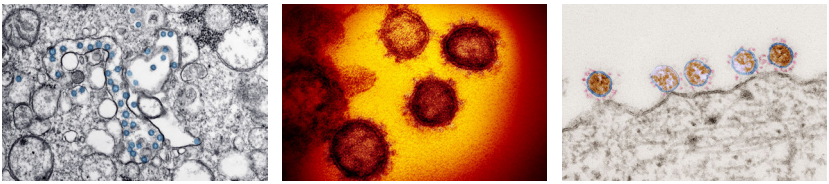
The CDC Illustration as Cultural Icon

Originally, the word 'icon' denoted religious paintings and sculptures, typically representing Jesus Christ, the Virgin Mary, saints, angels, and/or events from sacred Christian history. While traditional religious views have been largely replaced by secular belief systems in the West, these secular cultures nevertheless embellish (pseudo-)religious symbols and practices of worship. As a result, the notion of icons as objects that suggest the (pseudo-)presence of a divine figure has seeped into the (pop-)cultural realm. For example, Paul Ricœur has argued that, like religious icons, cultural icons may convey a more-than-ordinary reality (1976, 40–42). Icons must be "recognizable to a large number of members of a specific group" (Sørensen 2006, 239), which endows them with potent symbolic force and allows them to function "as carriers of collective emotions and meanings" (Binder 2011, 101). However, a cultural icon does not simply reflect hegemonic power structures and perpetuate dominant ideologies; rather, it is a "symbolic framework charged with meanings distinct enough to inspire multiple group-inscriptions but also open enough to resist ideational closure" (Leypoldt 2010, 10). In the digital age, cultural icons not only spread in numerous media and on different platforms (as Henry Jenkins, Sam Ford, and Joshua Green have put it: "If it doesn't spread, it's dead" [2013, 1]), but their

existence may be ephemeral (of an 'event'-like character), while their meanings and affective potentials are bound to change in the blink of an eye.

To claim that the 3D rendering of SARS-CoV-2 quickly reached iconic status may be an understatement, for "[i]t was the icon of the pandemic before most people on the globe even learned about it" (Bock von Wülfingen 2023, 277). Indeed, whereas an event of global proportions such as the COVID-19 pandemic should typically have various candidates vying for the role as iconic representation (and/or there are multiple visual icons representing an event of this scale), at least in the Global North, the CDC illustration was "without any competitive alternatives" (Bock von Wülfingen 2023, 277). To be sure, institutions such as the CDC, the NIAID, and the Robert Koch Institute released electron microscope images of SARS-CoV-2 within days after the CDC illustration had been published (Illustration II.3). These images could be said to purport to be more 'authentic' than the 3D renderings, as they (seem to) depict 'the real thing.' However, since the CDC illustration had already been in circulation for some days and featured in thousands of reports and articles, the other images only confirmed its iconic status by referring to the illustration rather than 'the real thing'–a kind of Baudrillardean short-circuit where "models of a real" are produced "without origin or reality" (1981, 10), as the representation of the virus preceded its reproduction.

Illustration II.3: Electron microscope images of SARS-CoV-2



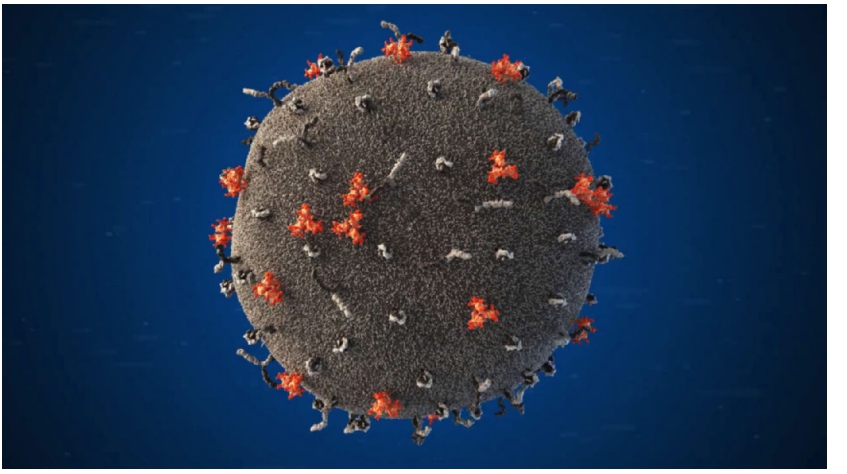
From left to right: Image by Hannah A. Bullock and Azaibi Tamin for the CDC. CDC Public Health Image Library ID No. 23354. Image is in public domain. Image by NIAID's Rocky Mountain Laboratories in Hamilton, Montana. Released on NIAID's flickr account under a CC BY 2.0 license, https://flic.kr/p/2isPPfE. Image by Tobias Hoffmann for Robert Koch Institute. Released through the RKI website for free use, https://www.rki.de/DE/Content/Infekt/NRZ/EM/Aufnahmen/EM_Tab_covid.html.

The CDC illustration instantly became part of the popular visual repertoire and, essentially, visually branded the pandemic. The illustration did, in fact, not so much "stand for the ultra-morphology of the protein structure on the surface of the virus" but rather became "representative of the pandemic at large" (Engelmann 2023, 251). Lukas Engelmann concludes that "[a]s an icon of the pandemic, the image becomes suggestive of a specific perspective on what the pandemic is, how it is caused, and

how it is supposed to be perceived. In other words, if we consider the pandemic as a crisis, the image offers a highly specified view on how to make sense of it" (2023, 251). However, one must remember that "[w]e never see paintings on their own," as our understanding of visual culture "is all surrounded, all prepared by a halo of commentary" (Butor [1980] 2019, 1).

Gérard Genette would have referred to this 'halo of commentary' as 'paratexts'–"accompaniments" that "surround" the text (1987, 1)–or, in our particular case, the image. Jonathan Gray has stressed that paratexts do not merely accompany media texts but rather create them by "condition[ing] our entrance to texts, telling us what to expect" (2010, 25). The interviews that the illustrators gave in various media are some of these paratexts, as they contextualize the illustration, explaining the scientific bases as well as aesthetic decisions that played into the creation of this particular "beauty shot," as Eckert put it (Giaimo 2020), which aimed at evoking "a feeling of alarm," as Dan Higgins remarked in another interview (Fairs 2020). These pieces of commentary influence onlookers' understanding of the illustration.

Illustration II.4: HIV model created by Visual Science



Frame grab from demo video, https://vimeo.com/187792262.

Yet connections to other texts–in a wider sense both verbal and visual–do not only unfold (more or less) synchronously: in what may well be described as an intertextual (or intervisual in the sense of a "fluid interchange of the image" [Mirzoeff 2001, 126]) reference, the SARS-CoV-2 illustration uncannily recalls a 3D model of HIV created by Visual Science that made it onto the cover of a special issue of *Na-*

ture Medicine back in October 2010 (Illustration II.4). The isolated virion hovering in space, the gray membrane endowing the virus with an uncanny quality, the weird shape of the virion, as the spikes are seemingly ready to attack the human body–they all echo in the SARS-CoV-2 representation. That is, part of the illustration's iconic power resides in how it drew on–how it serially repeated–elements of earlier depictions of viruses, thus embedding it in a longer aesthetic tradition of representing microorganisms.

Moving from the past to the (then-)future of the CDC illustration, it seems noteworthy that the 2002–2004 SARS outbreak transformed into "cultural fodder to be recontextualized by impertinent twentysomethings for t-shirts and screen savers," producing "SARS images […] with […] ironic aplomb" (Serlin 2010, xviii). Similarly, the CDC illustration was adapted and appropriated in various ways and contexts: it represented the struggle between science and science skepticism (if not outright denialism); it symbolized the seemingly never-ending struggle of healthcare workers; the virus had a fun time skiing in Austria (picking up on the notion of the ski resort Ischgl as a "superspreading transmission hub" in the early stages of the pandemic [Popa et al. 2020; see Mayer et al. 2021 for an exploration of the discourse surrounding Ischgl]); it emblematized distance learning around the globe; and much more. As much as these representations (re-)contextualize and appropriate the iconic representation, they stand in a dialogic relationship to the CDC illustration; they refer back to it and thus cement its iconic status and cultural relevance. Through their playful interactions with the original illustration, however, later depictions of SARS-CoV-2 often removed the uncanny, weird qualities from the original illustration.

The Aesthetics of Weirdness and Cosmic Dread

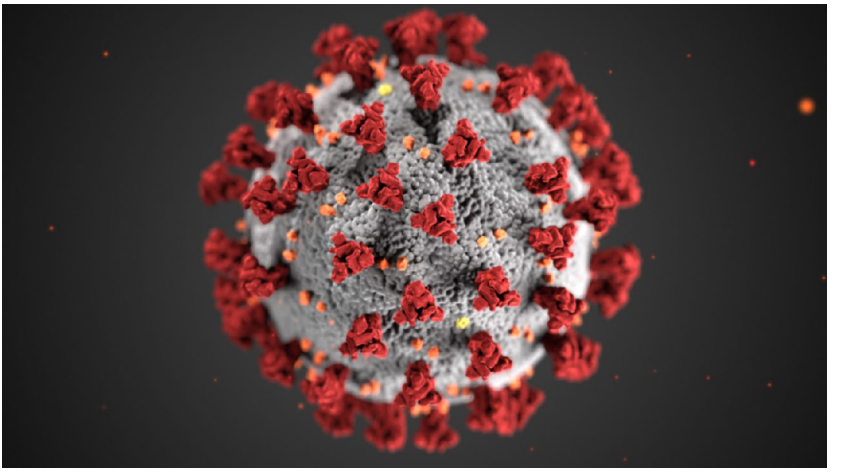
In a contribution to the *Medical Humanities* blog, Kristin Marie Bivens and Marie Moeller (2020) stress that the "scientifically-oriented representation" of SARS-CoV-2 "misses the opportunity to humanize and contextualize the novel coronavirus." They appreciate the illustration's "visually pleasing" form, but condemn that it "avoids conveying the exigency of the current pandemic, the urgency of enacting certain behaviors during this global health crisis, and the human toll it is exacting across the globe." Bivens and Moeller seem to misunderstand the functions and purposes of the SARS-CoV-2 illustration and would rather have COVID-19 images focus on the effects of the disease. They argue that the virus and its impacts on human bodies and wider consequences on health care systems and other infrastructure needs to be rendered "gross," "graphic," and "grotesque," seemingly suggesting that science (or disease) communication should emphasize affect. In a two-part post on the blog *Inhabiting the Anthropocene*, which was operated by scholars at the University of Oklahoma, art historian Robert Bailey (2020) expresses a rather different opinion, as, for

him, the image is, in fact, too horrific. To use the title of the post, "the coronavirus looks like neoliberalism," since the visualization attacks individuals rather than governments or collective entities: "the 'spiky blob,'" Bailey argues, "tells us to be afraid for our lives and to act accordingly. But afraid of what? Not of God but of everything. [… A] part of us deep within automatically registers and accepts its prompt in the name of basic survival instinct." Since the red spikes on the front are in focus and the remaining spikes become increasingly blurry, the 3D rendering creates the impression that the virus is directed toward the viewer, ready to pounce on them, Bailey notes.

Even though Bivens and Moeller, on the one hand, and Bailey, on the other, approach the illustration from different points of view and draw very different conclusions, both responses to the illustration express a desire for a more human (or humane) dimension–Bivens and Moeller miss a call to action, whereas in Bailey's reading of the image, the human may be implied as a potential 'target' of the virus, but the image lacks a human reference point. In particular when looking at the version of the illustration featuring the virion against a dark background, with orange dots, possibly hinting at more virions lurking in the darkness, the cosmic dimension evoked by the virus becomes apparent–SARS-CoV-2 is hovering in dark space (Illustration II.5). There is a science-fictional quality to the illustration, which exemplifies a tradition in which "the small levels of life on earth […] evoke a sense of the unfamiliar more commonly attributed to the uncertainty of outer space" (Hamann-Rose 2022, 45). At the same time, this alien creature is precisely not, to draw on Ian Bogost, "hidden in the darkness of the outer cosmos"; instead, the virus is a "true alien" that "surrounds us completely"–it is potentially "everywhere, in everything" (2012, 34).

Paul Hamann-Rose considers the aesthetic strategy of 'upscaling' microorganisms key to generating the 'molecular sublime.' Edmund Burke provided the classic definition of the sublime in his treatise *A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful* (1757), arguing that the sublime "excite[s] the ideas of pain and danger" (1990, 36). The sublime experience produces astonishment, which "is that state of the soul, in which all its motions are suspended, with some degree of horror," combining feelings of wonder with terror (Burke [1757] 1990, 53). "The kindred emotions which attend fear and wonder" produce a desire to be overwhelmed by the beauty of nature while simultaneously fearing to be annihilated by it (Burke [1757] 1990, 54). One could certainly apply these ideas to the CDC illustration, as the miniscule virion is rendered beautiful while simultaneously evoking horror due to the pain it causes: "Only embodied in an image does the virus gain power and produce terror, keep us in *awe*" (Belgrano 2021, 203).

Illustration II.5: The 3D rendering of SARS-CoV-2 designed by Alissa Eckert and Dan Higgins for the Centers for Disease Control and Prevention against a black, outer space-like background



CDC Public Health Image Library ID No. 23311. Image is in the public domain.

But this awe characteristically and traditionally ascribed to the sublime can also serve to "undermin[e…] the quotidian" (Miéville 2009, 510), aligning the illustration with "the vague, elusive, fragmentary impressions of wonder, beauty, and adventurous expectancy" that H. P. Lovecraft attributed to the weird ([1937] 2004, 175). Indeed, one may argue along Lovecraft's lines that the representation of the microscopic-turned-visible virion frozen in time seems to entail "the illusion of some strange suspension or violation of the galling limitations of time, space, and natural law which for ever imprison us and frustrate our curiosity about the infinite cosmic spaces beyond the radius of our sight and analysis" ([1937] 2004, 176).

Mark Fisher continued Lovecraft's line of thinking, noting that the weird centers on "a preoccupation with the strange" and is fascinated with "that which lies beyond standard perception, cognition and experience. This fascination usually involves a certain apprehension, perhaps even dread" (2016, 8). One weird aspect of viruses, which exposes the "unhuman dimensions" of "unhuman life" (Thacker 2009, 40), is how they transcend accepted divisions between life and death: the only traditional life process that a virus undergoes is reproduction–which means producing copies of itself inside a host. Despite the emergence of variegated and differentiated definitions and descriptions of 'life,' viral existence is incommensurate to all (or at least most) of them; viruses raise questions about the ontology of life. Indeed, occupying a netherworld between life and death, invisible to the human eye, but made visible by harnessing the power of human-made technology in an attempt "to produce

meaning, to make the world signify, to render it visible" (Baudrillard 1987, 56), SARS-CoV-2, ready to pounce on its human prey, evokes not just fear but dread. This dread results from how the weird "is that which *does not belong*. The weird brings to the familiar something which ordinarily lies beyond it" (Fisher 2016, 10). As the illustration anticipates how the virion attacks the individual human body, this attack transforms into an all-out attack on the traditional idea of the human body as separate from its environment. "The weird," as Fisher puts it, "is a signal that the concepts and frameworks which we have previously employed are now obsolete" (2016, 13).

Yet the visual presence of the microscopic-turned-visible virion does more than merely unsettle the idea of the human body as a walled-off, fortified entity: produced by modern imagining technologies and recent bio-medical insights, the illustration cannot but acknowledge how one of the "great divides" (Latour 1991) of modernity–that between nature and culture–is a fiction. This gesture ties in with discourses surrounding the Anthropocene, which, Rebecca Evans has noted, is underpinned by an idea of "our own world as something other than what we had thought it was. It depicts the strangeness of the stories that modernity has told (about) itself, estranging us from where we thought we lived by announcing our actual location in an unfamiliar world" (2018, 485). Eugene Thacker has likewise observed that "[t]he world is increasingly unthinkable–a world of planetary disasters, emerging pandemics, tectonic shifts, strange weather, oil-drenched seascapes, and the furtive, always-looming threat of extinction." "[T]o confront this idea," he continues, "is to confront an absolute limit to our ability to adequately understand the world at all." Part of the problem of understanding the contemporary reality "lies in comprehending the world in which we live as both a human and a non-human world" (2011, 1–2).

Indeed, the combination of the virus being incredibly small but surrounded by dark space acknowledges that "there are a bewildering variety of scales, temporal and spatial, and that the human ones are only a very narrow region of a much larger and necessarily inconsistent and varied scalar possibility space, and that the human scale is not the top scale" (Morton 2017, loc. 3082). The illustration is not so much embedded in the tradition of conceiving the human "body under siege by foreign armies" (van Dijck 2005, 12); rather, it highlights "the ghostly presence of […] nonhumans, including the 'nonhuman' aspects of ourselves" (Morton 2017, loc. 953). At the same time, the vast temporal and spatial scales of outer space evoked by the darkness integrate humankind in larger, supra-planetary contexts, exposing how little we know–about the virus, about the world, about the universe, about ourselves. To see the virus means to gain access to a kind of weird knowledge, usually inaccessible to human eyes, but made visible by modern technology. This access to new knowledge, to weird knowledge, reveals fissures in the foundations of our established (and, perhaps, outdated) knowledge systems: the more we seem to know of the world, the more we not only come to understand how little we know but also how

much danger is 'out there,' testifying to how the weird "suggest[s] reality to be richer, larger, stranger, more complex, more surprising—and, indeed, 'weirder'—than common sense would suppose" (Freedman 2013, 14). As the horizon of potential knowledge is expanded, the knowledge-based foundations of humanism are shaken, and human pretenses of grandeur become unsettled.

In this context, pandemics, to draw on Stuart Sim, "are very conducive to an existentialist interpretation, particularly its emphasis on the essential absurdity of human existence and the lack of any overall meaning or destiny to it" (2023, 70). This argument evokes Slavoj Žižek's point that "viral epidemics remind us of the ultimate contingency and meaninglessness of our lives" (2020, 52). Yet whereas Žižek cautions against "treat[ing] the ongoing epidemic as something that has a deeper meaning: the cruel but just punishment of humanity for the ruthless exploitation of other forms of life on earth," as such an understanding of COVID-19 would magnify humanity's role and ignore the fact that "we are just a species with no special importance" (2020, 14), the COVID-19 pandemic confronted us with the paradoxes of the Anthropocene condition: humanity is a biological and geological agent whose "activities have become so pervasive and profound that they rival the great forces of Nature and are pushing the Earth into planetary *terra incognita*" (Steffen et al. 2007, 614). And just as different and differentiated culpabilities, responsibilities, and vulnerabilities define the Anthropocene, so did (at least) different vulnerabilities become visible during the COVID-19 pandemic.

Anthropocene Realities

The CDC illustration might help contain the virus through a set of representational strategies. At the same time, it at least implicitly draws attention to the fact that, in the end, the virus remains uncontainable. In a way, then, the illustration epitomizes both an attempt at controlling the virus and the fear, or feeling, of its uncontrollability, which, in turn, characterizes the Anthropocene's growing sense of "out-of-control-ness," to draw on Nigel Clark's words (1997, 79). To be sure, this strong connection between the coronavirus and the Anthropocene was not only implied by the CDC illustration and its interpretations and appropriations; it also found expression in a range of other forms and formats of representing the pandemic, e.g., in an exhibition called *Bestiary of the Anthropocene* on display in Eindhoven in the summer and early fall of 2020 (before touring other cities such as Geneva and Louvain). In the book that provides the basis for the exhibition, an illustration of SARS-Cov-2 features in a section titled "Kingdom of Miscellaneous," alongside entries such as radioactive mushrooms, artificial snow, and cloud seeding. The description of the coronavirus explains that "the COVID-19 pandemic […] is a disaster that has human origins—a 'product' of the Anthropocene—due to our actions that contribute to weak-

ening natural ecosystems, thus promoting the spread of pathogens" (Nova and disnovation.org 2020, 141). This statement echoes David Quammen's eerily prescient 2012 book *Spillover*, in which he argues that the increasing frequency of disease outbreaks results from "the convergence of two forms of crisis on our planet. The first crisis is ecological, the second is medical. […] One: Mankind's activities are causing the disintegration […] of natural ecosystems at a cataclysmic rate. […] Within such ecosystems live millions of kinds of creatures, most of them unknown to science, unclassified into a species, or else barely identified and poorly understood. Two: Those millions of unknown creatures include viruses, bacteria, fungi, protists, and other organisms, many of which are parasitic" (39–41).

However, establishing a clear, direct causal connection between specific parameters of anthropogenic ecological overreach and the COVID-19 pandemic is perhaps a little too easy, as Eva Horn cautions by asking, "Are shrinking wildlife habitats, species migration and dangerously close human-animal contact directly or indirectly responsible for the Covid-19 pandemic?" (2021, 123). As her question implies, they likely all played their fair share in bringing about the spillover, while globalization facilitated and accelerated the virus's spread around the world. So, the pandemic itself was more of an "emergent effect" (Morton 2010b, 7) resulting from "innumerable uncertainly related phenomena" (Clark 2016, 8) rather than a direct consequence of a specific development. Whatever the case, the tendency to brazenly combine quotations describing the Anthropocene and the COVID-19 pandemic resonates deeply with the conviction that the pandemic may have been "the Anthropocene in fast-forward–a model and an example" (Horn 2021, 132).

Consciously or not, then, the CDC rendering is embedded in these discourses that connect the pandemic to the Anthropocene. By evoking a cosmic perspective and focusing on a weird form of (non-)being that unsettles the binary of life and death, it reveals that, to allude to the title of a 2016 book by Ed Yong (and, of course, Walt Whitman), we contain multitudes. As an icon of both the COVID-19 pandemic and the Anthropocene, the CDC illustration brings all of these extravagating ideas together, expressing a dawning understanding of "a new phase of history in which nonhumans are no longer excluded or merely decorative features of […] social, psychic, and philosophical space," to draw on Timothy Morton's definition of the Anthropocene (2013, 12). Indeed, the COVID-19 pandemic has forever entangled emerging diseases with the Anthropocene condition.

Works Cited

Aronsson, Anne, and Fynn Holm. 2022. "Multispecies Entanglements in the Virosphere: Rethinking the Anthropocene in Light of the 2019 Coronavirus Outbreak." *The Anthropocene Review* 9(1): 24–36. doi: 10.1177/2053019620979326.

Bailey, Robert. 2020. "The Coronavirus Looks Like Neoliberalism, Part One: The 'Spiky Blob'." *Inhabiting the Anthropocene*. June 3. https://inhabitingtheanthropocene.com/2020/06/03/the-coronavirus-looks-like-neoliberalism-part-one-the-spiky-blob/.

Baudrillard, Jean. 1981. *Simulacres et simulation*. Paris: Éditions Galilée.

Baudrillard, Jean. 1987. *L'autre par lui-même: Habilitation*. Paris: Éditions Galilée.

Belgrano, Mateo. 2021. "Una epidemia visual: La pandemia COVID-19 desde un abordaje iconopolítico." *Artefacto visual* 6(12): 197–211.

Binder, Werner. 2011. "The Emergence of Iconic Depth: Secular Icons in a Comparative Perspective." In *Iconic Power: Materiality and Meaning in Social Life*, edited by Jeffrey C. Alexander, Dominik Bartmański, and Bernhard Giesen, 101–116. New York: Palgrave Macmillan.

Bivens, Kristin Marie, and Marie Moeller. 2020. "Make COVID-19 Visuals Gross." *Medical Humanities Blog*. April 21. https://blogs.bmj.com/medical-humanities/2020/04/21/make-covid-19-visuals-gross/.

Bock von Wülfingen, Bettina. 2023. "Circulation of Coronavirus Images: Helping Social Distancing?" *Berichte zur Wissenschaftsgeschichte* 46: 259–82. doi: 10.1002/bewi.202200052.

Bogost, Ian. 2012. *Alien Phenomenology; Or, What It's Like to Be a Thing*. Minneapolis: University of Minnesota Press.

Braidotti, Rosi. 2020. "'We' Are In This Together, But We Are Not One and the Same." *Journal of Bioethical Inquiry* 17: 465–69. doi: 10.1007/s11673-020-10017-8.

Britt, Robert Roy. 2020. "What the Coronavirus Image You've Seen a Million Times Really Shows." *Elemental*. March 13. https://elemental.medium.com/what-the-coronavirus-image-youve-seen-a-million-times-really-shows-3d8de7e3eb1f.

Burke, Edmund. (1757) 1990. *A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful*. Edited with an Introduction and Notes by Adam Phillips. Oxford: Oxford University Press.

Butler, Martin, Sina Farzin, and Michael Fuchs. 2021. "PandemIcons? The Medical Scientist as Iconic Figure in Times of Crisis." *Configurations* 29(4): 435–51. doi: 10.1353/con.2021.0031.

Butor, Michel. (1980) 2019. *Les mots dans la peinture*. Paris: Flammarion.

Centers for Disease Control and Prevention. 2020. "First Travel-Related Case of 2019 Novel Coronavirus Detected in United States." Press release. January 21. https://archive.cdc.gov/#/details?q=https://www.cdc.gov/media/releases/2020/p0121-novel-coronavirus-travel-case.html.

Chakrabarty, Dipesh. 2021. "The Chronopolitics of the Anthropocene: The Pandemic and Our Sense of Time." *Contributions to Indian Sociology* 55(3): 324–48. doi: 10.1177/00699667211065081.

Chimileski, Scott, and Roberto Kolter. 2017. *Life at the Edge of Sight: A Photographic Exploration of the Microbial World*. Cambridge, Mass.: Belknap Press.

Clark, Nigel. 1997. "Panic Ecology: Nature in the Age of Superconductivity." *Theory, Culture & Society* 14(1): 77–96. doi: 10.1177/026327697014001005.

Clark, Timothy. 2016. "'But the real problem is…': The Chameleonic Insidiousness of 'Overpopulation' in the Environmental Humanities." *Oxford Literary Review* 38(1): 7–26. doi: 10.3366/olr.2016.0177.

Crutzen, Paul J. 2002. "Geology of Mankind." *Nature* 415(23): 23. doi: 10.1038/415023a.

de Lamarck, Chevalier (Jean Baptiste Pierre Antoine de Monet). 1816. *Histoire naturelle des animaux sans vertèbres*. Paris: Libraire Verdière.

Engelmann, Lukas. 2023. "Virus-Imagery: A Short History of Pandemic Mis-Representation, HIV to COVID-19." In *Historical Explorations of Modern Epidemiology: Patterns, Populations and Pathologies*, edited by Heini Hakosalo, Katariina Parhi, and Annukka Sailo, 235–54. Cham: Palgrave Macmillan.

Evans, Rebecca. 2018. "Nomenclature, Narrative, and Novum: 'The Anthropocene' and/as Science Fiction." *Science Fiction Studies* 45(3): 484–99.

Fairs, Marcus. 2020. "Iconic Covid-19 Images Designed to Create 'a Feeling of Alarm' Says CDC Medical Illustrator Dan Higgins." *dezeen*. May 14. https://www.dezeen.com/2020/05/14/covid-19-images-coronavirus-cdc-medical-illustrator-dan-higgins/.

Fisher, Mark. 2016. *The Weird and the Eerie*. London: Repeater Books.

Freedman, Carl. 2013. "From Genre to Political Economy: Miéville's *The City & The City* and Uneven Development." *CR: The New Centennial Review* 13(2): 13–30. doi: 10.1353/ncr.2013.0013.

Genette, Gérard. 1987. *Seuils*. Paris: Éditions du Seuil.

Ghosh, Bishnupriya. 2023. *The Virus Touch: Theorizing Epidemic Media*. Durham: Duke University Press.

Giaimo, Cara. 2020. "The Spiky Blob Seen Around the World." *New York Times*. April 1. https://www.nytimes.com/2020/04/01/health/coronavirus-illustration-cdc.html.

Gray, Jonathan. 2010. *Show Sold Separately: Promos, Spoilers, and Other Media Paratexts*. New York: New York University Press.

Hamann-Rose, Paul. 2022. "Human Environmental Aesthetics: The Molecular Sublime and the Molecular Grotesque." In *Life, Re-Scaled: The Biological Imagination in Twenty-First-Century Literature and Performance*, edited by Liliane Campos and Pierre-Louis Patoine, 41–67. Cambridge: Open Books Publishers.

Haraway, Donna J. 2016. *Staying with the Trouble: Making Kin in the Chthulucene*. Durham: Duke University Press.

Hooke, Robert. 1665. *Micrographia; Or, Some Physiological Descriptions of Minute Bodies Made by Magnifying Glasses with Observations and Inquiries Thereupon*. London: Royal Society.

Horn, Eva. 2021. "Tipping Points: The Anthropocene and Covid-19." In *Pandemics, Politics, and Society: Critical Perspectives on the Covid-19 Crisis*, edited by Gerard Delanty, 123–37. Berlin: Walter de Gruyter.

Hüppauf, Bernd, and Peter Weingart. 2008. "Images in and of Science." In *Science Images and Popular Images of the Sciences*, edited by Bernd Hüppauf and Peter Weingart, 3–31. New York: Routledge.

Jenkins, Henry, Sam Ford, and Joshua Green. 2013. *Spreadable Media: Creating Value and Meaning in a Networked Culture*. New York: New York University Press.

Joubert, Marina, Lars Guenther, Jenni Metcalfe, Michelle Riedlinger, Anwesha Chakraborty, et al. 2023. "'Pandem-Icons': Exploring the Characteristics of Highly Visible Scientists During the Covid-19 Pandemic." *Journal of Science Communication* 22(1): A04. doi: 10.22323/2.22010204.

Koch, Robert. (1881) 1912. "Zur Untersuchung von pathogenen Organismen." In *Gesammelte Werke von Robert Koch*, vol. 1, edited by Julius Schwalbe, Georg Gaffky, and Ernst Pfuhl, 112–63. Leipzig: Georg Thieme.

Latour, Bruno. 1991. *Nous n'avons jamais été modernes: Essai d'anthropologie symétrique*. Paris: Éditions La Découverte.

Latour, Bruno. 2002. "What Is Iconoclash? Or, Is There a World Beyond the Image Wars?" In *Iconoclash: Beyond the Image Wars in Science, Religion and Art*, edited by Bruno Latour and Peter Weibel, 16–38. Cambridge, Mass.: MIT Press.

Leypoldt, Günter. 2010. "Introduction: Cultural Icons, Charismatic Heroes, Representative Lives." In *American Cultural Icons: The Production of Representative Lives*, edited by Bernd Engler and Günter Leypoldt, 5–28. Würzburg: Königshausen & Neumann.

Li, Nan, Amanda L. Molder, and Shiyu Yang. 2022. "Visual Representations of SARS-CoV-2, Emotions, and Risk Perception of COVID-19." *Health Science Reports* 5(1): e496. doi: 10.1002/hsr2.496.

Lorimer, Jamie. 2020. *The Probiotic Planet: Using Life to Manage Life*. Minneapolis: University of Minnesota Press.

Lovecraft, H. P. (1937) 2004. "Notes on Writing Weird Fiction." In *Collected Essays, Volume 2: Literary Criticism*, edited by S.T. Joshi, 175–78. New York: Hippocampus Press.

Lovelock, James E., and Lynn Margulis. 1974. "Atmospheric Homeostasis by and for the Biosphere: The Gaia Hypothesis." *Tellus A: Dynamic Meteorology and Oceanography* 26(1–2): 2–10. doi: 10.3402/tellusa.v26i1-2.9731.

Mayer, Marius, Bernhard Bichler, Birgit Pikkemaat, and Mike Peters. 2021. "Media Discourses About a Superspreader Destination: How Mismanagement of COVID-19 Triggers Debates About Sustainability and Geopolitics." *Annals of Tourism Research* 91. doi: 10.1016/j.annals.2021.103278.

Miéville, China. 2009. "Weird Fiction." In *The Routledge Companion to Science Fiction*, edited by Mark Bould, Andrew M. Butler, Adam Roberts, and Sherryl Vint, 510–15. London: Routledge.

Mirzoeff, Nicholas. 2001. "Intervisuality." In *Exploding Aesthetics*, edited by Annette W. Balkema and Henk Slager, 124–33. Amsterdam: Editions Rodopi.

Morens, David M., and Anthony S. Fauci. 2020. "Emerging Pandemic Diseases: How We Got to COVID-19." *Cell* 182(5): 1077–92. doi: 10.1016/j.cell.2020.08.021.

Morton, Timothy. 2010a. *The Ecological Thought*. Cambridge, Mass.: Harvard University Press.

Morton, Timothy. 2010b. "Ecology as Text, Text as Ecology." *Oxford Literary Review* 32(1): 1–17. doi: 10.3366/olr.2010.0002.

Morton, Timothy. 2016. *Dark Ecology: For a Logic of Future Coexistence*. New York: Columbia University Press.

Morton, Timothy. 2017. *Humankind: Solidarity with Non-Human People*. New York: Verso Books. Kindle ed.

Müller, Silke. 2024. "Die Präsentation des Unsichtbaren: Darstellungen des Coronavirus zwischen Pop und Realität." In *Super-Spreader: Popkultur und mediale Diskurse im Angesicht der Pandemie*, edited by Arno Görgen, Tobias Eichinger, and Eugen Pfister, 83–97. Bielefeld: transcript Verlag.

Naicker, Jade. 2023. "Medical Illustration in Anatomy." In *Graphic Medicine, Humanizing Healthcare and Novel Approaches in Anatomical Education*, edited by Leonard Shapiro, 63–83. Cham: Springer.

Nocek, Adam. 2021. *Molecular Capture: The Animation of Biology*. Minneapolis: University of Minnesota Press.

Nova, Nicolas, and disnovation.org, eds. 2020. *A Bestiary of the Anthropocene: On Hybrid Minerals, Animals, Plants, Fungi, …* Eindhoven: Stichting Onomatopee.

Popa, Alexandra, Jakob-Wendelin Genger, Michael D. Nicholson, Thomas Penz, Daniela Schmid, et al. 2020. "Genomic Epidemiology of Superspreading Events in Austria Reveals Mutational Dynamics and Transmission Properties of SARS-CoV-2." *Science Translational Medicine* 12(573). doi: 10.1126/scitranslmed.abe2555.

Quammen, David. 2012. *Spillover: Animal Infections and the Next Human Pandemic*. New York: W. W. Norton.

Rasmussen, Nicolas. 1997. *Picture Control: The Electron Microscope and the Transformation of Biology in America, 1940–1960*. Stanford: Stanford University Press.

Ricœur, Paul. 1976. *Interpretation Theory: Discourse and the Surplus of Meaning*. Fort Worth: Texas Christian University Press.

Serlin, David. 2010. "Introduction: Toward a Visual Culture of Public Health–From Broadside to YouTube." In *Imagining Illness: Public Health and Visual Culture*, edited by David Serlin, xi–xxxvii. Minneapolis: University of Minnesota Press.

Shildrick, Margrit. 2022. *Visceral Prostheses: Somatechnics and Posthuman Embodiment*. London: Bloomsbury Academic.

Sim, Stuart. 2023. *Daniel Defoe's* A Journal of the Plague Year *and Covid-19: A Tale of Two Pandemics*. Cham: Palgrave Macmillan.

Sonnevend, Julia. 2020. "A Virus as an Icon: The 2020 Pandemic in Images." *American Journal of Cultural Sociology* 8: 451–61. doi: 10.1057/s41290-020-00118-7.

Sørensen, Bent. 2006. "Sacred and Profane Icon-Work: Jane Fonda and Elvis Presley." In *US Icons and Iconicity*, edited by Walter W. Hölbling, Klaus Rieser, and Susanne Rieser, 236–57. Vienna: LIT Verlag.

Steffen, Will, Paul J. Crutzen, and John R. McNeill. 2007. "The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature?" *Ambio* 36(8): 614–21. doi: 10.1579/0044-7447(2007)36[614:taahno]2.0.co;2.

Thacker, Eugene. 2009. "After Life: *De anima* and Unhuman Politics." *Radical Philosophy* 155: 31–40.

Thacker, Eugene. 2011. *In the Dust of This Planet*. Washington: Zero Books.

Todd, Zoe. 2016. "An Indigenous Feminist's Take on the Ontological Turn: 'Ontology' Is Just Another Word for Colonialism." *Journal of Historical Sociology* 29(1): 4–22. doi: 10.1111/johs.12124.

Tsafrir, Jenni, and Avi Ohry. 2001. "Medical Illustration: From Caves to Cyberspace." *Health Information and Libraries Journal* 18(2): 99–109. doi: 10.1046/j.1471-1842.2001.d01-16.x.

Tsing, Anna. 2012. "Unruly Edges: Mushrooms as Companion Species." *Environmental Humanities* 1(1): 141–154. doi: 10.1215/22011919-3610012.

van Dijck, José. 2005. *The Transparent Body: A Cultural Analysis of Medical Imagining*. Seattle: University of Washington Press.

von Borries, Bodo, Ernst Ruska, and Helmut Ruska. 1938. "Bakterien und Virus in übermikroskopischer Aufnahme." *Klinische Wochenschrift* 17(27): 921–25.

Wald, Priscilla. 2008. *Contagious: Cultures, Carriers, and the Outbreak Narrative*. Durham: Duke University Press.

Whyte, Kyle. 2017. "Indigenous Climate Change Studies: Indigenizing Futures, Decolonizing the Anthropocene." *English Language Notes* 55(1–2): 153–62. doi: 10.1215/00138282-55.1-2.153.

Yang, Xiaoli. 2021. "Spectral Aesthetics: Cultivating a Viral Ecology." *Culture, Theory and Critique* 62(4): 390–403. doi: 10.1080/14735784.2022.2084129.

Yong, Ed. 2016. *I Contain Multitudes: The Microbes Within Us and a Grander View of Life*. New York: Ecco Press.

Yusoff, Kathryn. 2018. *A Billion Black Anthropocenes or None*. Minneapolis: University of Minnesota Press.

Žižek, Slavoj. 2020. *Pandemic! COVID-19 Shakes the World*. New York: OR Books.

Zwijnenberg, Robert. 2009. "Leonardo and Female Interiority." In *The Body Within: Art, Medicine and Visualization*, edited by Renée van de Vall and Robert Zwijnenberg, 15–30. Leiden: Brill.