

Emily Waples //

This month, the CDC published an update to its coronavirus guidelines, acknowledging the airborne transmission of SARS-CoV-2, even at distances greater than now-sacrosanct six-foot radius. The revision was radical only in its belatedness, affirming well-established scientific evidence of aerosol transmission. Occurring on the heels of an April 30 update to the WHO website, the agency's amended assertion that transmission of the virus occurs through the "inhalation of very fine respiratory droplets and aerosol particles" replaced its prior emphasis on droplet transmission alone, eliminating the language of "close contact" on which this mode of exposure depends. At long last, the CDC has hazarded sanctioning a reality we already realized, a truth we already knew. It's in the air.

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In a pivotal scene in the 1995 medical disaster film *Outbreak*, army virologist Sam Daniels (Dustin Hoffman) comes to an unsettling realization about the fictional Motaba virus. While attending to a group of patients who contracted the disease during a single exposure event (cheekily, a movie screening), Colonel Daniels is called to examine a patient in another wing of the hospital—a patient admitted for an unrelated complaint, one who has had no known contact with a carrier, but who has begun to exhibit symptoms. We watch as Daniels grasps the significance of this development. He slowly turns his head; from behind the face shield of his yellow Hazmat suit, his eyes gravitate pointedly toward the ceiling vent. From here, the camera draws us along the hypothesized path of transmission via a voyage into the HVAC system; the audience assumes the position of the aerosolized virus, navigating the passage of pathogens. Then we return to ground level, moving from the connectedness of infected space to the intellectual connection Hoffman's character makes, dropping his head toward the camera and gazing slightly past it as he utters his pronouncement to no one in particular: *It's airborne.*

The implication, we are meant to understand, is that the virus is more unwieldy than anyone had imagined. It means that it cannot be successfully tracked and managed solely by techniques like contact tracing. It means that it infects invisibly, distantly—that it travels, lingers, persists.

It means, as Daniels subsequently expresses it to his superior, Brigadier General Billy Ford (Morgan Freeman), *We're in deep fuckin' shit.*

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*Outbreak* is a central object of analysis for Priscilla Wald in her influential 2008 book *Contagious*; the film, Wald argues, “constructs expertise from the outset as the public’s dependence on experts’ ability to see and respond to what the public cannot” (38). In *Outbreak*, Wald suggests, “experts” are defined in part by their privileged access to (and understanding of) technologies of visualization, from electron microscopy to epidemiological mapping. And yet what the aforementioned scene shows is that Colonel Daniels’ ability to “see” the Motaba virus’s transmission mechanism is grounded in circumstantial inference, not empirical evidence. Here, “seeing” an airborne virus depends upon a collective act of imagination (with an assist from 1990s CGI). When the camera, replicating Daniels’ epidemiological imagination, sucks us up the ceiling vent, what it renders visible is not the virus itself—an ontology—but rather the routes by which infection occurs: a topography, an imaginary.

We might compare this scene with the earlier scene of the movie theater superspreader event, which zooms into the small droplets emitted from the mouth of a visibly symptomatic (and distressingly uncircumspect) cougher as he moves through public space, initiating unwitting “close contact.” Up until two weeks ago, official language from the CDC would have had us believe that SARS-CoV-2 spread exclusively in the manner visualized here. By updating the language on transmission to include exposure to not only “very fine respiratory droplets” but also “aerosol particles,” the CDC invites us into the visual imaginary of *Outbreak*’s hospital ventilation scene—and, by extension, into all of the “deep fuckin’ shit” that attends it.

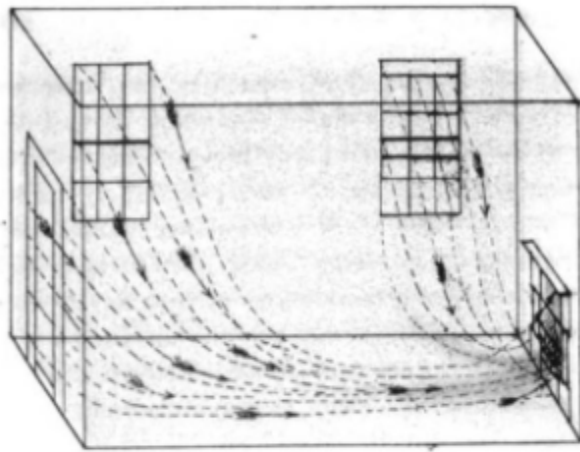
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The invitation has been a long time coming. Like its latest recommendations on masking, the CDC’s revised guidance on aerosol transmission marked another plot turn in a fraught fifteen months of public communication on the pandemic. Last September, the agency issued, then swiftly withdrew, guidance that included language on aerosol transmission—a confusing about-face that met with the condemnation of scientists and public health experts who urged officials to acknowledge what was already a widely-accepted scientific reality. In July, *Clinical Infectious Diseases* published an open letter signed by 239 scientists, calling for “the medical community and...the relevant national and international bodies”—namely, the WHO—“to recognize the potential for the airborne spread of coronavirus disease 2019.” Ten months later, unceremoniously, the undeniable potentiality has been recognized by both the WHO and the CDC. So what now? And also, why now?

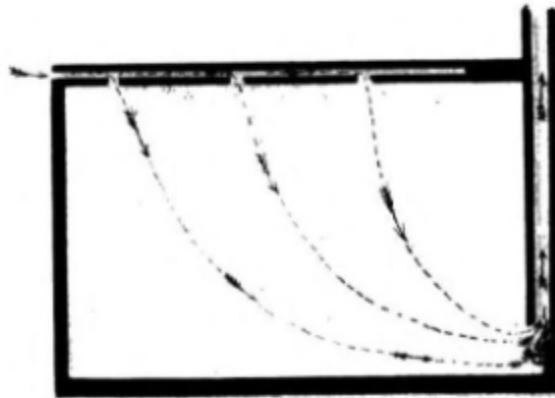
Sociologist Zeynep Tufekci has raised these questions in her *New York Times* opinion piece in which she suggests that the reluctance to acknowledge airborne transmission of coronavirus squares with the long history of “setting a higher standard of proof for theories that challenge conventional wisdom than for those that support it,” gesturing toward familiar lynchpins in medical history—Snow, Semmelweis—as evidence of this tendency. (Chemist Jose-Luis Jimenez has fleshed out a fuller history of epidemiological thought in a lengthy Twitter thread). Contemporary “conventional wisdom” about transmission has largely taken the shape of “hygiene theater,” directing attention toward the ostensible threat of contaminated surfaces—a method of transmission that scientists have suggested is in fact highly unlikely when it comes to COVID, and yet one that is deeply engrained in the popular imagination. The visual imaginary of surface transmission is memorably emblemized in 2011’s *Contagion*—a film that surged in popularity at the outset of the coronavirus pandemic—which traces the human-to-human spread of a novel zoonotic disease by illustrating how quotidian, seemingly innocuous objects (a credit card, a subway pole, a water glass, a pen) and encounters (a handshake, a hug) become occasions for infection. There is something understandable about the tangibility of hands, it seems, compared with the ethereality of breath; after all, it is far easier to grasp the directive that Matt Damon’s character offers—“don’t touch anything”—than the alternative: *don’t breathe anything*.

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*Fig. 12.*



*Fig. 13.*



John Griscom, *The Uses and Abuses of Air: Showing Its Influence in Sustaining Life and Producing Disease; with Remarks on the Ventilation of Houses*. New York, 1848.

As a scholar of nineteenth-century literature and medicine with a particular interest in theories of atmospheric disease transmission—specifically, what I have called the “miasmatic imagination”—I have had an uncanny time witnessing the resurgence of airborne disease discourse. Last summer, Tufekci made a plea in the *Atlantic* for attention to ventilation; in February, Sarah Zhang followed up with a piece about “rediscovering” nineteenth-century disease management techniques, framing our current moment as a “humbling reminder of the value of lost knowledge.” Last month, historian Melanie A. Kiechle wrote in *The Washington Post* a call for “revisiting the history of miasma theory.” After a century and a half of germ-centric rhetoric, air is trending.

The appeal to “rediscover” or “revisit” so-called “lost knowledge” raises questions about how and why such “knowledge” is lost to begin with—perhaps because it is regarded as never having been “knowledge” at all. In her foundational work *The Gospel of Germs*, historian Nancy Tomes claims that Americans’ acceptance of germ theory was shaped by extant belief systems: “By virtue of their religious heritage,” Tomes argues, “ordinary Americans had been conditioned to believe in an ‘invisible world’ dominated by unseen forces that held the power of life and death.” In the same

breath, Tomes adds that “rational or naturalistic explanations for epidemic disease had long assumed the reality of intangible disease agents borne in the unseen miasma or the sick person’s breath” (7). Here, Tomes implicitly aligns “religious” (or more specifically, Puritanical) epistemologies with “rational or naturalistic” ones. Both, it seems, constitute forms of superstitious non-knowledge that advocates of germ theory worked to bring into the realm of empiricism—and, via advances in microscopy, of visibility, or in Foucault’s terms, the “visible invisible” (209). But now, again living enshrouded by the potentiality of a lethal airborne virus, we might reassess what constitutes epidemiological knowledge. We might make space for this airborne imaginary, for the ethereal, unseen and unseeable atmosphere that interfaces and imperils us.

**Cover Image:** “Droplet transmission ranges for speaking, intubation, and coughing or sneezing.”  
*Wikimedia Commons.*

### Works Cited

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