In the midst of a pandemic and at great risk to his personal safety, a researcher retrieves a sample of tissue from an infected body. He races back to a makeshift laboratory where, hunched over the microscope, the offending microorganism is identified: “And there, fluttering delicately on the slide, was a germ” (Matheson 2007, 75). In this plotline of disease identification, biology is staged as a struggle between blindness and sight, invisibility and disclosure. The disease’s origins can be confirmed because the causal pathogen can be seen. It is there, discernible as an object under the microscope.

Implicitly, it can also be heard. The verb “fluttering” employed to describe the germ denotes both a visible pulsation and the fluctuation of a pitch. The word points to the specimen’s sonic identity, even as it suggests the extent to which sight and sound intermingle in practices of scientific knowledge making. The “vampiris bacillus” must be seen and heard to be studied (Matheson 2007, 76).

This chapter maps the presence of sound across three popular twentieth-century science narratives concerned with biological contamination and epidemics: Richard Matheson’s *I Am Legend* (1954), Michael Crichton’s *The Andromeda Strain* (1969), and Richard Preston’s *The Hot Zone* (1994). These texts are taken as “sampling devices” for exploring continuities and shifts in how scientific practices have been popularly understood from Cold War contamination fears in the 1950s to the early 1990s when, in the wake of HIV/AIDS, global health concerns began to pivot on the threat posed to
human populations by lethal emerging and reemerging hemorrhagic diseases (Rosenberg 1992, xxiii).

Interconnections between sound and vision are central to the different scientific worlds these texts evoke. Sound can function as a means of challenging the fixed authority of sight, opening up an affective space that the visual forecloses. However, like vision, listening is linked to particular forms of masculine and quasi-colonial control. Seeing and hearing do not only comprise ways of knowing and experiencing the world, they are also inherently political and provide models for its organization.

Albeit in different ways, each of the three narratives considered in this chapter invites the reader to reimagine twentieth-century scientific visuality—science as a “scopic regime”—through the problematizing prism of sound. The texts point to the ways in which visual and auditory epistemologies converge and diverge to create critical dissonances. Sounds implode upon the visual, disclosing visuality to be “a contested terrain, rather than a harmoniously integrated complex of visual theories and practices” (Jay 1988, 4).

In contending that fiction can furnish an archive for exploring science and its assumptions, the chapter draws on the insights of scholars such as Leo Marx and Rosalind Williams, among others, who have long argued for the tight imbrication of technology and culture. Rather than understanding science as an applied knowledge or repertoire of practices, it can be understood as a discursive field in a manner analogous to Marx’s technological world (Marx 1964; Williams 1990). Fictional works reflect and are constitutive of a scientific world. In Williams’s formulation, they are “cognitive acts” and as such provide the ground for exploring prevalent ideas that characterize the broader scientific culture (Williams 1993, 399).

**Sound and the Primacy of Vision**

Histories of Western science have tended to emphasize the primacy of vision. “The sixteenth century did not see first,” writes Lucien Febvre, “it heard and smelled, it sniffed the air and caught sounds.” It was only at the turn of the seventeenth century that “vision was unleashed in the world of science” (1982, 432, emphasis in original). New optical instruments, notably the telescope and the microscope, progressively curtailed the role of the other senses (Snyder 2015). The rise of print culture and the circulation of books extended the sphere of experimental science, enabling the reader to become an “absent witness” to scientific knowledge making (Johns 1998, 506). As Lorraine Daston and Peter Galison have argued, scientific atlases and photography were crucial to the rise of scientific objectivity as an “epistemic ideal” from the early nineteenth century (2008).

This foregrounding of the visual in histories of science has meant that sound and practices of listening have often been neglected (Crary 1990). Increasingly, however, scholars are reassessing science’s auditory dimensions. Steven Connor has gone as far as to suggest that “an observational,
calculative scientific culture organised around the sequestering powers of the eye began in the last quarter of the nineteenth century to produce new forms of technology, especially communicative technology, which themselves promoted a reconfiguring of the sensorium in terms of the ear rather than the eye” (Connor 2002, 17).

New acoustic technologies from the late nineteenth and early twentieth centuries sought to pick up hitherto inaudible sounds—“the roar on the other side of silence” (Eliot 1871, 351; see also Picker 2003, 4). Theories of vibration and electromagnetic waves suggested affinities between light and sound, seeing and listening (Enns and Trower 2013). Technologies for recording, amplifying, and disseminating sound—and packaging it as consumer commodity—propelled a preoccupation with the auditory and the cultivation of “sonic skills” (Bijsterveld 2019). These technological and scientific efforts to capture and describe extra-sensory frequencies were compelled by an urge to fix and categorize a fluctuating auditory universe. The management of sound was analogized with the teeming microbial world revealed by the microscope. As one commentator noted in 1878: “The microphone is an instrument which acts towards the ear as the microscope does to the eye. It will render evident to us sounds that are otherwise absolutely inaudible” (W. H. Preece in Picker 2003, 3).

In the early twenty-first century, visualization and sonification remain closely connected in science: not only in the conversion of scientific data into “auditory information” but, as Cyrus Mody has shown in his study of US probe microscopists, in scientific practices predicated on collecting and interpreting data through a process of “synesthetic conversion” between seeing and listening activities (Supper 2012; Mody 2012).

The narratives discussed in this chapter appropriate a scientific language in ways that highlight perceptual, epistemological, and methodological ambiguities between sight and sound, and vision and voice that are embedded in modern science. For example, the stealthy pathogen is sometimes conceived in these texts as an ominously noiseless foe, just as the exposure of a truth that is hidden—apocalypse, from the Greek for uncovering—is linked to the revelatory perception of a noise (Bull 1999). The laboratory as an environment purposively regulated to make pathogens visible may also, particularly in high biosafety-level facilities, be understood as a space where voices are hushed and extraneous sounds suppressed. If it is a place of intense seeing, as a micro-sphere of silence, it is equally a place of concentrated listening (Mody 2005).

The Tortured Silence of Science

Richard Matheson’s novel I Am Legend was published in 1954 during the height of the Cold War Red Scare, when concerns about a Communist infestation in the United States conflated with anxieties about radioactive fallout. Metaphors of epidemic disease were central to the Truman Doctrine with its emphasis on total security in the face of “infectious” threats to the nation
(Ivie 1999). The 1950s also witnessed increasing public disquiet about the anthropogenic impact on the natural environment of air and water pollution, radiation, waste disposal, and pesticides.

These political and environmental concerns provide a contextual backdrop to I Am Legend, where the protagonist, Robert Neville, finds himself the lone survivor of a plague that has devastated the planet, transforming humans into vampires. This is a drama played out in part as an auditory conflict. The year is 1976. Sequestered inside his house as dusk falls, Neville is haunted by the violent sounds that the vampires make as they swarm outside. He attempts to drown out the brutish din by playing classical music at full volume through loudspeakers, jamming in earplugs so he is engulfed by “a great silence,” before finally soundproofing the building (Matheson, 11).

In Matheson’s post-war tale of societal and environmental collapse, noise and its subjection feature as critical motifs. Disease in the narrative is the result of a catastrophic environmental transformation, since it transpires that the plague is spread by mosquitoes and dust storms that follow in the wake of war. The howls of the storms and the cries of the vampires are pitted against other salutary sounds that impinge upon the dead landscape and intimate the possibility of its reanimation.

At the same time, disease and the threat of infection are often foreshadowed by an ominous stillness—an unhealthy cessation of noise in deathly silence. In a passage of the novel that anticipates Rachel Carson’s celebrated account of the detrimental impact of synthetic pesticides on wildlife in Silent Spring, published eight years later in 1962, Neville remarks:

Morning. A SUN-BRIGHT hush broken only by the chorus of birds in the trees. No breeze to stir the vivid blossoms around the houses, the bushes, the dark-leaved hedges. A cloud of silent heat was suspended over everything on Cimarron Street. (Matheson, 57)

Compare this to Carson’s description of an ominously muted nature:

It was a spring without voices. On the mornings that had once throbbed with the dawn chorus of robins, catbirds, doves, jays, wrens, and scores of other bird voices there was now no sound; only silence lay over the fields and woods and marsh. (Carson 2002, 2)

Evocations of nature in Matheson and Carson draw on a tradition of American nature writing concerned with the ways in which the “noisy world” of mechanized modernity has encroached upon the “slumberous peace” of the countryside (Hawthorne in Marx 1964, 23–24). For environmentalists in the 1950s, 1960s, and 1970s, silence was an indicator that something was wrong; it was a symptom of a world out of balance.

In Matheson’s fiction, the destruction of nature by humans has resulted in their own regression to animals—a slide from language and music back
to brute noise. It is this primal world that threatens Neville’s survival and challenges his faith in the humanizing force of culture. Much of Matheson’s narrative hangs on the protagonist’s ultimately futile effort to prevent the vampires from invading his house. While he attempts to suppress the cacophonous noise outside, Neville recognizes a darkness that already resides within. From this perspective, culture—embodied in the “deathly still” of the dusty Los Angeles Public Library that he visits in his quest for scientific explanations for the plague—is not opposed to the zombie world beyond the sanctuary, but may in fact be implicated in its devastation. The “gray-stoned” library is described as a mausoleum housing “the literature of a world’s dead” (Matheson, 66). The darkness in culture is suggested, too, by the strains of Arnold Schoenberg’s string sextet *Verklärte Nacht* (1899), which Neville blasts through the speakers. This is a music inspired by Richard Dehmel’s poem of the same title that, for all its celebration of transfiguration, involves a dark secret and begins with the brooding image of a man and a woman “walking through a bare, cold wood” (Frisch 1993, 112).

Ironically, the silence that Neville cultivates as an antidote to the noise outside provides an imaginative space for the vampires to regroup. Pathogenic sounds—“auditory hallucinations” (Matheson, 66) as he calls them—reemerge in the silence that Neville has worked so hard to produce:

> He lay there on the bed and took deep breaths of the darkness, hoping for sleep. But the silence didn’t really help. He could still see them out there, the white-faced men prowling around his house, looking ceaselessly for a way to get in at him. (Matheson, 10)

Science figures in the novel chiefly in Neville’s scientific quest to understand the origins and cause of the disease and its means of transmission. In his resolve to find “a rational answer” through “careful research,” he visits the “Science Room” of the Public Library, trawling through tomes in the medical section on physiology and blood (66). The narrative traces Neville’s progressive scientific expertise as he acquires and learns to use a microscope, honing his skills at mounting specimens on slides and finding a place for the accoutrements of his improvised laboratory: “Glass slips, cover glasses, pipettes, cells, forceps, Petri dishes, needles, chemicals—all were placed in systematic locations” (75).

As Mathias Clasen has noted, “Matheson goes to great lengths to rationalize or naturalize the vampire myth, transplanting the monster from the otherworldly realms of folklore and Victorian supernaturalism to the test tube of medical inquiry and rational causation” (Clasen 2010, 323). While he conducts experiments using his microscope, he corroborates his findings with his readings and concludes, among other things, that the cause of the disease is likely a strain of bacteria (Matheson, 66–73). He also discovers that vampires can be killed by exposing them to direct sunlight or inflicting large wounds on their bodies that enable the bacteria to transform into deadly aerobic parasites.
There is an implicitly violent and gendered dimension to the protagonist’s improvised scientific experimentation and to the dynamics of silence and sound, vision and voice that the plot dramatizes. As the lone survivor of a bacterial apocalypse, Neville fills his silent days with perverse visions of sex with the female vampires. Early on in the novel he performs a scientific experiment on an infected woman, whom he binds to a chair. “Why do you always experiment on women?” he asks himself (Matheson, 49–51). Neville’s homespun research constitutes, in effect, a form of torture. Science is construed here as a masculine practice predicated on forcing its biological objects to speak. It is a pursuit that entails the subjection of dangerously reproductive specimens that are coded as female.

Carson’s was an essentially restorative conceptualization of science: Its aim was to quantify the toxicity of silence as a step toward reinstating healthy sound. For Matheson, however, Neville’s scientific research is riven with a more disturbing contradiction: It is implicated in the violence of the world it seeks to understand.

**SILENCE AND THE MACHISMO OF TECHNO-SCIENCE**

Macho science and its involvement in the spread of a disease it is predicated on destroying is a major theme in Michael Crichton’s (1969) techno-thriller *The Andromeda Strain*, which focuses on “the five-day history of a major American scientific crisis” (Crichton, 3). Scientific research in the novel is imagined largely as a process of information management and a matter of professional expertise. The narrative centers on scientific and technical procedures that culminate in a series of experimental tests carried out by a scientific team on a biological sample under an electron microscope. An array of technological devices are mobilized to fight the extraterrestrial pathogen, even as it turns out that new space technology is responsible for bringing the threat to earth in the first place. The tension in the narrative derives from the ways in which the seamlessness and efficacy of a modern, automated techno-science, is repeatedly undercut.

Remnants of a crashed satellite, which are suspected of harboring a highly transmissible pathogen, are transported for analysis from the crash site in Arizona to a top-security underground laboratory called Wildfire close to the fictional town of Flatrock, Nevada. The masculine dimension of sight is emphasized in the first sentences of the book: “A man with binoculars. That is how it began: with a man standing by the side of the road, on a crest overlooking a small Arizona town, on a winter night.” In Crichton’s narrative, it is the male scientists who invariably do the talking (and the watching). Women’s voices are pre-recorded announcements or fleeting interruptions to male dialogues (Power 2014). The object of male scientific concern—the rapidly mutating extraterrestrial microbe—is gendered as female. In Greek myth, Andromeda is a princess who is stripped and chained naked to a rock by her father, King Cepheus, as a sacrifice to the god Poseidon.
Crichton’s pathogen is analogized as a victim of violence, manhandled to reveal her secrets. She is also implicitly a threat to male authority, her name in Greek signifying “ruler of men.” As in I Am Legend, the male scientists’ pursuit of the pathogenic agent is implicitly likened to the torture of a female body. In The Andromeda Strain, the scientists’ increasingly desperate measures are aimed at coercing her to yield up her identity as a precondition to her neutralization. In contrast to Matheson’s narrative, however, this scientific torture moves from an improvised, one-to-one encounter into a team management process that involves the integration of modern technologies. Sound—muted female voices, torture to force the female body to speak—reinforces and extends the male gaze.

A violently gendered plotline is thus mapped onto a scientific world where vision overlaps with but sometimes collides with sound. Inside the Wildfire installation, the scientific team works to identify and understand the mysterious disease agent by summoning an armamentarium of visual instruments: X-rays, an electron microscope, an assortment of high-magnification viewers, movie cameras, time-lapse cameras, televisions, CCTVs, and visual link-ups. At several points in the narrative airplanes are scrambled for aerial reconnaissance missions. The satellite itself, of course, is a technology designed for orbital surveillance. A quotation from the fictional biologist R.A. Janek affixed to the front of the book underscores the visual theme: “Increasing vision is increasingly expensive” (Crichton, 230). Vision and its limitations are repeatedly stressed. The narrative begins with a soldier looking down at the crash site through binoculars—a pointless exercise we are told, since humanity is facing a microscopic threat (9). In a characteristic move, the power of vision is invoked only to be immediately negated.

On the one hand, modern science is imagined in Crichton’s novel primarily as a practice of seeing—with illustrative graphs, electron density and output maps, scanner printouts, and sketches integrated into the narrative. On the other hand, this optimization of sight is accompanied by a soundtrack of hissing doors, crackling radios, ringing telephones and bells, clattering printers, humming air-conditioning units, microphones, clicking loudspeakers, and tape recordings. Sight is frequently prefigured and overshadowed by sound: The military is dispatched to Piedmont when, having reached an altitude of five miles, the Scoop satellite’s electronic beepers begin to emit an emergency signal (11). The Wildfire installation is conceived as a vast subterranean space of regulated sound, just as the country itself is conjured as a network of humming trunk lines and cables (35).

When the pathologist Charles Burton and the bacteriologist Jeremy Stone enter Piedmont to investigate the mysterious deaths of the town’s inhabitants, they are struck by the “deathly silence”: “But there was no sound—no reassuring rumble of an automobile engine, no barking dog, no shouting children. Silence” (70). The struggle to contain the spread of the lethal pathogen becomes a struggle to discern clues in “apparently garbled, random sound.” Early on in the novel we are introduced to Major Arthur Manchek’s “audio
screen,” a computerized means of sifting through unintelligible sound to pick up hidden meanings (21). The process of filtering confused sound anticipates the twenty-first-century notion of “viral chatter,” wherein the pinging of mutating viruses is rendered intelligible to scientists who listen in on the genetic traffic between species, just as “the National Security Agency scour the Internet, listening for clues of impending terrorist attacks” (Specter 2010).

This auditory drama, which intermeshes with the visual, is more than an incidental dimension of Crichton’s narrative; more, that is, than background noise. On the contrary, the novel’s narrative hinges on sound and its absence. While the scientists volubly discuss the progress of their research, the germ remains tenaciously silent. Much of the novel is written in the form of dialogue between the different protagonists: fighter pilots, command control personnel, and the scientists who pore over computer printouts of the lab tests. Science, the novel suggests, requires more than an expertise in seeing; its operations depend on voices, on interpreting what has been said, on searching for speech in silences, and teasing out meanings from mangled sounds. Reliance on sight can be dangerous, too: One of the protagonists, the clinical microbiologist Peter Leavitt, suffers an epileptic fit that is triggered by flashing lights (Crichton, 260–262). The narrative’s incessant dialogue and the mechanical noises of the automated lab serve to foreground the menacing muteness—the “eerie silence” in the words of the physicist and popular science writer Paul Davies—of the very object that is generating the commotion: the disease agent, codenamed Andromeda (Davies 2010). This is the silence of space, from which the extraterrestrial organism has come.

MONET IN AFRICA: SOUND IN THE PICTURE OF DISEASE

In thrillers such as The Andromeda Strain, the disease threats are made visible, but they are rarely heard. What we hear instead are the panicky trills of telephones and the cries of the sick. We hear the repeatedly frustrated efforts to make the pathogen heard. In Richard Preston’s The Hot Zone, a bestselling account of hemorrhagic viruses published in 1994, the reader is introduced to the pulsating natural environment from which virulent disease agents emerge to infect human populations. The Hot Zone is the precursor of a genre of late twentieth- and early twenty-first-centuries pandemic thriller that centers on sudden spillover events: crisis moments when, without warning, highly pathogenic diseases cross over from animal to human populations.

Viruses, in such works, are commonly visualized as latent but invisible presences that lurk in the places of their origins, such as the dense rainforests of Central Africa—the location of the Ebola River that gave its name to the disease. Expanding visual scales—magnified microscopic organisms, diseased bodies, and susceptible geographies—are the topoi of the pandemic thriller and of global public health as it is projected in the media (Farmer 2006).

Preston has been one of the most influential writers in shaping these popular perceptions of “hot” viruses, particularly hemorrhagic diseases such as
Marburg and Ebola that originated in Africa. *The Hot Zone* was published in the wake of the HIV/AIDS epidemic, just as emerging viruses were becoming the focus of new research in microbiology, and an “emerging diseases worldview” was being articulated in a public health literature that increasingly stressed the imperative for preparedness (King 2002).

The narrative opens with the description of a trip by a Frenchman working for the Nzoia Sugar Factory “in the shadow of Mount Elgon” on Kenya’s border with Uganda. The penumbra of the extinct volcano echoes the narrator’s description of HIV/AIDS, which from the late 1970s had “fallen like a shadow over the population” (Preston 1995, 4). On a visit to the Kitum Cave one Christmas in the company of a local woman, he contracts a lethal viral disease (5–6). From the outset, Preston immerses the reader in a visually thick description of the East African environment. Significantly, his protagonist, who is “an amateur naturalist,” is named Charles Monet, suggesting a connection between the lush landscape descriptions in the novel and the work of the French impressionist Claude Monet (1840–1926) famous for his *plein-air* paintings of poppy-strewn fields and the Water Lilies series inspired by the artist’s garden at Giverny. If Monet’s art reflects an interest in perceptual processes, Preston’s narrative and particularly the opening scenes revel in the luxuriance of the African environment and the challenges it poses to the human senses.

Nature’s superabundance in *The Hot Zone* obscures sinister intent. Even a description of Monet stargazing on New Year’s Eve, unsteady after drinking champagne, echoes the commonplace assertion that there are “more viruses than there are stars in the universe” (Zimmer 2013). The narrative dwells on sounds and silences. We are told of Monet’s predilection for spending “most of his day inside the pump house by the river, as if it pleased him to watch and listen to machines doing their work” (Preston, 4). The noise of the machinery pumping water from the River Nzoia anticipates the quasi-industrial replication of the pathogens inside Monet. Viruses are exploitative micro-machines, working the body to death. As the narrator notes: “Viruses may seem alive when they multiply but in another sense they are obviously dead, are only machines, subtle ones to be sure, but strictly mechanical, no more alive than a jackhammer” (85).

In the African wilderness, as imagined in the novel, the background drone of mechanized modernity gives way to a complex layering of natural sounds: “the scuffle of monkeys feeding in the trees, a hum of insects, an occasional low *lhub-lhub* call of a monkey,” or elephants “making cracking sounds as they peeled bark and broke limbs from trees” (Preston, 9 and 10–11). The density of this auditory landscape recalls real-life descriptions by viral hunters; for example, the microbiologist Peter Piot’s account of his 1976 trip to Zaire (now the Democratic Republic of the Congo), where he was part of the team that first identified—and named—the Ebola virus: “The forest erupted with noise like a living thing as we hurtled and lurched our way along the well-trodden paths” (Piot 2012, 44; on “auditory landscapes”, see Corbin 1998).
The overlapping and competing noises that make up this acoustic habitat hint at the potential for viral spillovers. Inside Kitum Cave, Preston’s narrator tells us: “Waves of bat sound rippled across the ceiling and echoed back and forth, a dry, squeaky sound, like many small doors being opened on dry hinges” (Preston, 12). The disease’s likely vectors—the virus’s natural reservoir—are imagined in terms of the classic horror plotline: the creaking door that signals the entrance of an invisible killer. Sounds—squeaking bats, jabbering monkeys, and the insidious whine of feeding mosquitoes—are auditory portals into the mysteriously inaudible and invisible place from which the disease has emerged.

The constant background hum of the African landscape is juxtaposed in The Hot Zone with enclaves of silence. Monet, by now transferred for treatment in Nairobi and converted into a “virus bomb,” sits in the casualty department of the hospital by a sign that reads “PLEASE MAINTAIN SILENCE” (Preston, 22). And later, an unnerving silence characterizes the heavy glass-rimmed space of the containment lab in Washington, DC, where scientists don biohazard space suits. Like deep space, this is a strangely muffled environment. As the narrator remarks of one of the scientists, Nancy Jaax: “All she could hear was the noise of the air blowing inside her suit. It filled her suit with a roar like a subway train coming through a tunnel” (83). Inside the anechoic (sound-absorbing) chamber there is no absolute silence (Cage 1973, 13). In one corner of the lab monkeys hoot and grunt, making “high-pitched squeals,” while the infected monkeys in another bank of cages remain “silent, passive, and withdrawn” (Preston, 77).

The narrator construes virology, not only as a struggle to visualize the pathogenic agent, but also as a struggle to hear it. As he suggests, viruses make sounds: They “can bud through a cell wall, like drips coming out of a faucet—drip, drip, drip, drip, copy, copy, copy, copy—that’s the way the AIDS virus works” (84). Indeed, viral silence is understood as a ploy; it is a cunning strategy for overcoming unsuspecting prey:

It is a characteristic of a predator to become invisible to its prey during the quiet and sometimes lengthy stalk that precedes an explosive attack. The savanna grass ripples on the plains, and the only sound in the air is the sound of African doves calling from acacia trees, a pulse that goes on through the heat of the day and never slows and never ends. In the distance, in the flickering heat, in the immense distance, a herd of zebra grazes. Suddenly from the grass comes a streak of movement, and a lion is among them and hangs on a zebra’s throat. The zebra gives out a barking cry choked off, and the two interlocked beings, the predator and the prey, spin around in a dance, until you lose sight of the action in a billow of dust, and the next day the bones have a surface of flies. (Preston, 136)

The extended analogy in this passage links invisibility and violence to silence. The stealthy predator takes cover behind lulling reverberations: swishing grass and cooing doves. The overt metaphoric construction of the virus-as-predator
is progressively broken down as the writing slips into a literal description of the hunt. Like a spectator on safari, the imagined onlooker loses sight of the predator and prey behind a “billow of dust.” Here, the polarity of silence and sound reflected in the opposing cages of squealing and silent monkeys in the lab gives way to equivocation as lion and zebra become “interlocked beings.”

In the final description of the abandoned “monkey house” in Washington, the narrative relies almost entirely on an auditory drama to tell the story. “The place was deserted and as quiet as a tomb,” we are told. The narrator’s feet rustle “through shreds of plastic in the grass.” He can hear the sound of “a boy dribbling a basketball on a playground. The ball cast rubbery echoes off the former monkey house.” Children’s shouts are audible through the trees. Space is visualized as a dispersal of sounds that reverberate and drift. In the accumulation of these everyday noises, the reader is repeatedly brought back to the ominous hum of the rainforest: to the place from which the Ebola virus first emerged, the shadowy underworld from which it continues to whisper (“the shades of the dead continued to whisper”) (Preston, 410–411). Like the preceding description of the wind moving through the savanna grass, sound provides a cover for the stalking predator.

Africa in Preston’s novel is a place of relentless sound but also of sinister silence. As the narrator notes of the Ebola virus that was identified in Central Africa in 1976: “It seemed to emerge out of the stillness of an implacable force brooding on an inscrutable intention” (100). Of the Bumba Zone district in northern Zaire that was quarantined during the outbreak, he writes: “Bumba had dropped off the face of the earth into the silent heart of darkness” (113). These direct borrowings from Joseph Conrad’s Heart of Darkness (1899) are indicative, as are other less overt allusions to the novella.1 As Conrad’s narrator Marlow tells his story, it becomes evident that silence is racialized and becomes a correlate of darkness. The “violent babble of uncouth sounds” that the abject natives emit—“weird, appealing, suggestive, and wild”—serve to frame “the great silence” of the enveloping forest that submerges the narrator, closing over him “as the sea closes over a diver” (Conrad 2012, 21, 22, and 37).

As Crichton remarks in The Andromeda Strain: “Every crisis [whether biological or political] has its beginning long before the actual onset.” Quoting from the work of the fictional scholar Alfred Pockran, he adds, “A crisis is the sum of intuition and blind spots, a blend of facts noted and facts ignored. Yet underlying the uniqueness of each crisis is a disturbing sameness” (Crichton, 18–19). This sense of prehistory is repeatedly stressed by the narrator in Preston’s work. His description of the CDC field exploration team that pushes up the Ebola River into “the heart of Africa” is reminiscent of the “Eldorado Expedition” up the Congo River—a “mighty big river,” which Conrad’s narrator describes as “resembling an immense snake uncoiled, with its head in the sea, its body at rest curving afar over a vast country, and its tail lost in the depths of the land” (8). Preston’s African wilderness, too, contains the traces of a violent past. On the slopes of Mount Elgon, Monet and
his girlfriend pass “old, half-ruined English colonial farms hidden behind lines of blue-gum trees” (7). The virus hunter lives in the shadow of past expeditions and the land he depicts resonates with “the continued vibration” or “spillovers” of past voices.

An auditory reading of Preston’s *The Hot Zone* suggests the extent to which a viral soundscape is connected to an imperial imaginary. The places identified as hot spots of viral chatter in his novel have also been sites of colonial violence. And the postcolonial virus hunter lives on at the heart of a public health imaginary concerned with the hot spots of disease emergence in the Global South. Africa is figured as a continent defined by its overpowering noises and crushing silences. Popular science reproduces tropical tropes, drawing on scientific and literary antecedents wherein Africa is construed as a place of auditory extremes: of incomprehensible noise and disequilibrating stillness that threaten to overwhelm the colonial order.

**Acoustic Debris**

Today, viruses have become familiar as visual objects incorporated into movie montage sequences, documentaries, and public health messages: the string-like silhouette of Ebola, for example, or the crown-like receptors that characterize the coronaviruses responsible for Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS), and COVID-19. We have become familiar, too, with the disturbing pathologies that viruses may produce, particularly those that cause hemorrhagic illnesses.

This chapter has sought to challenge an emphasis on the visual in the outbreak narrative by examining pervasive auditory motifs in three popular texts that focus on biological contamination and disease emergence. Science is imagined in these works as a technology and practice of listening, not just of seeing. Moreover, the unintelligibility of sound can sometimes undermine the authority of the visual. In different ways, the narratives encourage us to reflect on the assumptions that structure scientific ways of seeing and listening. Sonic experience, like visual experience, is shaped by multiple, interacting factors: physiological, cultural, institutional, and technological (Chion 2016). Seeing and listening, for all their claims to be neutral, are political acts, central to the business of imposing order on the world.

The narratives under discussion have much to teach us about the techno-scientific milieus that characterize three twentieth-century moments: experimental science conducted in a Cold War wasteland; a professionalized techno-science, encompassing space exploration and automation, embedded in a military complex geared to security; and an emerging disease worldview from the late 1980s and early 1990s, in which a colonial world order is recast as a global health regime designed to manage the viral threats that emanate from the “blank spaces of the earth” (Conrad, 8).

Although their scientific outlooks are different, each of these narratives suggests that diseases are complex entanglements of the social, biological,
technological, and environmental. Tracing the shifting register of these narratives as they move between ekphrastic, literal, and metaphorical renderings of sound and sight underscores the ways in which the language and conceptual frames of modern science are embedded in a broader cultural world.

The historian Nancy Rose Hunt has argued that attentiveness to hearing serves “to problematize and disaggregate the visual” (Hunt 2013, 43). Hunt is concerned with retrieving “acoustic debris” and “rewriting the conventional atrocity narrative” that links the violence of the present, often unproblematically, to that of the past. An acoustic reading of the archive, and sensitivity to auditory traces, becomes a way to “avoid repeating the tenacity of the visual and the sense of shock that it reproduces”—of moving beyond stock images of trauma that “reify a maimed, disfigured, individualized body” (Hunt, 41 and 58). In a similar way, this chapter has followed the repetitions between science and fiction, history and the present, focusing not on the spectacular iterations of emergence, but on the sound of resonant continuities.

**Note**

1. As Marlow puts it in *Heart of Darkness*, “this stillness of life did not in the least resemble a peace. It was the stillness of an implacable force brooding over an inscrutable intention” (Conrad 2012, 38).

**Bibliography**

Bijsterveld, Karin. 2019. *Sonic Skills: Listening for Knowledge in Science, Medicine and Engineering (1920s-Present)*. Basingstoke: Palgrave Macmillan.

Bull, Malcolm. 1999. *Seeing Things Hidden: Apocalypse, Vision and Totality*. London and New York: Verso.

Cage, John. [1961] 1973. *Silence: Lectures and Writings*. Middletown, CT: Wesleyan University Press.

Carson, Rachel. [1962] 2002. *Silent Spring*. Boston and New York: Houghton Mifflin.

Chion, Michel. [1986] 2016. *Sound: An Acoulogical Treatise*, trans. James A. Steintrager. Durham, NC: Duke University Press.

Clasen, Mathias. 2010. Vampire Apocalypse: A Biocultural Critique of Richard Matheson’s *I Am Legend*. *Philosophy and Literature* 34 (2): 313–328.

Connor, Steven. 2002. Voice, Technology and the Victorian Ear. In *Transactions and Encounters: Science and Culture in the Nineteenth Century*, ed. Roger Luckhurst and Josephine McDonagh, 16–29. Manchester: Manchester University Press.

Conrad, Joseph. [1899] 2012. *Heart of Darkness*. New York: Penguin.

Corbin, Alain. 1998. *Village Bells: The Culture of the Senses in the Nineteenth-Century French Countryside*, trans. Martin Thom. New York: Columbia University Press.

Crary, Jonathan. 1990. *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century*. Cambridge, MA: MIT Press.

Crichton, Michael. 1969. *The Andromeda Strain*. New York: Vintage Books.

Daston, Lorraine, and Peter Galison. 2008. *Objectivity*. New York: Zone Books.
Supper, Alexandra. 2012. The Search for the ‘Killer Application’: Drawing the Boundaries around the Sonification of Scientific Data. In *Oxford Handbook of Sound Studies*, ed. Trevor Pinch and Karin Bijsterveld, 249–270. Oxford: Oxford University Press.

Williams, Rosalind. 1990. *Notes on the Underground: An Essay on Technology, Society, and the Imagination*. Cambridge, MA: MIT Press.

———. 1993. Cultural Origins and Environmental Implications of Large Technological Systems. *Science in Context* 6 (2): 377–403.

Zimmer, Carl. 2013. An Infinity of Viruses. *National Geographic* (February 20). Retrieved from: http://phenomena.nationalgeographic.com/2013/02/20/an-infinity-of-viruses/.