Station Eleven: A Panel Discussion

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Since 2000, Juniata College students have participated in a common summer reading, coming together in the fall to unite around a shared academic experience. The summer reading selection for 2016, *Station Eleven* by Emily St. John Mandel, imagines life after a pandemic, examining elements of cultural and biological survival. [1] At this panel presentation, Professors Bellwoar, Dries, and Weimer shared insights gained through their readings of the post-apocalyptic novel. This panel, representing a range of disciplines, illustrates the richness that a diversity of perspectives can provide to a single text.

A LITERARY PERSPECTIVE

Hannah Bellwoar: *Station Eleven* is a book I have taught in my Cultural Analysis course called "Beyond Grey's Anatomy." Students read the novel as part of the last section in the unit on Public Health. This section is based on post-apocalyptic disease scenarios, and given the current zombie craze, we have many pop culture examples to analyze. For my introduction to the book today, I thought I would focus on two themes that traverse many contemporary post-apocalyptic disease scenarios: chaos and containment, and life and death.

There are a plethora of examples of chaos and containment in post-apocalyptic disease scenarios. The way the narrative goes is that the disease starts with patient zero. Patient zero infects some people, and some people infect other people, and then the other people infect more people, and then more people infect even more people, and so on and so forth. Often, we find images or sequences when the zombie horde will do crazy stuff to get at the people, like stand on top of each other until there are miles-high stacks of zombies that have finally made it over the wall, such as in *World War Z*. That's chaos. Then, maybe a rogue doctor who nobody else wanted to listen to finds a cure, or finds a way to find a cure, and some uninfected people take a journey to find that cure and get it to the people. That's containment.

One great thing about Mandel's novel is that we do not have this typical narrative of chaos and containment. The narrative starts similarly—Jeevan receives a phone call from his friend Hua who tells him that his patient, a sixteen-year-old girl, flew in from Moscow the night before and presented in the

ER with flu symptoms the next morning. By mid-morning, he has twelve more patients with the same symptoms, and it turns out they were all on the same flight. Later in the afternoon, a patient is admitted, same symptoms, but not on the flight; she's just an employee at the airport. Hua says he is calling because he promised Jeevan he would call if there ever were a real epidemic. He goes on to say that the hospital has admitted over 200 flu patients since this morning, 160 in the past three hours. Fifteen of them have already died.

Later, Hua calls Jeevan again to tell him to leave the city. He says he has never seen anything like this flu spreading so quickly. The ER is full, and half of the ER staff is too sick to work. And by their third phone call a little later, thirty-seven patients have died, including everyone who was on the Moscow flight, and two ER nurses who were on duty when the first patients came in. Hua now calls this a "full-on epidemic." Their conversation ends abruptly with Hua coughing. Chaos.

The media report that the hospital confirms an outbreak of the Georgia Flu (a name that Jeevan thinks sounds pretty), but they aren't releasing numbers of fatalities. Jeevan goes shopping and holes up with his brother Frank for a couple of months. Over that period, a lot of people quickly get infected with the flu and die. The TV stops. The electricity stops. The water stops. Jeevan finally leaves the apartment. There is no search for the cure. The world just ends. Then, it begins again. Containment.

In Mandel's post-apocalyptic disease scenario, there is no real back and forth between chaos and containment. Containment, rather than leading to more chaos, is rather peaceful. My favorite example of that is chapter 6: An Incomplete List. The first time I listened to this book, I was walking home from Juniata. When the narrator read this paragraph, I was so blown away by this image that I stopped walking and just listened. It says:

> No more Internet. No more social media, no more scrolling through litanies of dreams and nervous hopes, and photographs of lunches, cries for help and expressions of contentment and relationship-status updates with heart icons whole or broken, plans to meet up later, pleas, complaints, desires, pictures of babies dressed as bears or peppers for Halloween. No more reading and commenting on the lives of others, and in so doing, feeling slightly less alone in the room. No more avatars. (32)

These things that we currently take for granted in society—the social media that allows us to connect, or express our emotions, or to be comforted and to feel less alone—these things are just no more. One day, the world is one way, and the next day the world is different, because the world is no longer in the "before." It's now in the "after." Containment.

The second theme I will talk about today also arises frequently in post-apocalyptic disease scenarios, and that is life and death. Specifically, who is alive and who is dead is literally in question—zombies. So what it means to be alive, but not truly living, or what it means to be dead, but not truly dead, is up for discussion. The narrative typically goes like this—there are some people who are alive, but their lives are mundane and the important things in their lives are taken for granted. Then some disease hits the

earth, wipes out a good bit of the population, or turns them into zombies, and now the people who were once living mundane lives realize they were not truly living until after the apocalypse. They used to be the living dead, but now the zombies are the living dead. And nothing is worse than being a zombie, so it is better to get shot or die peacefully than accept that fate. But who should we be afraid of? The scariest people are alive; they will do horrible things to you without regret. Are those people truly living? Or maybe they're the ones who are dead inside?

We do not have a typical narrative of chaos and containment. Nor do we have a typical narrative of life and death in Mandel's novel. Nevertheless, questions about what it means to be alive, what it means to be truly living, and what it means to be dead are brought up in the book. To demonstrate those questions, I offer two examples.

The first is Miranda's life and death. When Miranda is alive, is she truly living? Not when she is working at her boring job or being in a relationship with her abusive boyfriend. Maybe she is truly alive when she's writing the *Dr. Eleven* comics and embracing her art. Maybe she is truly alive at the beginning of her relationship with Arthur, but is she truly alive when she is going to those dinner parties? But a moment where it is clear to me that her life was worth something, and meaningful, is in the moment of her death. Mandel writes:

> Miranda opened her eyes in time to see the sunrise. A wash of violent color, pink and streaks of brilliant orange, the container ships on the horizon suspended between the blaze of the sky and the water aflame, the seascape bleeding into confused visions of Station Eleven, its extravagant sunsets and its indigo sea. The lights of the fleet fading into the morning, the ocean burning into sky. (228)

This is a beautiful death scene. Miranda dies in a way where she gets to be with what she loves most, her art. She is transported to another world gracefully and peacefully.

The final example is The Prophet's life and death. The Prophet, perhaps the scariest character, is born out of death; he is born Tyler. He wants cleansing of living people, so more death, in order to ensure that only the "pure" continue to walk the earth. He thinks he is more than human. He thinks he is better than others. He is dangerous and feared in the novel. Perhaps he is the living dead.

But in the moment before his death, he seems to come alive. As Kirsten is facing her impeding death at the hands of The Prophet, she recognizes something he says about the darkness of the undersea. From the *Dr. Eleven* comics, issue 1. She starts quoting the comic to him. She looks at him, hoping for some recognition, some moment of his former humanity and her current humanity. And then, a shot, but she's not dead. The Prophet is dead instead, and Kirsten sits by his body, mourning for the boy about her age, who he once was. And perhaps he is most human in this moment, as Kirsten sees him and thinks about the line from the comic: "I have walked all my life through this tarnished world" (304).

A BIOCHEMICAL PERSPECTIVE

Dan Dries: As a biochemist, I read *Station Eleven* with an interest in public health or global health. I was immediately hooked with the dramatic opening, a Shakespearean classic, and the commentary on interpersonal relationships. Then—I cannot help it, I am a scientist—I started picking up on the biology, thinking about what this scenario would mean. And so the storyline led me to two main issues: one, the biology—could it really happen? And two, the failure of global health structures.

Let me first say a few quick words about global health. The rise of global economies and global travel has likewise raised the likelihood of transmitting disease. Even those areas of the world that are most remote still likely come into indirect contact with other humans via water and waste streams. In a way, Miranda acts as an example of how global business can bring disease to some of the most isolated areas, such as the islands of the Pacific Ocean. In recent years, the avian and swine flus and the Ebola and Zika viruses—all of which originated outside the U.S. —were brought to the U.S. by travel and commerce. The effect of travel on rates of transmission was also seen in the Spanish flu in the early twentieth century, where the movement of troops and populations during World War I allowed for the rapid spread of the disease. In this way it is interesting to consider how globalization can also increase the potential for pandemics. In *Station Eleven*, we see this in the fear of the quarantined airplane —the passengers cannot get off, but even if they could send the plane elsewhere, what good would that do?

This leads into my second thought on global health: the missed opportunity in *Station Eleven* to explore the fear of a disease that originates outside our borders. Upon reading the passage about the disease in the South Pacific, we realize that the Georgian flu is a global pandemic. However, we never hear about its origins, the story of its rise in Central Asia. Did it arise naturally, or was it engineered as a biological weapon gone awry? This was a lost opportunity for conspiracy, but a second lost opportunity was the failure to ask, "How would the population react to a disease that came out of Central Asia?" Would people view the disease as a product of the Georgian culture, much the same way many Westerners reacted to Ebola being an "African" disease? With the recent outbreaks of Ebola and Zika, we found the U.S. first acting as an unsympathetic voyeur. Only when these diseases hit domestically did we collectively fear the impending epidemic. Was our reaction due to geographic distance, or did cultural fears also contribute to the reaction? I saw these as themes ripe for incorporation into the narrative.

Now let me return to the biology of *Station Eleven*, as it brings up an interesting subtext: that of the survival of DNA. What is the goal of life? If I asked you, "What is a bird meant to do?" you may say that it was made to pollenate flowers. But the bird is not consciously pollinating flowers for the sake of flowers; it does so secondarily. What is a flower for? A flower is not created to feed bees or to help the soil. What purpose does a virus serve? A virus did not arise solely to infect us. Birds, flowers, a virus—

these things all do what they do so that they may survive. More specifically, the organism serves simply as a conduit for the DNA. The whole story of life is, "I need to survive, and if I cannot, I must ensure my progeny carry my life forward." And so there are two stories of survival in *Station Eleven*: one in which humans are trying to survive a pandemic, and a second in which a virus is trying to survive by using a human host.

If we ask about the likelihood of the *Station Eleven* scenario, then we have to ask about the "motivation" of the virus. The viral genome—the DNA of the virus—is minimal: it does not have enough genes to do what it needs to survive, so it enters a biological host. The virus, then, has a simple process: infect a cell, hijack the cell, replicate itself, infect other cells, hijack the cells, replicate itself, and so on. When the virus attacks its host, it has two choices: it can either replicate—but in doing so it announces to the host to its presence—or it can lay dormant or latent and hide out. And so it was in this context that I asked whether the scenario in *Station Eleven* was plausible. By being so virulent and lethal, would the virus not just kill its host before it had the chance of replicating or propagating on? Instead, it is usually in the virus's best interest to hide or remain latent: if it is discovered too quickly, the body can mount a response or the host can take a drug to kill off the virus before it has the opportunity to propagate. In fact, in our genomes today, we have fragments of DNA from many ancestral viruses thanks to viral infections that happened tens and hundreds of thousands of years ago, and our immune system can take advantage of these viral vestiges to kill off new viruses. The bottom line is, I was skeptical of the *Station Eleven* scenario.

Second, when viruses remain silent, people do not show signs of infection, making it more likely that the host will continue to interact with other potential hosts and thereby increase infection rates. That is, if you are exhibiting signs of infection, you tend to restrict yourself from infecting others. So a virus has a delicate balance to achieve: reproduce just enough to stay hidden from the host, but to still allow infection of other hosts. Now one may argue that the virus can get around attack from the host by easily mutating; but for every one mutation that allows the virus to evade the host's immune system, there are thousands of others that could instead kill the virus. Put another way, there are many more ways for mutation to do harm than good. No, we do not see a patient, stealthy virus in *Station Eleven*. For the Georgia flu to be that virulent would require high infectivity, high lethality, and high mutation rates that we do not typically see. But infectivity and the lethality often work opposite one another, otherwise the cycles of infection and propagation cannot be sustained. Sadly, I had to suspend my disbelief as I read, viewing the lethality and infectivity as a literary ploy. As a biochemist, this took some of the varnish off of what had the promise to be a very compelling story.

Still, the thought of a "super virus" brought to mind two stories: one recent and another that straddles two periods of history. The first is that of the Zika virus, a case study for a rapidly transmitting

disease and how we handled it. When Zika threatened the United States, the need for vaccines was so strong that health officials approached pharmaceutical companies to develop a vaccine. But the companies balked because, they argued, by the time they geared up and made the vaccine, potential patients in at-risk populations would have either died off or developed immunity to it. Simply put, it was not in the financial interest of these pharmaceutical companies to make a vaccine. It was faster and cheaper to let the biology sort things out.

The second is a story about how selective pressure brings about change in human population genetics. Today, approximately ten percent of Europeans are resistant to infection by HIV and researchers found that those who are resistant are often of Western European descent. In 2005, human geneticists found a relatively recent (approximately 2500-year-old) mutation in a cell receptor that HIV uses to infect its host. It turns out that the same mutation prevents infection from smallpox, which is another virus, and possibly the bubonic plague, which is bacterial. Using genetic studies, researchers found that prior to the Middle Ages, this mutation was present in only one in twenty thousand people, not the one in ten we see today. One current idea, then, was that while massive infections of bubonic plague or smallpox wiped out a large portion of the population, many of those who survived had this mutation, thus enriching the population in this mutation. Thus, an environmental pressure of viral infection hundreds of years ago led to protection against a virus (HIV) that was only recently discovered.

In a grim way, then, these stories increase my reverence of biology because our genetic history shows that biology will continue to go along even in the face of a rapidly transmitting disease. Biology will survive against biological agents. Life will go on in the face of disease. Yes, disease is understandably viewed in a negative light, but disease also challenges biology to unlock the genome's potential so that it may withstand the devastation brought about by future biological agents. And so I have now turned back to the original question: "What does life do?" It doesn't matter whether we ask this of a virus or an organism; either way, we come back to the slogan, "Survival is insufficient." On the one hand, yes, survival without culture is insufficient. But on the other hand, from a biological perspective, survival of the individual is insufficient if that individual cannot procreate, whether a virus or a human being. And so, organisms continue to procreate, sometimes counter-intuitively, knowing that one's progeny might also end up suffering from disease or battle. For sexual reproduction, this means the shuffling of the genetic deck between the mother's and father's genomes to give a new set of genes for survival. And this is the beauty of biology.

Therefore, I see *Station Eleven* as two counter-stories. One is a story about the microbe, the virus using its genes but failing in the long term. The second is a story about the human, the infection-resistant host genes triumphing over the virus. At the genetic level, we can see this as a battle between the two genomes, a narrative of two biological agents: an antagonist virus and its protagonist host. And in this

context, yes, I see *Station Eleven* as a story of cultural redemption but with DNA as its savior, steeped in power, beauty, and the capacity to flourish in the face of disease.

A CULTURAL PERSPECTIVE

Donna Weimer: We have had a literary approach by looking at the themes that are within the story. We have looked at a much-more fundamental approach by looking at the biology. From my area of expertise, I would offer the challenge of looking at the paradox of technology and culture. Does technology shape culture or does culture shape technology?

If we go with Professor Bellwoar's suggestion that one world ended and another world began, it would seem that technology has a lot to say about what our culture looks like. We lost cellphones and television. We could talk just about that realm of technology, but there was a more-fundamental technology that left: electricity. Our darling Kirsten goes into every room, even though she knows it is not going to work, and she flips the light switch—every single room of every single house. It is a poignant moment. She cannot help herself. She keeps waiting for it to come back on, and, of course, that is important at the end of the book because, what does Mandel tell us? What is the hope in the last chapter? Across the way, Kirsten sees lights. Some town has figured out how to turn the electricity back on.

Again, technology or culture, what shapes our civilization? What shapes us? Clearly, our genes do, through the ones that survived. Throughout the book we have the questions, "Why did I survive?" "Why did I lose my whole family, and why am I still here?" We go from this highly, what we call "progressive" society of technology, skyscrapers, and great infrastructure—although I would challenge you to think about how you define progress. They have these powerful instruments, and they just disappear. It does not just disappear; it disappears because people disappear. It forces us to rethink the relationship between technology and culture and people. Culture shapes our relationship to those technologies and how we keep them going. The technology is gone, and we ask, "Who are we?"

The people who study the relationship between technology and culture would say that they went from this highly developed digital culture to something that most people cannot remember anymore. A few of us in this room were born before 1985, and we can remember something that others born later cannot. We lived in a time without personal computers and cellphones. We can remember a time when the privileged monopoly of knowledge was housed in books. Interestingly enough, when we encounter the lovely troupe of the Travelling Symphony, they are bringing music and Shakespeare. No one can wait to hear the Shakespeare. They are going back to an oral culture based on something of a bookish culture.

How are the people in this post-pandemic culture actually living? They are living in an oral culture. If they were not moving from place to place around Michigan, how would news travel? They

miss newspapers, and knowing what is happening in the rest of the world. Their world has become very small and local; they have no way to know beyond their experience.

Station Eleven is also about memory, about remembering. For those who are left, there is a memory of the other world that haunts them. It haunts them in some interesting ways because it is not their world anymore. It is twenty years later, just enough time to remember, just enough time to have people who can say they remember what it was like. Our lead character does not. She was eight when it happened, so she has only vague memories. For other people, they collect artifacts and call it The Museum of Civilization.

There is a period in this book that Mandel only hints at, the time when the feral would jump out and attack. They had tattoos on their bodies that showed that they had survived this unspeakable, dark period. I made the assumption that they must have had to fight to live and to secure resources. It must have been awful and the vestiges of savagery lingers in the wariness of all new meetings. However, these survivors did not stay in that dark period. For a book about the end of the world, this novel is infused with optimism.

Post-apocalyptic movies fascinate me. From 1950 to 1959, we had twelve post-apocalyptic movies. From 1960 to 1969, we had twenty-three. From 1970 to 1979, we had thirty-five. From 1980 to 1989, we had thirty-four. From 1990 to 1999, we had thirty-five. From 2000 to 2009, we had sixty-two. Our generation has this extraordinary fascination with the post-apocalyptic. There is something interesting about our interest in the potential of a pandemic, of the world we know ending. What is it about these technologies that we live every moment of our lives by? We know we are physically addicted to these technologies, that endorphins are released when we use them, so they are an extension of the brain. Some of these movies and stories remind us that one day we might have the technologies, and the next we might not. Who are you? What is your culture? What defines you as a human being? I think we have these deep-seated fears that these digital technologies might disappear. What do they take with them?

What is needed for survival? Rather than the ability to walk or to find water, this survival is about telling stories, putting on theater, and making music rather than reading stories. It is harder to find books in this post-apocalyptic world, and they are treasures once again. We have gone from one extreme of technology all the way to this most basic world of the oral technologies of survival. Thank goodness they have the stories of Shakespeare. I do not think it is by accident that Mandel builds the story around Shakespeare. She also uses *Star Trek*, and we know that there are many episodes that have Shakespeare in them, so it is not at all surprising that there is a mash-up between them. The line, "Because survival is insufficient" (58) comes from *Star Trek*, and not just any *Star Trek*, but *Star Trek: Voyager*, the lost ship.

There is so much playfulness in this novel. It is so postmodern. It is so much a part of those who were born after 1985. Those of us born before remember a different, bookish literate culture. We could not have a digital, technological world without reading and writing but oral storytelling, reading, and writing can exist without digital technologies.

I want you to think about the relationship between culture and technology. Which shapes which? Where does our humanity lie? What happens when we lose what we think to be invaluable technologies and our highly civilized world? We have to rethink the meaning of progress. What is progress? Did we have it before the pandemic? In *Station Eleven*, it's Clark who talks about this all the time. Before he starts the museum, before the pandemic ever hits, Clark realizes that he has been a highly functional sleepwalker, "moving half asleep through the motions of his life" (163) and only minimally present in the magical world of digital technology. It's only later, when he feels that he's lost everything, that he realizes the importance of being awake.

NOTES

1. Emily St. John Mandel, *Station Eleven* (New York: Alfred A. Knopf, 2014).