

The Repairability and Politics of Infrastructure

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Before this course, I had never genuinely thought about the infrastructure around me. I had only thought of it as something in the background used to support our daily lives. However, through learning about critical infrastructure studies, I realized the role infrastructure plays in shaping society, culture, and people. I have been introduced to new readings, theories and frameworks to better understand how infrastructure functions and how it is shaped. Two of the most insightful readings that I came across within this course are Langdon Winner's "*Do Artifacts Have Politics*" and Steven J. Jackson's "*Rethinking Repair*". Winner's reading tackles the hidden meaning and implications of the infrastructure around us, specifically the political powers and influences at play. Jackson's reading discusses hidden labour and resources needed to sustain technology and infrastructure, and approaches innovation from a repair mindset. Both readings introduced me to the study of critical infrastructure through interesting and less discussed topics. Within this essay, I will summarize and critically analyze both readings, draw connections and provide my insights.

Firstly, I will start by discussing "*Do Artifacts Have Politics*" by Langdon Winner. In this article, Winner argues that technological artifacts and systems often possess political qualities. This can occur by design or by inheriting attributes from the environment in which they are present. Winner (1980, pp. 127-128) writes, "Choices tend to become strongly fixed in material equipment, economic investment, and social habit. . . technological innovations are similar to legislative acts or political foundations that endure over many generations." An example of infrastructure designed around political issues is Robert Moses's low bridges. Winner adds that the bridges on Long Island were designed shorter specifically so that buses could not pass under them. In doing so, people with cars could have access, while

people who relied on buses could not. Winner notes that in Long Island, much of the richer and predominantly white population had cars while the poorer and predominantly black population did not. One major consequence of this design choice was limited access to public parks, specifically Jones Beach. (Winner, 1980, p. 124)

Learning about the bridges was an eye-opening discovery for me. To see that infrastructure could be manipulated to benefit specific groups of people was something that had not crossed my mind before. Reflecting on my own experiences, I look around and try to think of many design decisions that have intended or unintended political consequences. Having lived in Toronto, I often see many examples of hostile architecture. Hostile architecture refers to designs that discourage or make it impossible for people to occupy specific spaces. This is often targeted at the homeless population, and I have seen it all across Toronto. For example, spikes under bridges, poles in front of businesses, and benches with metal bars in the middle. These examples of hostile architecture showcase how the seemingly meaningless design of infrastructure may support specific groups while suppressing others. Another example in Toronto is the removal of bike lanes across the city. While suggested as a solution to reduce congestion, the decision reflects a political dynamic between vehicle policies and sustainability commitments. These examples make me wonder whether the design of infrastructure could ever be truly neutral. Every designer brings their own experiences, opinions, and thoughts to their design. In other classes, I have heard “The medium is the message”, a phrase by Marshall McLuhan. The phrase states that the medium through which the message is shared also has an effect on the message and how society perceives it. I would like to think this is very comparable to infrastructure design. Where the infrastructure is the message and the designer is the medium. And so I don’t believe that infrastructure could ever be truly neutral, as all designers have intended or unintended influences on their work that stem from their personal beliefs and experiences.

The second article I will be discussing is “*Rethinking Repair*” by Steven J. Jackson. While

Winner concentrates on how infrastructure can be designed for social and political outcomes, Jackson looks at how maintenance and repair of infrastructure reveal equally important social dynamics. In the article, Jackson challenges the thinking within technology by shifting the focus from innovation and change to maintenance and repair. Jackson introduces the reader to what he calls “broken world thinking”. He states, “Broken world thinking asserts that breakdown, dissolution, and change, rather than innovation, development, or design as conventionally practiced and thought about, are the key themes and problems facing new media and technology scholarship today.” (Jackson, 2014, p. 222) I understand Jackson’s concept to be about looking at things after they eventually break or need to be fixed. Many of the leading industries in the world today, including mobiles and TVs, are always looking to create the next big thing that changes the world. Jackson argues that through studying how things break down and are repaired, we understand how they function and are used in the real world, and so we could create technology that supports society better in the long run. Jackson (2014) also argues that repair can itself be an innovation that needs creativity and expertise. (p. 226)

After reading this article, I agree with Jackson. Anytime I had to repair devices or technologies myself, I have always felt that it required knowledge and creativity. I also think that if we can analyze how things break, we can figure out ways of building them better. For example, if for a specific piece of technology, a component breaks very often due to the way it is being used by consumers, we can look to improve that specific component rather than every component. A historical example that I am familiar with is the survivorship bias of airplanes during World War II. During the war, when examining planes that had returned from battle, people noticed bullet holes across specific areas of the aircraft. Many thought that these areas needed extra strength; however, they soon realized that the surviving planes were the ones that could sustain damage in those areas and still return. What they needed to do was to strengthen the other areas because the plane that likely had not come back would have been hit in more important parts of the plane. This is an excellent example of how

looking to repair rather than replace can lead to findings that help you innovate. Within my own experience, looking to repair has also been usually a lot easier than replacing items. When working at internships, I found that testing and fixing code was much easier than having to rewrite it, and it allowed me to build upon work done by others. Also, much of the innovation within the workspace occurs through user feedback, which may also guide repair. Moreover, I have been considering upgrading my iPhone due to a lack of storage. Since I cannot upgrade my storage specifically, I would have to buy a brand new phone just for a small part of my device. This is extremely inconvenient and wasteful because the rest of my device meets my expectations and works perfectly. Unfortunately, many of the technologies in our lives do not allow for repair and instead deliver a replacement approach. I believe that companies that build products that cannot be repaired or upgraded as needed do a disservice to their consumers by forcing them to purchase new items, and a disservice to society by unnecessarily increasing waste. This is why I chose to discuss Jackson's article. If innovation more heavily included leading by repair, we could not only build technologies that last longer but also ones that adapt to need and are more sustainable.

Reading Winner's and Jackson's articles made me reflect on how both of them connect through the examples they use and my personal experiences. An example that I believe helps connect both articles is the TTC subway system in Toronto. Originally, many of the routes and lines were built to connect neighbourhoods across Toronto. However, years of usage mean that much of the subway stations and the technology within them rely on repair and maintenance to function. Unfortunately, not all neighbourhoods receive the same treatment. Many are left with broken elevators and equipment beyond repair. A recent example of this was the Scarborough line, which was forced to close permanently due to a breakdown of infrastructure and a lack of repair. Looking at this example from the perspective of Winner's article, we can see how choosing which areas are served more than others creates boundaries. From Jackson's perspective, we may consider how the decision of not repairing feeds into the "broken world thinking" he talks about and may itself also be considered a choice with

political consequences. The example of the Scarborough line shows how concepts regarding repair and politics from both Winner and Jackson can go hand in hand.

Winner and Jackson both approach infrastructure from different angles. One focuses on the politics of design, and the other focuses on approaching innovation from a repair-first mindset. Together, these two articles show not only the complexities of infrastructure studies but also the diverse perspectives within the field. Both articles made me reflect heavily on my own experiences growing up in Toronto related to the TTC and more. I truly believe that these readings have made me reflect on the information around me and, most importantly, the effect it has on the communities that it is a part of. By taking lessons from both articles, we can work to connect communities while ensuring that infrastructure does not promote political ideologies that divide society. We must also make sure that innovation and progress do not mean that we create unnecessary waste and technology that is not sustainable. Instead, we should ensure that the infrastructure around us is sustainable and inclusive for everyone.

References

- Jackson, S. J. (2014). *Rethinking repair*. In T. Gillespie, P. J. Boczkowski, & K. A. Foot (Eds.), *Media technologies: Essays on communication, materiality, and society* (pp. 221–240). Cambridge, MA: MIT Press.
- Winner, L. (1980). *Do artifacts have politics?* *Daedalus*, 109 (1), 121–136.