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TOWARDS ANTIRACIST AND ANTICOLONIAL ATTITUDES AND NORMS IN TECHNOLOGY INDUSTRIES: A COMPARATIVE ANALYSIS OF POLICIES IN THE AEROSPACE AND NUCLEAR INDUSTRIES AND THEIR IMPACTS ON INNOVATION

Abstract

Technologies and technology Industries are co-produced with the norms of society at the time, and may therefore further entrench or sustain existing social hierarchies, even in the context of innovating and developing new technologies. When considering technologies across scale (Wood Turner 2022, Turner, Verma, and Wood 2021)—assimilationist and exclusionary ideas about issues like class, race, and nationality are enshrined into technologies during their conceptualization,development, design, and distribution within society. In this comparative study, which uses conceptual frameworks from systems architecture, design justice, and critical theory, we consider the governance structures and norms of the aerospace technology Industry and the nuclear technology Industry in terms of how each fosters innovation. Overall, the norms and governance of the nuclear and aerospace technology Industries, though similar in many ways–have vastly different impacts and effects in terms of fostering innovation, inclusivity, equity, justice, antiracism, and anticolonialism. Both the nuclear and aerospace Industries have a historical overlap, and lessons may be learned from the other to create more just and equitable outcomes within each. A key instrument in creating and enforcing the norms of use and culture in both of these Industries are their treaty and governance structures. The language and norms employed with treaty and governance structures influences the Industry's attitude towards what constitutes innovation, new ideas, and inclusivity. Through the language used in key treaties and legal structures in both the nuclear and aerospace Industries, norms are set, agreed upon, and enforced around: (1) who are acceptable actors to innovate and develop nuclear and aerospace technologies, (2) who are acceptable actors to use these technologies (3) what are standards of acceptable use of nuclear and aerospace technologies, (4) how the acceptable use of nuclear and aerospace technologies will be ensured, and (5) how violators of these acceptable use practices are reprimanded. This is typically implemented by state and non-state actos with more experience with a given technology, thus the norms and acceptability are from these actors' perspectives, and may not be inclusive otherwise. Both the nuclear and aerospace Industries make use of several key treaties that govern the norms of acceptable technology innovation, development and use. In addition to governing and norming how an Industry's technologies are used appropriately, these treaties and governance structures thus impact the norms, attitudes, and cultures of innovation within the nuclear and aerospace Industries. Ultimately, these cultures impact attitudes and practices around inclusivity and equity within each Industry. We consider how the treaties, laws, and norms of each sector impacts innovation within it, and consider these impacts ultimately under an antiracist and anticolonial framework to foster inclusive innovation and systemic equity.