Jody Miller

**Technical Summary of Sean Johnston's "The technological fix as social cure-all: Origins and implications."**

**Introduction**

This technical summary is about Sean Jonston's article: "The technological fix as social cure-all: Origins and implications." IEEE Technology and Society Magazine 37, no. 1 (2018): 47-54. The article discusses Alvin Weinberg as a major proponent of the "technological fix," which is the idea that technology can change society better than other disciplines. Johnston describes Weinberg's influence, the opposition to his beliefs, and how that has evolved over time.

**Description**

The paper describes one powerful origin of the belief that technology can fix social issues better than politicians, social scientists, and others through a man named Alvin Weinberg. The thought is that technologists can provide better insight and solutions for society's woes; however, the author also points out the slippery ethical slope as well as the opposing view of technology as a fix. Weinberg suggested that social problems can be converted to technological problems that were arguably better than traditional approaches like social, economic or moral approaches. Weinberg had a lot of influence and he ardently spoke about his position to engineering students, politicians, and his point seems to be widely accepted in the post war period.

Johnston also describes some technological fixes that have caused the public to grow increasingly wary, such as the dangers of nuclear power, the use of pesticides leading to ecological damage and oil spills. Those critical of Weinberg's views argued that his perspective overly simplified issues and was overly confident of positive outcomes. Others argued that other concerns such as human/social needs were important to consider in balancing technological solutions while others noted that technological fixes seem to be incomplete and often missing the root cause or complex nature of social challenges. Another challenge emerges when the technological elite are the only ones making decisions while the rest of society suffers the consequences of inadequate solutions. The author advises engineers have an important responsibility to truly think through the scope, impact and longevity of their solutions while also realizing that there is no one size fits all solution as societal problems and human goals are constantly evolving.

**Assessment/Analysis**

The most important point of the paper is the view that technology-oriented solutions are typically short sighted and cannot possibly address the complex nature of human problems in the long term singlehandedly. There has to be input from other disciplines and technology certainly cannot be the only consideration. The impact of the “technology fix” as a viable solution for modern society is evident especially right now. The thought that technology and technology leaders can dictate the future of society is already emerging and pushing forward with unknown consequences. I think it is very easy for technologists to think they have the best solution, especially with the advent of artificial intelligence in the mainstream. The same challenge Johnston describes, namely the overconfidence in positive outcomes and oversimplification of complex systems, is still alive and wholly relevant.

**Conclusions**

There are some considerations outlined in this paper that are very relevant to modern society and its imperative that not only engineers, but society as a whole, understands the idea of the “technological fix”, its implications, and work to make sure that large-scale fixes have adequate analysis, risk assessments, and buy-in. Technology can help many things and people cannot possibly imagine and implement checks for every possible outcome, but we should at least understand negative impacts and how to mitigate them.

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**Technical Summary of Phil McKinney's Irresponsible Innovation Podcast**

**Introduction**

Phil McKinney hosts a podcast called Killer Innovations and he did a podcast on Irresponsible Innovation in 2022: https://killerinnovations.com/irresponsible-innovation/. The podcast defined irresponsible innovation, discusses key contributors, consequences, and what different stakeholders can do to address it.

**Description**

Phil first defines irresponsible innovation as the failure to take into account negative consequences in addition to the benefits of any innovation, and those negative consequences may actually cause more harm than good. Some key contributors are lack of accountability, absence of ethical standards, lack of transparency and communication and a focus on financial rewards vs. societal impact. Phil notes that the consequences aren't necessarily intentional and can be accidental when there isn't enough knowledge to fully consider potential impacts. Some consequences noted are financial losses, legal and ethical challenges, and public distrust.

Finally, Phil describes actions that groups of stakeholders (companies, governments, citizens, and media) can do to contribute to better responsibility in innovation. Companies need to articulate goals and values, educate employees, invest in tools to mitigate risk, gather stakeholder input, identify risks/negative effects, and communicate effectively to their broad audiences. Governments should oversee policy, consult with different stakeholders for input, regulate, provide incentives for responsibility, and monitor compliance. Citizens should ask questions, educate themselves, advocate for responsible innovation, take part in discourse, and support entities who support responsible innovation. The media should provide complete and accurate reporting, independently investigate impacts, highlight positives, ask questions and give a voice to citizens. Phil believes these actions are important to create a positive future for everyone.

**Assessment/Analysis**

This podcast presents a concise view of the responsibilities of different entities; the consequences of irresponsible innovation; and how different stakeholders can participate in the discussion. Various examples were provided including Facebook's Cambridge Analytica scandal and Uber's self-driving car that killed a pedestrian. While the information is not new, it is a good summary for presenting to an audience who may not be familiar with the issues that have already occurred or what can be done about it going forward.

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**Conclusions**

Irresponsible innovation is a concern and challenge in everyone's life and we each have a responsibility to act and hold ourselves, our governments, and companies accountable for innovating with negative consequences in full view.