

Beware the cult of 'tech fixing' – it's why America is eyeing the nuclear button

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Credit: Quality Stock Arts

With even Vladimir Putin [now warning](#) of global catastrophe from the recent tensions in Korea, we are in arguably the worst period of nuclear brinkmanship since the end of the Cold War. It is partly thanks to a [strand of thinking](#) among the American right that a nuclear attack on

Pyongyang would succeed where decades of diplomacy has failed.

Welcome to the cult of the "technological fix". It is the conviction that social and political problems can be side-stepped by clever engineering. The same logic finds its way into many recent initiatives. It helps explain why Donald Trump [continues to](#) pursue a 1,000 mile wall with Mexico as the answer to America's problem with illegal immigrants, for example.

Technological fixes are nothing new, of course. Controlling the flow of populations with physical obstructions lay behind the medieval [Great Wall of China](#) and [Hadrian's Wall](#) in England in the second century. The layout of 19th century Paris was [transformed](#) with broad avenues to prevent mobs from barricading the streets. In the 1880s, streetcar manufacturers experimented with automatic doors to make joyriding impossible.

In the 20th century, technological fixes were packaged and given the name by one tireless promoter, [Alvin M Weinberg](#). Weinberg was a reactor designer during the wartime [Manhattan Project](#), the Allies' bid to be first to create an atomic bomb. He went on to become director of a [national laboratory](#) exploring applications of nuclear energy.

Science supreme

Imagining a world transformed by nuclear power, Weinberg became convinced that technological innovation was the best way of dealing with any social issue. Well placed to gain the ear of engineering peers and American policymakers, he [invented](#) a durable term for this confident new environment: Big Science.

For Weinberg, conventional problem solving through education, law enforcement and moral guidance was slow and ineffective. Convert such

issues into technological problems to be solved by engineers, he argued. The Hiroshima bomb had dodged the need for political negotiation, he claimed, stabilising international relations in the process.

In the wall-building stakes, Weinberg was Trump's fellow traveller. He petitioned the [Johnson administration](#) to build a wall between North and South Vietnam, though privately admitted shortly after that his scheme was "very amateurish". He also [promoted](#) the idea of funding air conditioners in slum districts, arguing they would literally cool down tensions during the hot summer months to avoid urban riots.

This too was left on the drawing board, but other [less provocative](#) ideas gained traction. He shared road safety campaigner Ralph Nader's observation that car seatbelts were more effective than traffic laws or driver education for reducing fatalities. He [claimed](#) that intra-uterine contraceptive devices like the coil meant birth control was no longer "a desperately complicated social problem". He pushed cigarette filters as an easier way to reduce the harms of smoking than persuading users to quit.

The cult of the tech fix

Weinberg's faith in engineers is even more widespread today. His championing of the likes of cigarette filters anticipated the way we value technological fixes for improving individuals – particularly their health and well-being.

To address our cultural preoccupation with weight control, for example, why have diet plans or exercise regimes when there are low-calorie sugar substitutes, over-the-counter appetite suppressants, gastric bands and liposuction? And if you eat healthily and exercise anyway, don't worry: there are wearable technologies to monitor, cajole and regiment us further.

When Apple [came up with](#) "there's an app for that" to promote software-based tech fixes, it epitomised Silicon Valley's reinvention of Weinberg dogma as [solutionism](#). Where Weinberg promoted societal benefits, now it had become about personal empowerment for the "me" generation.

The message is that if you're deficient in willpower, attention and consistency, it's okay – a consumer engineering fix is only a few clicks away. And the future promises to be still brighter. Say hello to genetic engineering, nootropics and [implantable microchips](#).

Weinberg's agenda also endures at the policy level. To address terrorism, we have locks on cockpit doors, metal detectors, surveillance monitoring, bomb-sniffing devices and body scanners at airports. We seem to prefer such responses to anything so socio-political as negotiation or education.

Environmental concerns are another favourite. Electric motors promise more cars on the road with less air pollution. Oil-digesting microbes [promise to](#) clean up oil spills. Plastic packaging [that degrades in sunlight](#) could make litter disappear without clean-up campaigns.

Geo-engineering could even deal with climate change overall – limiting [temperature rise](#), [carbon dioxide levels](#) or both. Life can continue as usual, we are told again and again.

Downsides

For all this confidence and hubris, we need to pay more heed to the drawbacks. Critics have long argued that technological fixes overlook deeper problems. Weinberg himself conceded they can look like "band-aids", but believed they were still worthwhile while a better solution was being sought.

Yet this risks settling for the band-aid. We might become so pleased with electric cars that we stop worrying about the continued proliferation of roads, sedentary lifestyles and social segregation. If Trump's wall reduces illegal immigration, progressive Americans might lose interest in helping Mexico to become prosperous.

An even deeper concern is with placing problem solving in the hands of narrowly trained technical experts. Take the coil, for example: unlike condoms or the pill, where users make a daily choice, intra-uterine devices are a one-off insertion under a doctor's authority. The flip-side of relying on engineering cures may be a passive and powerless public.

Weinberg never used the term "technocracy", yet he [did acknowledge](#) that some technological solutions were incompatible with liberal democracy. Ironically, of course, it is exactly such frustrations that helped usher the current American president into office.

None of this is to say technological fixes are always wrong; more that they can be overly seductive. We need to recognise when they seem too good to be true, and consider them cautiously. That way we can steal back some of that democratic thunder before it's too late – starting, one would hope, by avoiding nuclear war in Korea.

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