Editorial

Futural Appropriation

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■ **TECHNOLOGY IS DRIVING** society toward the endpoint of neocolonialism [1], the process by which a privileged elite extracts resources from their same

country and its citizens. However, once the dimensions of space for resource extraction are exhausted, all that is left is time. Then, if cultural appropriation is the process whereby a dominant in-group adopts elements from the culture of a disadvantaged out-group, the process of *futural appropriation* enables an empowered older generation to dispossess a

younger one, not just of their present but their future as well. This article identifies the process of futural appropriation, discusses its effects, and proposes how it might be stopped.

Futural appropriation

In the past, national security was primarily concerned with establishing military capability to secure physical resources and boundaries from external threats. At the end of the Cold War, America and ("Western") Europe were less threatened by a credible military adversary backing an alternative (and seemingly viable) political and economic system. With the subsequent "Information Revolution," which has created the so-called "Knowledge Economy," the physical threat was one further step removed: anyone actually invading Silicon Valley by force, it has been said, would not find much silicon there.[1,2]

So, although previous generations made extraordinary sacrifices to protect recognized nation-states from powerful and existential external threats (and, as the war in Ukraine tragically demonstrates, it has not been eliminated altogether), they have been less of a concern to Generation Z and Millennials.[3] While the liberal democratic/authoritarian dynamic has not been eliminated either,[4] and has been transposed mostly to a struggle over soft power and information warfare, these generations also face different types of *insider threat*, in three different dimensions of space: to resources, to citizenship, and to boundaries.

First, the threat to resources is less expropriation from an external threat and more from appropriation by an internal predator, underpinned by a seemingly wilful refusal to accept science and take action to protect such resources to preserve them for future generations. Moreover, these resources are not just the traditional physical resources of water, agriculture, raw materials, and so on, but also less tangible collective resources of people themselves such as

their brains, appetites, and well-being. For example, BigTech wants its share of cognitive attention, BigFood wants its share of "stomach," BigPharma wants its share of wellness concern, etc., and all three are trying to leverage advances in neuroscience and neurobiology to maximize their share through personalized targeting, irrespective of the individual and collective costs [6], [7].

Second, the threat to citizenship is also indirect and not about nationality *per se*, but a threat instead to civil rights, community belonging, and societal relations, undermining the social cohesion of an in-group, leaving manufactured ill-will against an out-group as its sole unifying social bond. This is not so much a threat to the legal definition of citizenship, but more to values implicitly associated with citizenship. In particular, these were identified by Weil [8] as the need for roots: traditionally, having roots in communities, collectives, or other voluntary associations (family, school, workplace, union, local sports team, etc.), but particularly in the internet age, identity. These roots are being blighted by creeping authoritarianism, which can be observed in even supposedly democratic societies [9], where almost any activities in favor of environmental protest or progressive values such as diversity and inclusivity are either prohibited by law or denigrated as being "woke" (whatever "woke" means, usually what a reactionary individual wants it to mean when denying progressive values or defending an entrenched privilege).

Third, there is a threat to boundaries. In ergonomics, a distinction has been made between private (intimate), personal, social, and public spaces [10]. Although each zone is said to have a "near" and a "far" phase, and distance measurements are imprecise, both the ubiquity of the internet, recording equipment, and social media, on the one hand, and Big Data, machine learning, and surveillance capitalism [11], on the other, have driven the proverbial truck through these boundaries, from inside out and outside in. As a result, even intimate space becomes public: personal information is collected, aggregated, and monetized, while just being present in a public space can result in severe ("dehumanizing") invasions of privacy (particularly for those unfortunate enough to find themselves unwilling, inadvertent, and nonconsenting props in some "influencer's"

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[1]Rather than invasion, a second, more subversive but apparently more successful approach to "taking down" Silicon Valley is called "bluffing" [2]. Although some private investors lost millions of dollars, they were able to write the loss off against tax. So, it is ordinary citizens who fund the gullibility of the super-rich.
[2]Or, the third way: just sit back and wait for it to self-destruct under the weight of its own incompetence and self-importance [3]. Of course, the collapse and rescue of Silicon Valley Bank demonstrate once again how profit is privatized and risk is socialized.
[3]Although the absence of such an existential threat has not stopped the mythical fabulation of one, hence for example the performative cruelty in the demonization of immigration to perpetuate the *status quo*.
[4]Some supposed democracies are currently in a sort of political race condition (quite literally in the United States [4]) and it is not clear which side they will eventually fall on; see illiberal democracy [5].

revenue-generating self-promotion masquerading as, for example, kindness[5]).

Disturbingly, these threats are increasingly *insider threats*: threats from institutions and organizations with whom citizens have already established a trusting relationship, but, in an inversion of trust and loyalty, the relationship is being used to exploit the citizenry. In this interpretation, the "securitization of place" becomes not only a matter of cybersecurity, but one of *cybersafety*, where security can be intuitively defined as *preventing harm coming to you*, and safety can be reciprocally defined as *preventing you coming to harm* (this is why we talk of security guards and safety nets, not safety guards and security nets).

Therefore, the current generation faces a different set of challenges in the securitization of place: how to protect themselves and their communities from insider threats causing them to "die from within" (while equally, in a neat example of projection, defending attempts at such protection from being castigated as "the enemy within" by the very same insider threats). But in addition to these three dimensions of space (i.e., resources, citizenship, and boundaries), there is also, as always, one of time.

In the past, colonialism was associated with empire and the extraction of wealth from other countries, with scant consideration of the indigenous inhabitants, who were considered as "other" or "nonpeople." Alongside wealth extraction, the term *cultural appropriation* was used to describe the way a dominant culture would adopt elements of the culture of an oppressed, colonized, or minority group, and then use it—outside of its original context and intended meaning—for the entertainment or enrichment of the dominant group.

It has also been argued that, no longer having an empire for wealth extraction, a privileged elite have instead, e.g., through privatization, engaged in *neocolonialism*, that is, being in a country, owning it and ruling it, but *not being of it*. There is then no regret or remorse in extracting as much wealth as possible and transferring it to offshore banking regimes. What we argue here is that, when nothing physical remains to be looted, all that is left is *time*. And this is what is happening to the younger generation of today: their futures are being appropriated. This is what we call *futural appropriation*: the process by which a dominant older generation is effectively dispossessing a younger one, and diminishing their collective prospects for a better future than their parents had.

Technology is facilitating and expediting this dispossession: we need to call this out and stop it from happening.

Give them the gadgets, keep the assets

"Never had it so good," Prime Minister Harold MacMillan told the British people in a speech in 1957. Technologically, the same might be said in 2023, with the word "smart" prefixing so many quotidian objects: watch, meter, phone, fridge, house, car, motorway, city, etc. Life is certainly much more convenient (even if convenience comes with hidden costs [12]). But while the younger generation is distracted by all the shiny gadgets, an older generation (or at least a proportion of them) has been appropriating and accumulating all the assets, such that the younger generation's future is now held hostage to the largesse of an older one (see rentier capitalism [13]). The following is a list of examples of such futural appropriation.[6]

Infrastructure: The Matthew effect (to those that have it shall be given, to those that have not it shall be taken away, even that which they have) is prevalent in the energy domain, for example. In the United Kingdom, with its quasi-market artifice, those who are already wealthy enough to invest in home-mounted PV cells and electric vehicles can, in a storm, be paid to charge their vehicles; those without have to choose between "heating and eating." Equally, those without are also more likely to be the most vulnerable, and some indebted households were even force-fit with prepayment or pay-as-you-go meters, which are the least cost-effective [15]. Similarly, the water "industry" in the United Kingdom is another egregious example: here is a critical national infrastructure owned by transnational organizations, whose concern for environmental protection and public health appears to be subordinate to profit, leading to dangerously polluted rivers and coastlines [16]; or with investing in maintenance or future-proofing—for example, not fixing leaks and not building new reservoirs to cope with future demand or climate-change induced droughts.[7]

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[5]https://www.abc.net.au/news/2022-07-14/tiktok-video-maree-melbourne-flowers/101228418. Last accessed 29/March/2023.

[6]This list is necessarily incomplete: it will not discuss further in particular the climate crisis, nor childcare provision, healthcare provision, transportation, pension provision, career progression (in the context of the "gig economy"), short-term and zero-hours contracts), and other civic rights (including, perhaps most pertinently, privacy [14]).

[7]Starving polar bears are known to deliberately hunt humans as prey, unlike other wildlife attacks. Although, as the claws sink into the sacrificial metaphor, perhaps the

Sports: In the United Kingdom, Margaret Thatcher's 1981 Regulation 909 gave U.K. education authorities the right to sell school land that they deemed surplus to requirements, which was effectively an obligation once central government funding was severely cut. Consequently, access to recreational spaces for school sports was severely diminished, and it has been estimated that 5,000 playing fields have been sold, many lost as sports arenas forever through conversion into housing developments, supermarkets, or car parks [17]. It is no surprise that essentially sedentary esports (electronic sports) have filled the gap. Equally unsurprisingly, since private schools were not exposed to the same "market forces" as state schools, a 2016 investigation into the educational backgrounds of U.K. Olympic team participants and medallists found that "Team GB's top Olympians are … four times more likely to have been privately educated than the population as a whole" [18]. This is a systematic denial of future opportunities to even participate in physical activity, let alone excel, while contributing further to an obesity crisis [19]. Nevertheless, during the 2023 energy crisis, while hundreds of U.K. public swimming pools were closing or cutting opening hours because they could not afford heating costs, the National Grid was upgraded to heat the private swimming pool in the constituency residence of U.K. Prime Minister (at the time) Rishi Sunak [20].[8]

Education: Student loans were introduced in the United Kingdom to help fund the expansion of higher education to compete in the global "Knowledge Economy" (unlike in the United States, where taking out a student loan has generally tended to be more of a transactional, "personal investment" decision). However, a fractional cost at a low interest rate taken out with the government as lender (with reassuring guarantees on interest rates) has, after the student loan book was sold off, morphed for many graduates into a dangerous debt-to-income ratio at much higher interest rates with a private company, unbound from the government's original guarantees. In an era of financial instability with high and fluctuating interest rates, many are simply servicing the interest and hardly repaying the capital, much like the mis-selling of endowment mortgages in the United Kingdom during the 1980s. U.K. students now pay extortionately for

something society wants them to do (get educated), have to take the debt burden into any further commitment (e.g., a mortgage application), and cannot even escape the debt by declaring bankruptcy. Meanwhile, the beneficiaries of a better-educated generation, who got their own education for free, do not fittingly contribute through taxation. Without wishing to underplay the historical horrors of empire, colonialism and slave trading from antiquity to the present day [21], [22], this situation, redolent of contractual binding to unrepayable debt, has been called *modern indentured servitude* [23]. Given how it would both disrupt a lucrative gravy train and emancipate a disruptive generation (debt is a great pacifier of potential dissidence), it is not surprising that proposals for student loan debt relief have been met with such hostility in both the United States and the United Kingdom.

Intellectual property: The process of digitization (conversion of analog information or artifact into digital format) has created what could be seen as a common-pool resource containing the sum of human knowledge (i.e., the web) or creative endeavor (e.g., artwork). This is a system with provision and appropriation actions: artists provision their work (and indirectly their ideas, style, and influence) to the common pool, and until now, artists appropriated indirectly the inspiration for their own work (direct appropriation being plagiarism). However, with the advent of AI-generated computer art and large language models (LLMs), it is, in effect, possible to *expropriate* (or whatever is the word for taking collective public goods for private gain) such intellectual property without meaningful participation or recognition. Indeed, Isaac Childres, the designer of popular board games such as Gloomhaven and Frosthaven, has said: "AI art very much feels like theft to me. You're training these AI with specific artists' influences and then just not crediting them at all" [24]. Indeed, the legal battle over copyright ownership of AI-generated art is only just beginning [25], and a significant many-few inequality rests on its outcome.[9]

Cognitive function: In the United Kingdom, there is evidence that the prevalence of mental health conditions and suicide rates among the young (5–16 years old) has been increasing in the period 2017–2020 (in other words, even before the deleterious effects of the pandemic are fully factored in) [26]. Moreover, many long-term conditions develop during childhood.

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bear is thinking: "that's for the ice-caps, you —."
[8]There is no suggestion that Sunak used his status to receive preferential treatment, or that he did not pay for the upgrade himself, or that there was any illegal activity of any kind.

[9]Should it ever happen, it will be an interesting day when a deep-learning image generator can explain the graphic potency of a cropped image.

However, while the scale of the problem is increasing both numerically and in severity, and early diagnosis and intervention is critical, support and availability for mental health services is in decline, with the added risk of outsourcing clinical treatment to cost-cutting AI [27]. These mental health problems are both caused by, and exacerbated by, technological means, including cognitive deskilling, as young people increasingly delegate cognitive functions, of which they are perfectly capable, to personal digital assistants or LLMs; addiction by design, the deliberate design of addictive affordances to keep people's attention glued to screens (and thereby advertisements) [28]; deepfake videos, allowing distortion or deception of shared experience, history and narratives, creating opportunities for industrial-scale gaslighting and personal misery; and allostatic (over)load, the physical and mental deterioration that is a result of prolonged exposure to stress [7].

Voting rights: It would be simpler for the government to dissolve the people and elect another, wrote Brecht in his satirical poem *Die Lösung* (*The Solution*) [29]. Seventy years later, politicians find that there is a section of the population that doesn't vote for their political party, then rather than offering policies that might appeal to this demographic, these parties (in both the United Kingdom and the United States) have sought to disenfranchise it. Therefore, legislation has been introduced, ostensibly to protect against fraudulent voting (which has consistently been found to be negligible), but which is more likely to inhibit or exclude young people from voting [30]—effectively disenfranchising them from their own future. On top of that, reactionary politicians have responded to progressive opinion by manufacturing outrage in the form of the "War on Woke."[10] This has created the unedifying spectacle of a privileged, entrenched older generation declaring "war" on the belief system of a younger generation *of its own citizens*—a "war" that is, by its very nature, undefinable, unending, and incohesive.[11] But that, of course, is the point: this kind of performative governance is intended only to polarize and to manufacture outrage, particularly against "others," to maintain a persistent state of grievance and resentment against them.[12]

Public spaces: in the analog world, there has been a trend to what have been called "privately-owned public spaces," that is, a space (e.g., a park, town square) that appears to be accessible to the general public, but is simply masquerading as such: in practice, it is owned and operated by a private organization [31]. Therefore, rather than falling under the jurisdiction of a local government, providing an expectation of certain rights associated with such spaces, in fact, a completely different set of regulations might apply, as determined by the private organization. Problems arise when these regulations are arbitrary or inconsistent, vary from quasi-public space to public space, are potentially excessive, or *a priori* unknown. Monitoring and enforcement of regulations are subcontracted to private security firms and the social contract that is assumed for actual public spaces no longer applies.

It has been argued, though, that the same "appearance of public, but actually private" spaces also applies in the digital world(s) of social media and social coordination [32]. There is the same perception of an apparent public space, but instead, it is privately controlled, and the "security firm" is actually an algorithm acting as an unknown, inaccessible, and unappealable gatekeeper. This alone determines what is seen, what is allowed, and effectively what can be known: the caprice of kings has been exchanged for the bias of a programmer (or rather, the bias of whoever is paying the programmer). If public spaces were and still are essential for social cohesion, civic participation, and public health (e.g., [33]), then this becomes doubly (or even multiply) important in the transformation to the digital society.

Instead, the actual concept of public space, and the expectations that go with it, have been completely reimagined and re-engineered, and not necessarily in the public interest or for a common good. The conflation of digital space as physical spaces, given that they do have essential differences, normalizes this private control over both; but since no one appears to be policing digital spaces and usual norms are not triggered, it also leads to diminished expectations in physical public spaces, especially with regard to safety. Perhaps the U.S. refusal to do anything about gun control is an extreme example of futural appropriation: after all, it is generally only schoolchildren who are murdered in school shootings.

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[10]In this context, it is disturbing to note the hostility generated towards Greta Thunberg: young, female, blunt, influential, and demanding accountability; but perhaps mostly because she was young.

[11]In this sense, futural appropriation also exhibits aspects of class war as well as colonialism.

[12]There should be a term for this type of political regime, perhaps "trolligarchy," i.e., governance by those whose own lack of imagination, intelligence, and vision makes them pursue policies for no other reason than to aggravate or wind up (i.e., troll)

"others" who disagree with, or are different to, them (and, in an excess of cowardice, are marginalized or less powerful).

Future redistribution

The observations underpinning the term "futural appropriation" are not necessarily new: some governments have been pursuing divisive social policies—divisive, that is, between the old and "haves" and the young and "have nots"—since the financial crisis of 2008 [34]. But in the United Kingdom, after the needless cruelty of "austerity" and the self-indulgent fantasy act-out of "Brexit," the inequalities produced by such policies have been exacerbated first by the "crony capitalism" during the COVID-19 pandemic, and then by the "disaster capitalism" brought on by the brief inadequacy of the Truss government (6 September 2022 until 25 October 2022). It is the social, mental, and economic consequences of these inequalities—cascading into the future in the guise of futural appropriation—that this article has sought to highlight.

HOWEVER, IT IS one endeavor to detect and diagnose a problem, it is yet another to deal with it, especially at the scale. While the global advocacy of children's rights groups remains essential, and articles maintaining pressure for legislation are also important (e.g., [35] and [36]), it is equally vital to empower the younger generation with their own voice, for example by children's assemblies (despite, as noted above, that voice potentially being diminished by the deskilling of rhetorical competence through over-use LLMs; see [37]). It would be extremely helpful if, until a viable alternative is available, platform owners could exhibit some social responsibility, or be compelled to exercise some social responsibility, by meaningful regulation. Ultimately, though, it needs one generation to recognize that self-interest is neither inevitable nor noble, and to start cleaning up its own mess, rather than leaving it to another generation. ∎

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■ References

[1] M. Lofgren, "The revolt of the rich," *American Conservative*, Aug. 27, 2012. Accessed: Apr. 7, 2023. [Online]. Available: https://www.theamericanconservative.com/revolt-of-the-rich/

[2] J. Carreyrou, *Bad Blood: Secrets and Lies in a Silicon Valley Startup*. New York, NY, USA: Knopf, 2018.

[3] R. Reich, "There's a deeper story to Silicon Valley Bank's failure. What can we learn from it?" *The Guardian*, Mar. 13, 2023. Accessed: Apr. 2, 2023. [Online]. Available: https://www.theguardian.com/commentisfree/2023/mar/13/svb-collapse-2008-financial-crisis

[4] E. Klein, *Why We're Polarized*. London, U.K.: Profile Books, 2021.

[5] Y. Mounk, *The People vs. Democracy: Why Our Freedom is in Danger and How to Save It*. Cambridge, MA, USA: Harvard Univ. Press, 2020.

[6] R. Abbas et al., "Machine learning, convergence digitalization, and the concentration of power: Enslavement by design using techno-biological behaviors," *IEEE Trans. Technol. Soc.*, vol. 3, no. 2, pp. 76–88, Jun. 2022.

[7] C. Perakslis et al., "Safeguarding the guardians to safeguard the bio-economy and mitigate social injustices," in *Cyberbiosecurity*, D. Greenbaum, Ed. Cham, Switzerland: Springer, 2023.

[8] S. Weil, *The Need for Roots: Prelude to a Declaration of Duties Towards Mankind*. Translated by A. Wills. Routledge, 2002. (First published as *L'Enracinement*, Editions Gallimard, Paris, 1949; first published in English by Routledge & Kegan Paul, 1952.)

[9] J. Pitt, "No more 'de-root and rule': The need for digital roots," *IEEE Technol. Soc. Mag.*, vol. 39, no. 4, pp. 5–10, Dec. 2020.

[10] D. J. Oborne and T. O. Heat, "The role of social space requirements in ergonomics," *Appl. Ergonom.*, vol. 10, no. 2, pp. 99–103, Jun. 1979.

[11] S. Zuboff, "Big other: Surveillance capitalism and the prospects of an information civilization," *J. Inf. Technol.*, vol. 30, no. 1, pp. 75–89, Mar. 2015.

[12] J. Pitt, "Apologies for the inconvenience: (But please use it wisely) [editorial]," *IEEE Technol. Soc. Mag.*, vol. 39, no. 2, pp. 5–10, Jun. 2020.

[13] T. Piketty, *Capital in the Twenty-First Century*. Cambridge, MA, USA: Harvard Univ. Press, 2014.

[14] R. Farthing et al., "'It sets boundaries making your life personal and more comfortable': Understanding young people's privacy needs and concerns," *IEEE Technol. Soc. Mag.*, vol. 42, no. 1, pp. 75–82, 2023.

[15] G. Hinsliff, "Energy bailiffs for the poorest, huge profits for the richest: this is Britain in 2023," *The Guardian*, Feb. 2, 2023. Accessed: Apr. 2, 2023. [Online]. Available: https://www.theguardian.com/commentisfree/2023/feb/02/energy-profits-british-gas-prepayment-meters-scandal

[16] P. Crerar and H. Horton, "Liz Truss 'has sewage on her hands' over Environment Agency cuts," *The Guardian*, Aug. 22, 2022. Accessed: Oct. 30, 2022. [Online]. Available: https://www.theguardian.com/politics/2022/aug/22/liz-truss-environment-agency-cuts-sewage-water-pollution

[17] T. Fordyce, "Margaret Thatcher 'never really understood sport,'" *BBC*, Apr. 10, 2014. Accessed: Apr. 2, 2023. [Online]. Available: https://www.bbc.com/sport/football/22085707

[18] The Sutton Trust. *Educational Backgrounds of Olympic Medallists*. Accessed: Apr. 2, 2023. [Online]. Available: https://www.suttontrust.com/our-research/education-backgrounds-of-olympic-medallists/

[19] L. Keaver et al., "Morbid obesity in the UK: A modelling projection study to 2035," *Scand. J. Public Health*, vol. 48, no. 4, pp. 422–427, 2020.

[20] J. Waterson, "Rishi Sunak has electricity grid upgraded to heat his private pool," *The Guardian*, Mar. 12, 2023. Accessed: Apr. 2, 2023. [Online]. Available: https://www.theguardian.com/politics/2023/mar/12/rishi-sunak-has-electricity-grid-upgraded-to-heat-his-private-pool

[21] K. Andrews, *The New Age of Empire: How Racism and Colonialism Still Rule the World*. London, U.K.: Allen Lane, 2021.

[22] T. Okobata, "Report of the Special Rapporteur on contemporary forms of slavery, including its causes and consequences," United Nations, Geneva, Switzerland, Tech. Rep. A/77/163, 2022.

[23] J. Pitt, "The digital transformation and modern indentured servitude," *IEEE Technol. Soc. Mag.*, vol. 41, no. 2, pp. 6–9, Jun. 2022.

[24] M. Russell, "Gloomhaven board game creator: 'AI art feels like theft,'" *WarGamer*. Accessed: Apr. 2, 2023. [Online]. Available: https://www.wargamer.com/gloomhaven/ai-art-theft

[25] T. Hals and B. Brittain, "Humans vs. machines: The fight to copyright AI art," *Reuters*, Apr. 2, 2023. Accessed: Apr. 12, 2023. [Online]. Available: https://www.reuters.com/default/humans-vs-machines-fight-copyright-ai-art-2023-04-01/

[26] RCPCH. *State of Child Health 2020, Royal College of Paediatrics and Child Health*. Accessed: Apr. 2, 2023. [Online]. Available: https://stateofchildhealth.rcpch.ac.uk/evidence/nations/england/

[27] K. Michael, "Modern indentured servitude in the Gig economy: A case study on the deregulation of the taxi industry in the United States," *IEEE Technol. Soc. Mag.*, vol. 41, no. 2, pp. 30–41, Jun. 2022.

[28] A. Alter, *Irresistible: The Rise of Addictive Technology and the Business of Keeping Us Hooked*. London, U.K.: Penguin Press, 2017.

[29] R. Grimm, ed., *Poetry and Prose: Bertolt Brecht*. New York, NY, USA: Continuum, 2006.

[30] P. Toynbee, "Call these voter ID laws what they really are: Voter suppression and an attack on young people," *The Guardian*, Nov. 25, 2022. Accessed: Apr. 2, 2023. [Online]. Available: https://www.theguardian.com/commentisfree/2022/nov/25/voter-id-laws-what-they-really-are-voter-suppression-and-an-attack-on-young-people

[31] M. Harris, "You can't sit with us: The rise of privately-owned public spaces," *University of New South Wales*, 2020. Accessed: Apr. 2, 2023. [Online]. Available: https://www.unsw.edu.au/news/2020/10/you-can-t-sit-with-us--the-rise-of-privately-owned-public-spaces

[32] P. R. Lewis et al., "Reimagining digital public spaces and artificial intelligence for deep cooperation," *IEEE Technol. Soc. Mag.*, vol. 42, no. 2, 2023.

[33] J. Ober, *Democracy and Knowledge: Innovation and Learning in Classical Athens*. Princeton, NJ, USA: Princeton Univ. Press, 2008.

[34] J. Bessant, R. Farthing, and R. Watts. *The Precarious Generation: A Political Economy of Young People*. London, U.K.: Routledge, 2020.

[35] R. Farthing et al., "Age appropriate digital services for young people: Major reforms," *IEEE Consum. Electron. Mag.*, vol. 10, no. 4, pp. 40–48, Jul. 2021.

[36] A. Mertzani and J. Pitt, "Social influence and the normalization of surveillance capitalism: Legislation for the next generation," *IEEE Technol. Soc. Mag.*, vol. 41, no. 2, pp. 57–63, Jun. 2022.

[37] J. Pitt, "Being human in the days/daze of big data: Irresponsible design is responsible for diminishing humanity," *IEEE Technol. Soc. Mag.*, vol. 38, no. 3, pp. 5–9, Sep. 2019.

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