Shaping Socio-digital Futures

Between Promise and Responsibility

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Introduction

When we think about the future of education, it's tempting to imagine a world of seamless digital tools: AI tutors, data-powered classrooms, and students with personalised learning pathways. But as the **University of Bristol's Centre for Sociodigital Futures** warns, the allure of EdTech as a solution for all educational challenges often conceals deeper systemic concerns. Technologies do not exist in a vacuum; they emerge from social, political, and economic contexts, each with its own entanglements of power and inequality. It is crucial, therefore, to examine not only how these technologies function but also what values they encode—and whose interests they ultimately serve.

Beneath the polished promises of digital transformation lies a complex reality. Many technologies that claim to democratise learning instead reinforce inequalities, allowing corporations to extract financial value from educational communities (Williamson 2017). The Centre for Sociodigital Futures argues that EdTech often serves commercial interests, turning education into a marketplace of data extraction and profit. As **Shoshana Zuboff (2019)** has observed in her analysis of surveillance capitalism, technology industries thrive by commodifying human experience, and the same logic applies to digital learning platforms.

To counter this trend, the University of Bristol centre calls for **reparation, care, sovereignty, and democratisation** as guiding principles for building alternative futures in education. These concepts are not mere academic abstractions. They are lived frameworks that educators, policymakers, and social movements can use to resist dominant narratives and reshape the way technology serves education. Each concept holds transformative potential. Reparation offers a way to redress the injustices embedded in algorithmic systems, while care challenges the cold efficiency of AI with the warmth of ethical responsibility (Holmes & Porayska-Pomsta, 2022). Sovereignty ensures that communities, rather than corporations, own their data, and democratisation invites us to imagine EdTech as a collective project rather than a top-down imposition (Kukutai & Walter, 2021).

These themes are not easy to implement. The language of care, for example, can be co-opted by corporations as part of their public relations strategy, diluting the depth of its ethical imperatives. Similarly, efforts to democratise technology can fall short when decision-making forums exclude marginalised voices (Tufekci 2014). But this article will argue that these frameworks remain vital—even imperfectly implemented—because they offer a critical alternative to the status quo.

As we explore each pillar in detail, we will draw from a range of academic voices—from **Joy Buolamwini's algorithmic audits** to **Maggie Walter's advocacy for Indigenous data sovereignty**. In doing so, we aim not just to critique the existing landscape of EdTech but also to propose new pathways for the future. Along the way, we will reflect on the tension between the promise of technology and the responsibility to ensure it serves educational communities rather than exploiting them. This is the heart of the argument posed by the Centre for Sociodigital Futures: that education, as a public good, must not become the playground of profit-seeking industries but rather a space where social justice and digital innovation coexist in balance.

Reparation in EdTech: Redressing the Algorithmic Divide

Every new technology makes a promise. It suggests that it will make things smoother, smarter, and better for everyone. But as **Joy Buolamwini** discovered when she tested facial recognition software on a diverse set of faces, the promises of algorithms often come with blind spots—and these blind spots are not accidental. Buolamwini's research revealed that facial recognition systems were remarkably good at recognizing white male faces but struggled with darker-skinned female faces. It was as if the system was optimized to see only part of the world clearly. And so, the question arises: How do we design systems that do not just perpetuate these biases but actively repair them?

The Centre for Sociodigital Futures at the University of Bristol suggests that we need to move beyond superficial fixes and embrace the idea of **algorithmic reparation**. Reparation is not just about acknowledging the wrongs of the past—it is about weaving justice into the very design of future technologies. This principle urges us to reframe algorithms not as neutral tools but as products of social choices, choices that can be altered to repair historical inequities. **Ruha Benjamin**builds on this argument, warning against the lure of "equitable AI" initiatives that often amount to little more than moral posturing. Benjamin suggests that true algorithmic reparation requires more than fairness—it demands a reimagination of the values embedded in every line of code.

This is where **Virginia Eubanks'** work becomes crucial. Eubanks highlights how automated systems, from welfare algorithms to predictive policing, often amplify the inequities they claim to solve. Rather than reducing disparities, they redistribute privilege by design. For Eubanks, the only way forward is to rethink technology's role entirely—seeing it not as a quick fix for social problems but as part of the broader social contract. Algorithms should not just "perform" fairness but embody reparative justice in their operation.

The challenge, however, is that reparative systems run counter to the logic of the marketplace. **Frank Pasquale** argues that platforms like Google and Amazon thrive on data-driven efficiency, and asking these giants to adopt reparative principles is akin to asking a Formula 1 team to slow down for pedestrians. The incentives simply do not align. Yet, if the goal of education is not just efficiency but equity, then these incentives must be re-engineered.

Safiya Noble echoes this sentiment, pointing out that digital infrastructures—like search engines—operate under the logic of market optimization rather than social responsibility. A search engine optimized for ad revenue is unlikely to prioritize fairness or justice. Noble's solution is to disrupt the very models of value creation that underpin these systems. We must, she insists, build technologies that do not just serve markets but serve communities.

Of course, not everyone agrees with this vision of algorithmic reparation. **Nick Bostrom** warns that focusing too heavily on reparation risks undermining technological innovation. For Bostrom, the future belongs to those who can experiment freely, even if it means making mistakes along the way. It is a view that finds support among those who argue that too much regulation stifles creativity. But **Evgeny Morozov** counters with a sharp critique: What is the point of innovation, he asks, if it deepens the inequalities it claims to solve? Morozov is skeptical of technosolutionism—the belief that every social problem can be solved with the right app or algorithm. Instead, he advocates for a more grounded approach, one that prioritizes reparative justice over market logic.

The University of Bristol's Centre for Sociodigital Futures invites us to imagine: What would an educational technology landscape built on reparative principles look like? It would be one where algorithms do not just predict academic success but also identify and repair the structural barriers that hinder students from marginalized backgrounds. It would mean designing systems that see the whole picture—just as Buolamwini's algorithms eventually learned to do.

The idea of reparation in EdTech is not just a call for fairer algorithms; it is a call for a deeper reckoning. As **Zuboff**suggests, technology is never neutral. It reflects the values of its creators, and if we want a more just future, we need to embed those values intentionally. The stakes are high: Without reparation, technology will continue to reinforce the very divisions it promises to overcome. But with it, there is a chance to design systems that not only acknowledge past injustices but actively work to prevent them from recurring.

Data Sovereignty: Reclaiming Ownership in a World of Extractive Systems

If reparation urges us to reimagine the ethics of algorithms, then sovereignty takes this idea further, insisting that control must shift back to the communities from whom power has been taken. At the heart of this movement is the notion of **data sovereignty**—the principle that those who generate data should determine how it is collected, stored, and used. For **Tahu Kukutai** and **Maggie Walter**, data sovereignty is not just an abstract ideal but a practical necessity. Their work among Indigenous communities reveals how colonial systems have long weaponized data to control rather than empower. To build meaningful sociodigital futures, Kukutai argues, communities must regain ownership over their information.

In education, data sovereignty presents a critical challenge. Large EdTech firms often present themselves as benevolent providers of innovation, but beneath the surface, they operate within a deeply extractive economy. **Ben Williamson**highlights how schools have become laboratories for corporate data practices, with student information packaged and repurposed for market gain. It is, as **Zuboff** describes, surveillance capitalism in action—an ecosystem where students and teachers are not just users but raw material for data industries.

The Centre for Sociodigital Futures at the University of Bristol calls for a radical rethinking of these dynamics, proposing that educational communities must take ownership of the data they generate. **Stephanie Russo Carroll** adds that Indigenous frameworks of sovereignty offer a valuable model here: Rather than merely protecting privacy, these frameworks prioritize self-determination. In practice, this means designing data systems that respond to the needs of communities rather than the interests of distant corporations. **Robyn K. Rowe** extends this argument, suggesting that sovereignty-based data governance is essential not only for Indigenous groups but for all educational stakeholders seeking to reclaim agency in an era of datafication.

However, embedding sovereignty into education is no small task. **Helen Nissenbaum** reminds us that the concept of privacy must be reimagined within the context of sovereignty. It's not enough to shield individuals from data collection; we must ensure that communities have a say in how their data is interpreted and used. Nissenbaum's work on contextual integrity provides a useful framework for balancing individual and collective rights within data governance systems.

Even within efforts toward sovereignty, tensions arise. **Luciano Floridi** points out that data sovereignty can create new dilemmas, particularly when competing rights come into conflict—such as when a school's right to collect attendance data clashes with a community's desire to control its narratives. Floridi urges caution, arguing that sovereignty frameworks must be flexible enough to navigate these tensions without collapsing under their own weight.

At the same time, critics like **Evgeny Morozov** warn that sovereignty alone will not dismantle the power of tech giants. Sovereignty frameworks, Morozov argues, risk becoming symbolic if they are not accompanied by structural changes in how data economies operate. In his view, the fight for data sovereignty must be coupled with broader reforms that limit the ability of corporations to monopolize educational spaces.

The University of Bristol suggests that data sovereignty is not merely about protection but about participation. **Kukutai and Walter's** concept of Indigenous data governance challenges us to rethink how data flows within schools and communities. What if students, parents, and teachers had meaningful control over their data—deciding not only who sees it but how it is used to shape educational policy? This vision aligns with the Centre's broader goal: to build futures where data serves education, not the other way around.

This idea also challenges the prevailing narrative that technological progress must come at the expense of control. By prioritizing sovereignty, educational institutions can create systems where data is not extracted but cultivated—where information serves the needs of those who generate it. This, ultimately, is the promise of data sovereignty: not just to protect communities from harm, but to empower them to shape their own futures.

Care in EdTech: The Human Imperative in Digital Spaces

Technology is, by design, indifferent. It crunches numbers, predicts patterns, and responds to inputs without pausing to reflect on the lives it affects. But if education is to be more than an assembly line of efficiency, then the technology driving it must adopt an ethos of care. This is what the University of Bristol's Centre for Sociodigital Futures urges: a reorientation toward systems that do not merely function but care—technologies that pay attention, respond, and nurture the individuals they serve. It's a counterbalance to the "thoughtless" systems that currently dominate the landscape, as **Virginia Eubanks** describes in her analysis of automated welfare technologies, which often exacerbate the struggles of those they are meant to help.

Care in technology is not a soft, peripheral idea. **Wayne Holmes** and **Kaśka Porayska-Pomsta** argue that building care into AI systems requires just as much precision as any technical innovation. Their work with UNESCO highlights the need for EdTech to adopt frameworks that go beyond responsibility and fairness, pushing into the territory of ethical attentiveness—systems that not only avoid harm but actively promote well-being. This echoes the sentiment expressed by **Shitanshu Mishra**, who advocates for AI systems that foster social-emotional learning rather than merely optimizing academic outcomes.

The challenge, of course, is that care can be easily co-opted. **Ben Williamson** warns that corporate interests often appropriate the language of care to market their products, diluting the concept until it becomes a buzzword. Educational technologies are presented as empathetic and student-centered, but beneath the surface, they function primarily as data-collection tools designed to feed commercial algorithms. In this environment, care becomes performance—a façade that masks deeper inequalities.

This is where the ethics of care, as articulated by **Helen Nissenbaum**, becomes crucial. Nissenbaum argues that care-based frameworks require more than rhetoric; they demand structural changes in how technology is designed and implemented. She offers the concept of "contextual integrity," emphasizing that care must be tailored to the specific social contexts in which technology operates. In education, this means understanding not only what students need to learn but also how they experience the process of learning.

Still, the road to "care-ful" technology is fraught with obstacles. **Ronghuai Huang** and **Hui Zhang** note that scaling care-based AI systems across diverse educational settings presents significant challenges. Technologies designed with care in mind often falter when deployed in environments that prioritize metrics over meaning. Their research suggests that without a fundamental shift in institutional values, care risks becoming just another checkbox on a long list of performance indicators.

Critics like **Evgeny Morozov** go even further, questioning whether technology is capable of genuine care at all. Morozov warns that framing care as a technical feature risks obscuring the inherently human nature of ethical responsibility. It's one thing for an algorithm to flag students

who are struggling; it's another for a teacher to sit with that student, listen, and respond with compassion. Technology, Morozov argues, should support human care, not replace it.

The University of Bristol suggests that care in EdTech is not about perfection but about persistence—a commitment to staying attentive, even when the answers are not clear. What if technologies were designed to ask better questions rather than provide quick solutions? What if algorithms helped teachers notice the small moments that matter—a student's hesitation before answering, a look of frustration, a spark of curiosity? These are the kinds of questions that a care-based approach to EdTech seeks to explore.

Building care into digital systems is not easy, and it may never be fully achievable. But it is precisely this impossibility that makes it worth pursuing. As **Holmes and Mishra** remind us, care is not a destination but a practice—a way of being that requires constant attention and adjustment. And in a world increasingly dominated by metrics and automation, this practice is more important than ever.

Democratisation in EdTech: Building Platforms for Collective Voice

The promise of democratisation in education is as old as the idea of public schooling itself: a system where everyone, regardless of background, has a say in shaping their future. But in the digital age, that promise has become harder to realize. Technologies that claim to democratize learning often do the opposite, centralizing power in the hands of a few companies while reducing teachers, students, and communities to data points. The **University of Bristol's Centre for Sociodigital Futures** challenges this trend, proposing that EdTech must not only be accessible but participatory—designed with, rather than for, its users.

This kind of participatory design is no easy task. As **Shoshana Zuboff** points out, digital platforms are not neutral facilitators but instruments of power. Surveillance capitalism thrives by accumulating data from users who have little say in how that data is used. Even well-intentioned platforms can reproduce inequalities if they fail to engage communities meaningfully. The question, then, is not just how to make EdTech available but how to build spaces where diverse voices can influence its design and use.

Wayne Holmes and **Tuomi Ilkka** advocate for democratic participation in educational technology through co-creation. In this model, students, teachers, parents, and policymakers collaborate from the outset, shaping technologies that reflect their shared values and priorities. This aligns with the Centre for Sociodigital Futures' call for **technical democracy**—a system where decisions about technology are made not by distant experts but by those most affected by it. It is an invitation to rethink not only the design of EdTech but the very structures of educational governance.

Of course, not all democratic initiatives are successful. **Zeynep Tufekci** warns that participatory models often fail when they are merely performative, creating the illusion of inclusion without genuine power-sharing. This happens when community forums become echo chambers for pre-determined agendas, or when complex policy discussions are reduced to superficial surveys. True democratisation, Tufekci argues, requires not just participation but deliberation—spaces where conflicting views can be debated openly, and compromises reached thoughtfully.

This vision of deliberative democracy resonates with **Ben Williamson's** critique of data governance in education. Williamson argues that for EdTech to be truly democratic, communities must have control not only over how technology is used but also over the narratives it creates. This means challenging the top-down metrics that dominate educational decision-making and replacing them

with more nuanced, community-led evaluations. It's about shifting from a system that measures performance to one that fosters dialogue.

Yet, as **Luciano Floridi** notes, democratisation introduces new tensions. Participatory processes can be slow and messy, often clashing with the fast-paced nature of technological development. Floridi suggests that while democracy is essential, it must be balanced with expertise—ensuring that technological decisions are informed by both public values and professional knowledge.

For critics like **Evgeny Morozov**, however, this balance is difficult to achieve. Morozov warns that even the most democratic platforms risk being captured by powerful interests. In his view, democratisation cannot succeed unless it is accompanied by broader structural reforms that redistribute power within the tech industry. Otherwise, he argues, participatory models become another means of legitimizing corporate control.

The University of Bristol urges us to embrace these complexities rather than shy away from them. Democratisation, they suggest, is not about achieving perfect consensus but about creating the conditions for meaningful disagreement. It's about designing spaces where diverse voices can not only be heard but taken seriously—where technology serves as a tool for collective action rather than individual competition.

Imagine, for a moment, a school where students help design the digital tools they use—where teachers, parents, and community members collaborate to create technologies that reflect their shared aspirations. What if policy decisions were not imposed from above but emerged from the ground up, through a process of deliberation and compromise? This is the kind of future the Centre for Sociodigital Futures invites us to consider—a future where EdTech is not just a product to be consumed but a platform for democratic engagement.

Epilogue: Towards Just Sociodigital Futures

If there's one thing that the **Centre for Sociodigital Futures at the University of Bristol** makes clear, it's that the future of education isn't written in code—it's written in choices. Every algorithm, every data policy, and every piece of EdTech is an opportunity to decide not just what kind of education we want, but what kind of world we're building through that education. And that world, as the themes of reparation, sovereignty, care, and democratisation remind us, is always contested. It's shaped not only by the technologies we create but by the values, struggles, and conversations we embed within them.

What we've explored in these pages is the tension between promise and responsibility. Technology is often sold to us as a solution to the inefficiencies of the present, but as **Shoshana Zuboff** warns, solutions are rarely neutral. They come with trade-offs—choices about whose interests are served and whose are ignored. The Centre's invitation to reimagine sociodigital futures is, at its heart, an invitation to think differently about those trade-offs. It asks us to move beyond the passive consumption of technology and instead become active participants in shaping its trajectory.

That journey begins with reparation, as **Joy Buolamwini's** work teaches us. It's about more than fixing what's broken; it's about acknowledging the historical injustices encoded in our systems and building something better. It continues with sovereignty—reminding us, through the insights of **Maggie Walter** and **Tahu Kukutai**, that communities, not corporations, should control the data that defines them. From there, we confront the challenge of care, as **Wayne Holmes**and **Kaśka Porayska-Pomsta** urge us to design technologies that pay attention not only to outcomes but to the people those outcomes affect. And finally, we arrive at democratisation: the idea that technology, at its best, is not a tool of control but a platform for collective voice and shared governance.

None of this is easy. As **Evgeny Morozov** reminds us, the road to meaningful change is paved with resistance—both from the systems that profit from the status quo and from the habits we've formed within those systems. But the work of building socially just sociodigital futures isn't about achieving perfection. It's about persistence. It's about asking the hard questions, making the uncomfortable choices, and accepting that the work will never really be done. But that, in itself, is the point. Technology will always evolve, and so must we—pushing, questioning, reimagining, and building toward a future that reflects not just what's possible but what's right.

Bibliography

Benjamin, R. (2019) *Race after technology: Abolitionist tools for the new Jim code*. Cambridge: Polity Press.

Bostrom, N. (2014) *Superintelligence: Paths, dangers, strategies*. Oxford: Oxford University Press.

Buolamwini, J. and Gebru, T. (2018) 'Gender shades: Intersectional accuracy disparities in commercial gender classification', *Proceedings of Machine Learning Research*, 81, pp. 77–91.

Carroll, S.R., Rodriguez-Lonebear, D. and Martinez, A. (2019) 'Indigenous data governance: Strategies from United States native nations', *Data Science Journal*, 18(1), pp. 31-41.

Costanza-Chock, S. (2020) *Design justice: Community-led practices to build the worlds we need*. Cambridge: MIT Press.

Crawford, K. (2021) *The atlas of AI: Power, politics, and the planetary costs of artificial intelligence*. New Haven: Yale University Press.

Eubanks, V. (2018) *Automating inequality: How high-tech tools profile, police, and punish the poor*. New York: St. Martin's Press.

Floridi, L. (2014) *The ethics of information*. Oxford: Oxford University Press.

Grafton, Q. (2019) 'Technosolutionism: Cautionary reflections on data-driven reforms', *Journal of Public Policy*, 39(2), pp. 345–358.

Holmes, W. and Porayska-Pomsta, K. (2022) *The ethics of artificial intelligence in education: Practices, challenges, and debates*. Abingdon: Routledge.

Huang, R. and Zhang, H. (2020) 'Scaling AI with care: Reflections on education systems', *Educational Technology Research and Development*, 68(2), pp. 211-228.

Ilkka, T. and Holmes, W. (2021) 'Co-creating AI: Participatory design in education', *AI and Society*, 36(4), pp. 511-530.

Kukutai, T. and Walter, M. (2021) *Indigenous data sovereignty: Toward an agenda*. Canberra: ANU Press.

Laird, E. (2019) *Data for equity: Designing civic technologies for the public good*. Washington, DC: CivicTech Press.

Mishra, S. (2022) 'Social-emotional learning and AI: New frontiers in education', *UNESCO MGIEP Research Briefs*, 4(3), pp. 12–25.

Morozov, E. (2013) *To save everything, click here: The folly of technological solutionism*. New York: PublicAffairs.

Nissenbaum, H. (2010) *Privacy in context: Technology, policy, and the integrity of social life*. Stanford: Stanford University Press.
Noble, S.U. (2018) *Algorithms of oppression: How search engines reinforce racism*. New York: New York University Press.

Pasquale, F. (2015) *The black box society: The secret algorithms that control money and information*. Cambridge: Harvard University Press.

Rowe, R.K., Bull, J.R. and Walker, J.D. (2021) 'Data sovereignty and education policy in Canada', *Policy Studies*, 42(4), pp. 482-498.

Tufekci, Z. (2014) *Twitter and tear gas: The power and fragility of networked protest*. New Haven: Yale University Press.

Williamson, B. (2017) *Big data in education: The digital future of learning, policy, and practice*. Thousand Oaks: SAGE.

Zuboff, S. (2019) *The age of surveillance capitalism: The fight for a human future at the new frontier of power*. New York: PublicAffairs.

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