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## Editorial

# Contributive Justice and Self-Actualizing Systems

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■ **WARRANTED OR OTHERWISE**, until 2016, the U.K. government had a reputation for stability, competence, and reliability that was grounded on normative guardrails, which prevented extremism and overreaction. Moreover, the U.K. people were stereotyped (rightly or otherwise) as fair, honest, and stoic, if rather quaint and a bit dull, but (supporters of the national soccer team aside) at least it could

be assumed they would “act like gentlemen.” Historically, despite contraindications from its empire, the United Kingdom was considered to be an international touchstone for democratic rule, compliance with international law, and respect for human rights.

This was all challenged after the 2016 Brexit referendum, as the chronic chaos induced by a party-political psychodrama over a marginal issue offered a live demonstration of the Dunning–Kruger effect. A sequence of prime ministers of monotonically

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decreasing competence<sup>1</sup> failed to deal with probably the worst vote for an act of national self-harm since the Peloponnesian wars in 415 BC, when the Athenians voted to invade Sicily (got their army massacred and their navy sunk, and were promptly beaten up by the Spartans).

Amid a cast of deplorable characters acting out performative governance [1] in the form of a Halloween pantomime, some questions naturally arise, such as: to what extent did any of the governing politicians *merit* the positions to which they were elected or appointed? Did they have qualifications, credentials, experience, or a track record of achievement, that *merited* having such positions of authority and responsibility?

Since such questions are largely rhetorical, the more pertinent questions addressed herein are: firstly, what is “merit,” and what role might it play in the “digital society,” that is, what positive and negative effects can technology have on the perception of this “merit”; secondly, how can we leverage the positives and eliminate the negatives, for which we will propose a framework of *contributive justice* [2], [3]; and finally, if we were to pick at the prior rhetorical questions to expose the inconsistency, how can local (grassroots) contributive justice be used as a driving force for the common good?

## Merit

In discussions of justice, the concept of “merit” has been a fundamental subject of analysis in ethics, metaphysics, and political philosophy; as nearly always, starting with Kant [4], but also finding expression in modern theories of justice, for example, those of Rescher [5], Rawls [6], and Hayek [7]. Indirectly, though, such discussion perhaps points to three unique human intellectual accomplishments, one of which is seemingly paradoxical. The first accomplishment is to make up institutions as sets of conventional rules and then get people to apply a “trick of the mind,”<sup>2</sup> according to which they (more or less voluntarily) agree to regulate or constrain their behavior to comply with those rules, especially in relation to the use of common-pool resources [8], the common good [2], or matters of public interest [9].

<sup>1</sup>This sequence of U.K. Prime Ministers May–Johnson–Truss could be seen as history repeating itself: the first time as farce, the second time as farce, and the third time as farce... it does not require a deep-learning algorithm to detect a pattern here.

<sup>2</sup>“You can’t break The Law,” it is said by some, as if these made-up laws were as unbreakable as physical laws such as gravity.

The second accomplishment is not just to make up rules, but to make up values associated, seemingly paradoxically, both with compliance *and* noncompliance with those rules. Thus, it is possible to assign credit, worth, or “merit” both to people who comply with the rules and the institutions as “action-guiding authorities,” creating externalities in the form of socially constructed conceptual resources such as trustworthiness,<sup>3</sup> responsibility, and accountability. Moreover, it is also possible to assign such “merit” to people who *do not* comply with the rules, from the fictional trope of maverick law enforcers who are elevated for breaking one law to enforce another, through to rightful celebration of figures associated with dissent and civil disobedience, especially when empirical experience exposes inconsistencies between abstractly deliberated, legislated, and enforced policies versus their practical impact on actual outcomes or other core values [14].

A third accomplishment, though, might be to have initiated an entire socio-economic and political system called *meritocracy* [15], which (supposedly) rewards people for their talent, intelligence, efforts, or pro-social contributions, rather than, say, their wealth, genetic inheritance, or social connectivity. However, while the proposition may appear to superficially plausible—after all, “you get what you deserve” has an instinctive appeal to some form of rough justice common to the Abrahamic theologies—but as a form of social order, it leaves much to be desired, since a system founded on “merit” can be so misconceived that it entrenches rather than challenges unearned and unwarranted privileges and preexisting hegemonic narratives [16]. This can create a culture antithetical to the notion of the common good, and reinforced by technology, a system of continuous microjudgement that can lead to irredeemable othering, and an entrenched and intransigent polarization [17].

For example, in their study of merit in academia, Blair-Loy and Cech [16] consider how STEM academics have a particular reverence for merit, which is reflected in both the process for career

<sup>3</sup>In the context of banking, O’Neill [10] poses the profound question: ask yourself, what is your institution for? She argues that institutions need to focus first on their own trustworthiness and second on communicating evidence of that trustworthiness. The same question should constantly be asked of themselves by IT companies developing artificial intelligence (or be asked of them, by regulators and users), until they recognize that they cannot *make* people trust them, but they can act according to standards and values, and so be deemed trustworthy [11], [12] by communicating verifiable evidence of trustworthiness, for example, by design contractualism [13]. Abandoning an exhortation to “don’t be evil” is probably not going to help much in this regard.

advancement and the culture of honors, awards, and invitations that follow from merit-worthy contributions to knowledge or scientific progress. They describe two widely shared beliefs, which they call cultural schema: these are the work devotion schema and the scientific excellence schema. The work devotion schema mandates that individuals should commit themselves to “science” and “scientific discovery” as a priority above all other activities. The scientific excellence schema identifies specific characteristics that serve as markers of excellence that are in turn deemed worthy of merit.

Blair-Loy and Cech [16] then show, first, that—oddly, for a system that is keen to appoint, promote, and reward on merit—it can cause racial and sexual minorities to be systematically underrepresented. Even those that manage to overcome unconscious recruitment bias feel unwelcome and undervalued; furthermore, any work they undertake to redress under-representation is perceived as a lack of commitment to the work devotion schema, and therefore not worthy of “merit.” Second, they also show how the scientific excellence schema entrenches existing privileges, as rewards go to those who are not necessarily the most productive, but those who most confidently assert that they are most productive, thereby perpetuating a hegemonic narrative of science as an old, white, male, hetero-normative domain. Moreover, occasional successful diversity is claimed as evidence that “the system is working,” which serves as a useful distraction from the lived experience of many, for whom the system is definitely not working.

Unfortunately, this misconception of merit does not seem to be exclusive to the domain of STEM research in academia [18] and is common across many pursuits [19]. In addition, the practice of “job inflation,” through the introduction of vacuous titles in the pretense of “merit” or in lieu of any more substantive recognition for actual achievement, is commonplace. In the United Kingdom, the problem is further exacerbated by the public (sic) school system, which instills a sense of confidence, expectation, and entitlement in its alumni (as well as a ruinous lack of empathy and emotional intelligence) that the mere fact of attending such a school is sufficient demonstration of merit to substantiate whatever disproportionate rewards come their way [20].

In Sandel’s work [2], meritocracy might be seen as “the journey being better than the destination.” In other words, a meritocracy might have, as suggested

above, an intuitive and instinctive appeal as contributing to a *process* of allocating rewards; the real problems start with meritocracy as an *outcome* of allocating rewards. As an outcome, Sandel argues, the meritocratic ethic (or rather, perhaps, opportunistic manipulation of meritocratic metrics, or “cheating,” as it is commonly known) can result in extreme inequality and social divisiveness, which is at best morally questionable, at worst, actively damaging to the fabric of society and the chances of contributing to a common good.

For the fortunate beneficiaries of meritocracy, there is the potential for hubris and social disconnection: excessive pride in what are not necessarily their own achievements and disparagement of the unfortunate or unsuccessful (“if you were any good, you would be an officer too”). For the unfortunate of meritocracy, it can produce disillusionment in the ideals of collective action and resentment at their situation, a resentment that can all too easily be focused on depriving others of what few rights and benefits the unfortunate do have. It does not matter that “the 1%” are so much better off and are even the architects of their misfortune, so long as an out-group is seen to be worse off. Meritocracy becomes just another means for asymmetric power relationships to express and reinforce themselves.

These problems with meritocracy can be pathologically magnified by technology: it is not just that technology amplifies problems in the “analogue” world, but the same problems recur in digital spaces, and are also qualitatively different in terms of scale, visibility, and normative activation. In other words, in digital spaces, more of what is said and done is effectively exposed to more people, who are less likely to exercise judgmental restraint as the norms that would operate in face-to-face interactions are not activated in online social media. For example, the transition to portable devices and app-mediated social relations has made “social credit scoring” possible and even commonplace, for example, in passenger scoring of taxi drivers, patient scoring of health practitioners, and student scoring of professors. This has reduced what was once private, co-productive interactions to public, 1-D, and transactional judgments lacking nuance, context, and feeling, and also lacking any corrective or redemptive mechanism. The opportunity for social and political control through micromonitoring, self-surveillance, black-listing, and othering is beyond anything imagined by

the authoritarian regimes imposed on some central European countries during the Cold War. It is an opportunity being taken irrespective, it seems, of the overarching political regime or economic system.

## Contributive justice

The problem with meritocracy, then, is explicitly highlighted in the title of Sandel's book: merit, or the pursuit and imposition of merit through an ostensible meritocracy, has become hegemonic; or worse, perhaps: it has become *tyrannical*. This outcome is counter to one of the founding principles of Ober's theory of Basic Democracy [21], the avoidance of tyranny. Ober had in mind the absolutist tendencies of autocratic political regimes such as monarchy, oligarchy, and majoritarian tyranny, but the tyranny of merit should be avoided as well.

How, then, can we exclude the tyranny of merit, but at the same time provide cultural norms or other socially constructed values that provide meaningful incentives for people to contribute to collective action, community well-being, and the common good and provide inner justification for their contribution to socially productive purposes? Following Sandel [2], the solution we consider here is *contributive justice*. According to this qualification of justice, as opposed to distributive justice, which is concerned with the "fair" allocation of benefits and rewards, contributive justice is served when everyone has an opportunity to contribute meaningfully to effective decision-making and constructive labor (which might also be considered, respectively, as the knowledge aggregation and knowledge alignment processes identified in [22]).

Drilling down, we would contend that the "opportunity to contribute meaningfully" of contributive justice, as opposed to meritocracy, consists of three interlocking components: civic education, civic participation, and civic dignity. We will consider each in turn.

One of the consequences of meritocracy, as discussed above, is the creation of beneficiaries ("winners") and unfortunates ("losers"); moreover, this separation can be used as a wedge to create polarization between those "winners" and "losers." It has been argued that if only people were well informed, they would always make the "right" decisions: Klein [17] says that this is a compelling argument, but it is also wrong. It overlooks the social and psychological motivation that even the

"losers" from the meritocratic sorting hat still want a "win." That "win" could come from othering an out-group: sometimes the out-group is constructed as an external enemy, but sometimes it is directed as rage toward a different group of a country's own citizens [and it is at this point that the protection of human rights embodied by the European Convention on Human Rights (ECHR) becomes acutely pertinent: the need to protect citizens from abuse of power by their own state]. Therefore, civic education is essential: it should be inclusive and diffusive [2], accessible [23], and emphasize the reasons for sharing the burdens incurred by collective self-governance [21]. However, by itself, it is not enough.

In addition to civic education, the second component of contributive justice is civic participation. Weil [24] asserted that "being rooted" was the most important need of the human soul, where those roots could be found in active, purposeful, and appreciated participation in the life of a community, through associations with place, kinship, educational, and professional activities. Unfortunately, just as education has become increasingly exclusive, with admission to the "top" schools and colleges conferring access to the most privileged career paths and social networks [2], [20], so it has been observed that civic participation has correspondingly declined [25]. A further key feature of civic participation, though, is the establishment of common knowledge [22] and the social construction of conceptual resources, also known as "social capital," both of which are critical for successfully addressing public, large-scale collective action problems.

The third component of contributive justice is civic dignity. Civic dignity can be defined as equal high standing in an extensive and socially diverse body of citizens [26] and is created when people are deemed worthy as fully-fledged participants in processes of discourse and action. Civic dignity is undermined when people are humiliated, infantilized, or are tricked into making decisions that, had they been fully appraised of the facts, they would not otherwise have made. Civic dignity can also be undermined when the value of people's labor is not fully appreciated, or when the management and administration of public enterprises, such as universities, hospitals, and charities, are commandeered by people working in their own self-interest rather than the common good. This negates the dignity

of labor [2], just as certain jobs [27] can be seen as effectively a conduit between central banks and tax-avoiding multinational corporations, or the realization that one's existence is reduced to serving as a revenue stream dedicated to the greater immortality of a BigTech "entrepreneur."

In summary, contributive justice needs civic education to explain why people should get involved, civic participation to get people involved, and civic dignity to meaningfully benefit people for getting involved. Or contributive justice needs civic dignity to set standards and examples for prosocial behavior, civic education to enable such behavior to be observed and imitated used social learning, and civic participation as a platform for this learned behavior to be put into meaningful practice. Or contributive justice needs civic participation to create deep roots in communities or other social enterprises, civic dignity to associate those roots with human flourishing, and civic education to impart the knowledge that makes human flourishing the better part of inequality, showing that there are alternative paths to self-fulfillment which can be more deeply satisfying than mere material accumulation and consumption. Having time can be preferable to having a watch.

### Leading by example?

Returning to the situation of U.K. politics, after the moral degeneracy of the Johnson government [28] finally caused it to collapse in ignominy in July 2022, on 6 September 2022, the quasi-democratic United Kingdom appointed Liz Truss as its prime minister (PM), in a process by which she was elected by just 0.17% (approximately) of the British electorate. Until then, her signature political achievement as environment secretary was to turn the rivers and coastlines of the United Kingdom into open sewers [29], and as foreign secretary to preside over a ministry that was low in morale, competence, and reputation [30].

Truss appointed as home secretary (equivalent to the U.S. Secretary of State, one of the four "great offices" of the U.K. government), Suella Braverman, a politician whose opinions and practices as attorney general made her dubiously appropriate for such a position [31] once they were converted into hostile (and potentially illegal) policies on asylum and immigration. The avoidance of scrutiny and accountability for these policies would necessitate withdrawing from the ECHR. That withdrawal would not only

undermine the Good Friday Agreement that is crucial to the peace process in Northern Ireland, but also summarily rejects a major historical achievement of the United Kingdom that has significantly contributed to bringing some peace and stability to Europe after the Second World War.<sup>4</sup> This illogicality, illiberalism, and disrespect for legacy aside, on 19 October 2022, Braverman was disappointed (i.e., forced to resign) for a serious breach of ministerial rules and national security, by sending official documents from a personal email account to recipients without clearance.

On 21 October 2022, Truss herself was disappointed (i.e., forced to resign) as PM, after just 44 days in the post, mostly for proposing an extreme free-market "mini" budget that caused an unnecessary economic crisis in the midst of interlocking cost-of-living, environmental, and geopolitical crises, which in turn threatened to destabilize the entire global economy. A replacement PM, Rishi Sunak, was then effectively appointed by just 0.0004% (approximately) of the British electorate<sup>5</sup>; whereupon this new PM, six days after the effective sacking of "Leaky Sue" as home secretary, reinstated her—in what has been described as a "grubby deal"—to the same position which, plausibly, she should never have been appointed in the first place.

In point of fact, did any of these politicians merit their appointments, either by application of due process? Truss, for example, has a degree in politics, philosophy, and economics (PPE) from Oxford University, but her stated economic ambition was to "grow the pie so everyone gets a bigger slice," which also, according to her, is somehow not seeing things through the "lens of redistribution." It must be wondered which textbook gave her the idea that macroeconomics could be reduced to such a logically, culinarily, and, above all, economically challenged metaphor; devoted adherence to which, despite all evidence and argument to the contrary, brought about a calamitous and costly economic crisis.

Similarly, Braverman has a law degree but seemingly little understanding or care for legality, the rule of law, or due process. She also derided opposition

<sup>4</sup>In Strasbourg, buildings of the Council of Europe, whose mission is to sustain and maintain democracy, human rights, and the rule of law, display busts of Winston Churchill for a reason. Winston Churchill is a much venerated politician from the same political party as Braverman, Truss, and Johnson.

<sup>5</sup>Issues of legitimacy in the United Kingdom stem from an unwritten constitution and a hereditary head of state, confusion over manifesto and mandate, blurring of executive and congressional branches of government, and misidentification of PM selection with presidential election.



to her crime and policing bill (which would give harsher sentences to climate-change protesters than to violent offenders) due to the “Guardian-reading, tofu-eating wokerati,” which could possibly be vaguely amusing as a genial saloon bar rant from someone down four pints of bitter, but would be embarrassing if presented as an argument in a fourth form debating society, let alone pass for dignified and compelling rhetoric in the so-called “Mother of Parliaments.” As chancellor during the pandemic, Sunak’s costly misjudgments, in lives as well as finances, are well documented [32], [33].

This assessment of the current U.K. political situation demonstrates that, in many cases, despite preaching meritocracy, it cannot be expected for “merit” at the apex of national life to be correlated with leadership, political office, and concern for the common good or for supposedly democratic processes to deliver “merited” outcomes. However, rather than yielding to the ennui and fatalism associated with the loss of rootedness [24], we need to respond constructively. Our proposal is to implement *local* contributive justice through platforms for socio-technical systems that not only support self-organization, but actively promote self-actualization in the sense of Weil, rather than of Maslow.

## Local contributive justice

Considering the issue of distributive justice, that is, the allocation of common resources in an economy of scarcity, the common refrain “there is no fair way to do it” misunderstands the issue: there are arguably many (plausibly, infinitely many [5]) ways of doing it, the problem is getting everyone to agree on the way to do it. This subjective agreement on fairness norms for the distribution of scarce resources has been called local (distributive) justice [34]. Analogously, local contributive justice resides in a subjective consensus on cultural norms for civic participation and civic dignity, underpinned by a framework for explaining the principles of those norms. This framework offers an “education” as to why in a particular time and place, an institution affords specific opportunities for civic participation, might expect a certain degree of engagement in return, and how the “quality” of participation is being valued and evaluated.

How, then, might the three components be implemented, or rather, operationalized [35] to support

local contributive justice in socio-technical systems for the digital society? We would contend there are five requirements: platform, method, visualization, value, and self-assessment. Each of these requirements will be briefly considered.

First, digital communities must be able to own and operate their own platforms for self-determination [36], [37], with well-defined boundaries with ownership and provenance of data clearly delimited—this is Ostrom’s first Institutional Design Principle [8] with data, information, and knowledge as the common-pool resource. Second, the methodological design of institutions and applications on top of those platforms must consider elements of user-centered, participatory, and value-sensitive design, institutional design (Ostrom’s other seven principles), and the lived experience and the lived expertise of the platform users, that is, grassroots empowerment. However, the primary difficulty in choosing between the conflicting platform and design options is managing the tradeoff between consensus and diversity.

Third, users should be able to visualize their contributions to community attention, civic participation, and collective action [36], [38]. Fourth, there needs to be some way of representing and reasoning about specific institutional values, in such a way that qualitative values are not reduced to quantitative metrics, thereby indirectly reintroducing the very meritocratic straitjacket from which we are trying to get away. The potential of distributed consensus technologies is strong here if issues of energy sustainability and perverse incentives<sup>6</sup> can be avoided. Finally, the issue of civic dignity could be addressed by a process of interactional justice [39], where the users have dignity if they consider themselves dignified. Such self-assessment is a form of self-actualization different from Maslow’s achievement of full potential, but rather a fulfillment of self-worth according to inner values relative to opportunistic contributions consistent with agreed cultural norms.

**THE CONCEPT OF “merit”** clearly has merit (sic), but it turns out that perhaps even socially constructed concepts can, like physically constructed technologies, have positive or negative effects. However,

<sup>6</sup>Creating a work of mind is an activity generally intended to produce an object for appreciation by a mass audience. The idea of using an NFT to make, for example, an artwork solely accessible to an audience of one, by securing the NFT and destroying the original, seems to be an incredibly obtuse use of both art and technology.

perhaps the essence of design, we do have a choice over how we use the tools we have invented. We have argued here that we still have a choice over whether life in the digital society is long, nasty and brutal, and relentlessly consumerist. Having made the choice, we proposed local contributive justice as a basis of self-actualizing socio-technical systems that would allow us to realize both what is socially valued and what is personally valuable. ■

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## References

- [1] J. Pitt, K. Michael, and R. Abbas, "Public interest technology, citizen assemblies, and performative governance," *IEEE Technol. Soc. Mag.*, vol. 40, no. 3, pp. 6–9, Sep. 2021.
- [2] M. Sandel, *The Tyranny of Merit*. London, U.K.: Penguin Random House, 2020.
- [3] P. Gomberg, "Why distributive justice is impossible but contributive justice would work," *Sci. Soc.*, vol. 80, no. 1, pp. 31–55, Jan. 2016.
- [4] I. Kant, *Groundwork for the Metaphysics of Morals*, A. Wood, Ed. New Haven, CT, USA: Yale Univ. Press, 2002.
- [5] N. Rescher, *Distributive Justice: A Constructive Critique of the Utilitarian Theory of Distribution*. Indianapolis, IN, USA: Bobbs-Merrill, 1966.
- [6] J. Rawls, *A Theory of Justice*. Boston, MA, USA: Harvard Univ. Press, 1971.
- [7] F. Hayek, *The Constitution of Liberty*. Abingdon, U.K.: Routledge, 1960.
- [8] E. Ostrom, *Governing the Commons*. Cambridge, U.K.: Cambridge Univ. Press, 1990.
- [9] R. Abbas et al., "Co-designing the future with public interest technology," *IEEE Technol. Soc. Mag.*, vol. 40, no. 3, pp. 10–15, Sep. 2021.
- [10] O. O'Neil. (Oct. 20, 2016). "What is banking for?" Baroness Onora O'Neill, Federal Reserve Bank of New York, Financial Service Culture Board. Accessed: Nov. 19, 2022. [Online]. Available: <https://financialservicescultureboard.org.uk/remarks-by-baroness-onora-oneill/>
- [11] S. Marsh et al., "Thinking about trust: People, process, and place," *Patterns*, vol. 1, no. 3, Jun. 2020, Art. no. 100039.
- [12] P. R. Lewis, S. Marsh, and J. Pitt, "AI vs 'AI': Synthetic minds or speech acts," *IEEE Technol. Soc. Mag.*, vol. 40, no. 2, pp. 6–13, Jun. 2021.
- [13] J. Pitt, "Design contractualism for pervasive/affective computing," *IEEE Technol. Soc. Mag.*, vol. 31, no. 4, pp. 22–29, Winter 2012.
- [14] D. B. Kurka, J. Pitt, and J. Ober, "Knowledge management for self-organised resource allocation," *ACM Trans. Autonom. Adapt. Syst.*, vol. 14, no. 1, pp. 1–41, Mar. 2019.
- [15] M. Young, *The Rise of the Meritocracy*, 2nd ed. New York, NY, USA: Routledge, 2017.
- [16] M. Blair-Loy and E. Cech, *Misconceiving Merit: Paradoxes of Excellence and Devotion in Academic Science and Engineering*. Chicago, IL, USA: Univ. Chicago Press, 2022.
- [17] E. Klein, *Why We're Polarized*. London, U.K.: Profile Books, 2021.
- [18] D. Kennedy, "A cultural pluralist case for affirmative action in legal academia," *Duke Law J.*, pp. 705–757, 1990.
- [19] J. Littler, *Against Meritocracy: Culture, Power and Myths of Mobility*. New York, NY, USA: Routledge, 2017.
- [20] S. Kuper, *Chums: How a Tiny Caste of Oxford Tories Took Over the UK*. London, U.K.: Profile Books, 2022.
- [21] J. Ober, *Demopolis: Democracy Before Liberalism in Theory and Practice*. Cambridge, U.K.: Cambridge Univ. Press, 2017.
- [22] J. Ober, *Democracy and Knowledge: Innovation and Learning in Classical Athens*. Princeton, NJ, USA: Princeton Univ. Press, 2008.
- [23] M. Crow and W. Dabars. *The Fifth Wave: The Evolution of American Higher Education*. Baltimore, MA, USA: John Hopkins Univ. Press, 2020.
- [24] S. Weil, *The Need for Roots: Prelude to a Declaration of Duties Towards Mankind*, K. Paul, Ed. Abingdon, U.K.: Routledge, 2002.
- [25] R. Putnam, *Bowling Alone: The Collapse and Revival of American Community*. New York, NY, USA: Simon & Schuster, 2000.
- [26] J. Ober, "Democracy's dignity," *Amer. Political Sci. Rev.*, vol. 106, no. 4, pp. 827–846, 2012.
- [27] D. Graeber, *Bullshit Jobs: The Rise of Pointless Work and What We Can Do About It*. London, U.K.: Penguin Random House, 2019.
- [28] P. Osborne, *The Assault on Truth: Boris Johnson, Donald Trump and the Emergence of a New Moral Barbarism*. London, U.K.: Simon & Schuster, 2021.

- [29] P. Crerar and H. Horton, "Liz truss 'has sewage on her hands' over environment agency cuts," *The Guardian*, Aug. 2022. Accessed: Oct. 30, 2022. [Online]. Available: <https://www.theguardian.com/politics/2022/aug/22/liz-truss-environment-agency-cuts-sewage-water-pollution>
- [30] T. Durrant and J. Urban, "How should the foreign office change now?" Inst. Government, London, U.K., Jul. 2022. Accessed: Oct. 30, 2022. [Online]. Available: <https://www.instituteforgovernment.org.uk/sites/default/files/publications/How-should-the-foreign-office-change-now.pdf>
- [31] M. Savage and T. Helm, "Top lawyers slam Suella Braverman for wrecking UK's reputation," *The Observer*, Sep. 2020. Accessed: Nov. 3, 2022. [Online]. Available: <https://web.archive.org/web/20220511220452/https://www.theguardian.com/politics/2020/sep/12/top-lawyers-slam-suella-braverman-for-wrecking-uks-reputation>
- [32] J. Calvert and G. Arbutnott, *Failures of State: The Inside Story of Britain's Battle With Coronavirus*. London, U.K.: Mudlark, 2021.
- [33] D. Sridhar, "Sunak's COVID decisions tell us how he might act now. It doesn't look good for the NHS," *The Guardian*, Oct. 2022. Accessed: Nov. 3, 2022. [Online]. Available: <https://www.theguardian.com/commentisfree/2022/oct/31/rishi-sunak-covid-decisions-second-wave-nhs-public-health>
- [34] J. Elster, *Local Justice: How Institutions Allocate Scarce Goods and Necessary Burdens*. New York, NY, USA: Russell Sage Foundation, 1992.
- [35] R. Abbas, "Operationalising socio-technical theory: Examining social, technical & environmental subsystems," in *Keynote Lect. 14th Workshop Social Implications Nat. Secur. (SINS)*. Accessed: Nov. 19, 2022. [Online]. Available: <https://www.youtube.com/watch?v=ydgNog6xzMQ>
- [36] S. Pitt et al., "No app is an island: Collective action and sustainable development goal-sensitive design," *Int. J. Interact. Multimedia Artif. Intell.*, vol. 6, no. 5, pp. 24–33, 2020.
- [37] G. Zarkadakis, *Cyber Republic: Reinventing Democracy in the Age of Intelligent Machines*. Boston, MA, USA: MIT Press, 2020.
- [38] A. Bourazeri and J. Pitt, "Collective attention and active consumer participation in community energy systems," *Int. J. Hum. Comput. Stud.*, vol. 119, pp. 1–11, Nov. 2018.
- [39] J. Pitt, "Interactional justice and self-governance of open self-organising systems," in *Proc. IEEE 11th Int. Conf. Self-Adaptive Self-Organizing Syst. (SASO)*, Sep. 2017, pp. 31–40.

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