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Hermeneutical injustice and the computational turn in law

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Abstract

In this paper, I argue that the computational turn in law poses a potential challenge to the legal protections that the rule of law has traditionally afforded us, of a distinctively hermeneutical kind. Computational law brings increased epistemic opacity to the legal system, thereby constraining our ability to understand the law (and ourselves in light of it). Drawing on epistemology and the work of Miranda Fricker, I argue that the notion of 'hermeneutical injustice' captures this condition. Hermeneutical injustice refers to the condition where individuals are dispossessed of the conceptual tools needed to make sense of their own experiences, consequently limiting their ability to articulate them. I argue that in the legal context this poses significant challenges to the interpretation, 'self-application' and contestation of the law. Given the crucial importance of those concepts to the rule of law and the notion of human dignity that it rests upon, this paper seeks to explicate why the notion of hermeneutical injustice demands our attention in the face of the rapidly expanding scope of computation in our legal systems.

Keywords: Hermeneutical injustice, human dignity, computational law, rule of law, contestation

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Introduction

In Yoko Ogawa's dystopian fable *The Memory Police*,[1] objects and their corresponding concepts are 'disappeared' by the state from an unnamed island, with the 'memory police' persecuting those who 'have the power to recall'. As these 'conceptual disappearances' start to impact the island's inhabitants, the power of the state increases. Citizens are gradually deprived of the ability to make sense of the world around them and of their own experiences, a method of oppression as effective as it is insidious. Without the necessary conceptual and interpretive (or 'hermeneutical') tools, the population cannot stand up against a regime that holds the power. This paper explores whether the computational turn in law could have a similar effect on individuals as that described in *The Memory Police*: in being dispossessed of the interpretive tools, concepts and even words to make sense of the world and of one's experiences, there is a shift in power away from the individual that can challenge or even disable their ability to contest. Drawing on the work of Miranda Fricker, I argue that the notion of hermeneutical injustice captures this condition.

Hermeneutical injustice, Fricker argues, constitutes a specific harm that deprives people of the conceptual tools needed to make sense of their experiences and consequently prevents them from articulating them.[2] In this paper, I argue that computational law[3] forms a potential challenge of a distinctively hermeneutical kind to the protections afforded by the rule of law. It does so, firstly, through the increased use of *epistemically opaque* computational systems in legal practice. This might entail, for example, the designation of individuals by unknown or unknowable algorithms as being 'at risk' of future legal violations. This forms a hermeneutical challenge to the rule of law and to contestability, because it makes it difficult for an individual to understand and 'give an account of themselves'[4] in light of the law as it applies to them. Secondly, and relatedly, the challenge is increased by the increasing automation of legal practices, which threatens to collapse the space for interpretation and undermine the role that procedural and formal aspects of the rule of law can play in preventing, mitigating or resolving hermeneutical injustices. If there is less space for interpretation — an affordance of natural language and text that modern, traditional law is embedded in — this will in turn also limit individuals' ability to contest.[5]

Consider, for example, the work of Joy Buolamwini, which uncovers racially discriminatory patterns in facial recognition datasets and algorithms.[6] By creating the notion of the 'coded gaze',[7] Buolamwini gave a name to something that had been nameless not long before. While phrases like 'the coded gaze', 'algorithmic discrimination' and 'machine bias' may seem like mere terminology, the concepts and their corresponding words, our 'hermeneutical resources',[8] are not neutral. They can provide (or fail to provide) us with the conceptual and interpretive tools necessary to contest injustices, and in doing so either empower or oppress. Hermeneutical resources are reflective of power structures and can thus also reinforce or disband those structures.

1 Yoko Ogawa, *The Memory Police* (Stephen Snyder tr, Pantheon Books 2019).

2 Miranda Fricker, *Epistemic Injustice: Power & the Ethics of Knowing* (Oxford University Press 2007) p. 158.

3 'Computational law' will be used throughout as shorthand for what is sometimes also called 'data-driven law' or 'artificial legal intelligence', which comprises e.g. machine or deep learning in support of and/or the incorporation into legal processes that aim to support legal advice and legal decision-making by means of description and prediction. Note that this term is only used as a shorthand for the types of initiatives to make these legal technologies part of the workings of the legal system, rather than an acknowledgement that they, in fact, qualify as 'law' properly so called. See generally Mireille Hildebrandt, 'Law as Computation in the Era of Artificial Legal Intelligence – Speaking Law to the Power of Statistics' (2018) 68(1) University of Toronto Law Journal 12; Mireille Hildebrandt, *Smart Technologies and the End(s) of Law* (Edward Elgar Publishing 2015).

4 Both this expression and 'self-application' (that was first coined by Hart and Sacks) are borrowed from Jeremy Waldron, 'How Law Protects Dignity' (2012) 71(1) Cambridge Law Journal 200, p. 206. See the section *The rule of law and giving an account of oneself* below.

5 Hildebrandt, *Smart Technologies and the End(s) of Law* (n 3).

6 Joy Buolamwini, 'Gender Shades: Intersectional Phenotypic and Demographic Evaluation of Face Datasets and Gender Classifiers' (Masters thesis, Massachusetts Institute of Technology 2017); Joy Buolamwini and Timnit Gebru, 'Gender Shades: Intersectional Accuracy Disparities in Commercial Gender Classification' (Sorelle A Friedler and Christo Wilson eds, Proceedings of Machine Learning Research, PMLR 2018) vol 81.

7 Her term for 'bias in artificial intelligence that can lead to exclusionary experiences or discriminatory practices', see Buolamwini (n 6) p. 17.

8 Fricker's term to denote the pool of shared knowledge, conceptual and interpretive tools and even terminology that we draw upon in the understanding and explication of our lives.

The role hermeneutical (in)justice in the context of computational law thus demands our attention.

Legal systems under the rule of law have always presented themselves to their subjects as something that the latter can in principle make sense of, both in terms of the 'big picture' of their lives and as something that they can apply to their own conduct and contest the terms of. They should be able to give an account of themselves in light of the law that governs them. How might this type of technology, when used in the legal context, undermine that ability to understand ourselves in light of the law? If the expanded scope of the role of computation in law restricts — or potentially even rules out — 'self-application' of the law (i.e. applying the law to oneself rather than awaiting state coercion for the law's enforcement) and its effective contestation, this would pose a significant challenge to the rule of law and the notion of human dignity that it rests upon.

Hermeneutical injustice

Epistemic injustices

Miranda Fricker's work considers how individuals can be 'wronged specifically in their capacity as a subject of knowledge'.[9] She distinguishes two types of discriminatory epistemic injustice:[10] testimonial injustice and hermeneutical injustice. In the case of testimonial injustice, the subject is wronged as a giver of knowledge, whereas hermeneutical injustice affects the individual's capacity for social understanding.[11] Testimonial injustice concerns the contribution of information and opinion and occurs 'when a person offers their view on something... but receives a deflated level of credibility owing to prejudice on the hearer's part — in short, the speaker suffers a credibility deficit caused by prejudice in the hearer'.[12] Fricker gives the example of 'stop and search' by police, where racial prejudice leads officers to question a young black male's assertion that he is the owner of the car he is driving.[13] Hermeneutical injustice differs from its testimonial counterpart in that it precedes (while deeply affecting) communication and relates to the creation and use of interpretive resources. Fricker defines it as '[T]he injustice of having some significant area of one's social experience obscured from collective understanding owing to hermeneutical marginalization'.[14] Hermeneutical injustice forms a specific harm that deprives disadvantaged parties of the conceptual and interpretive tools needed to make sense of their experiences. As a consequence, it can become impossible for them to communicate these experiences to others, to contribute equally to society's shared hermeneutical resources or to argue against wrongs committed against them. In practice, this type of injustice is suffered when an individual is (partly) unsuccessful in their attempt to make intelligible to others a part of their experience, where this lack of intelligibility is to a significant extent caused by 'hermeneutical marginalisation'.[15] The latter notion, Fricker explains, entails membership of a group which does not have equal access to participation in the generation and utilisation of social meanings. Even from this brief description, it might already be clear that testimonial and hermeneutical injustice are deeply interconnected. If one does not receive the credibility they are owed because they are marginalised, they are less able to contribute their interpretations and understanding to the pool of hermeneutical resources that operates in society (this is testimonial injustice). Consequently, their interpretations and understanding will be underrepresented, and thus there will be fewer resources for them subsequently to draw upon to support their interpretations of their experiences (this is hermeneutical injustice). This illustrates

9 Miranda Fricker, 'Epistemic Justice as a Condition of Political Freedom?' (2013) 190(7) Synthese 1317, p. 1320.

10 The label 'discriminatory' was added by Fricker in later work, to differentiate between distributive epistemic injustice (e.g. lack of access to education) and discriminatory epistemic injustices like the ones described here, see ibid p. 1318.

11 ibid p. 1320.

12 Miranda Fricker, 'Epistemic Contribution as a Central Human Capability' in George Hull (ed), *The Equal Society: Essays on Equality in Theory and Practice* (Lexington Books 2015) p. 82.

13 Fricker, 'Epistemic Justice as a Condition of Political Freedom?' (n 9) p. 1318.

14 Fricker, *Epistemic Injustice: Power & the Ethics of Knowing* (n 2) p. 158.

15 Fricker, 'Epistemic Contribution as a Central Human Capability' (n 12) p. 82.

the perpetuating cycle of epistemic marginalisation and injustice.

By way of example, Fricker draws on feminist literature, retelling an episode in Susan Brownmiller's memoir *In Our Time* which describes the story of Carmita Wood. Wood was the victim of unwanted, inappropriate sexual advances from a professor at the university where she worked. The stress of these furtive molestations and her efforts to keep the professor at bay became too much to cope with, causing a host of psychological and physical symptoms. When Wood quit her job, she was faced with her own inability to properly make sense of what had transpired: she did not have the concepts or words to explain, to herself or to others, her experience. She only knew that she felt terrible, stressed and ashamed, and that the advances had been unwanted; she did not at that time know that the professor's behaviour constituted a wrong that would later come to be called 'sexual harassment'. In short, Wood did not have the hermeneutical tools to see for herself, and to communicate to others, the injustice she had experienced. Having been unable to provide a clear explanation of the circumstances,[16] Wood's subsequent claim for unemployment insurance was denied (Wood ended up writing she had left her job for 'personal reasons').[17]

When Wood shared her story in one of the first feminist 'speak-out' seminars in the 1960s, it became apparent that many of the women present had lived through comparable experiences. Together they sought a name for a phenomenon 'that embraced a whole range of subtle and unsubtle persistent behaviours from which so many had suffered but few had been able to protest'. After considering 'sexual intimidation', 'sexual exploitation on the job' and various other alternatives, the group agreed on 'sexual harassment'.[18] As Fricker points out, Wood's 'cognitive disablement' had prevented her and others 'from understanding a significant patch of [their] own experience: that is, a patch of experience which it is strongly in [their] interests to understand, for without that understanding she is left deeply troubled, confused, and isolated, not to mention vulnerable to continued harassment'.[19] Both Wood and her harasser experienced the same 'hermeneutical lacuna' — as Fricker says, 'neither have a proper understanding of how he is treating her' — this lack of proper understanding of sexual harassment was at that time more or less shared by everyone, even perpetrators. Key to understanding why this was an injustice to Wood, however, is that the lacuna only caused serious disadvantage to her, and not her harasser.

In addition to the emotional, physical and financial ramifications of incidents such as this, there are further consequences of hermeneutical injustice. Wood's inability to make sense of her ongoing mistreatment meant she was 'prevent[ed] from protesting it, let alone securing effective measures to stop it'.[20] This is a crucial point, and with the notion of hermeneutical injustice now in place, we can consider what it means for an individual to be 'prevented from protesting'.

Contestation and hermeneutical injustice

In more recent work Fricker has considered political freedom, demonstrating why epistemic *justice* is a necessary condition for 'non-domination'.[21] For her, Philip Pettit's republican conception of political freedom helps to explain the significance of hermeneutical injustice, including in the legal context.[22] Before turning to those questions of law more specifically, this section will consider the rel-

16 Wood 'was at a loss for words to describe the hateful episodes', see Susan Brownmiller, *In Our Time: Memoir of a Revolution* (Dial Press 1990) pp. 280-81, as cited in Fricker, *Epistemic Injustice: Power & the Ethics of Knowing* (n 2) p. 150.

17 The injustice was thus compounded by the effect it had on Wood's income.

18 Fricker, *Epistemic Injustice: Power & the Ethics of Knowing* (n 2) pp. 149-150.

19 At this point, it is important to stress that the 'cognitive disablement' Fricker describes is not sufficient to constitute a hermeneutical injustice, groups can be hermeneutically disadvantaged for a variety of reasons (Fricker also discusses what she calls 'epistemic bad luck', which she considers harmful but not wrongful) but only some of those reasons may strike one as 'unjust'. 'For something to be an injustice, it must be harmful but also wrongful, whether because discriminatory or because otherwise unfair', see ibid p. 151.

20 ibid.

21 Fricker, 'Epistemic Justice as a Condition of Political Freedom?' (n 9) p. 1332.

22 ibid p. 1324.

evance of the positive value of hermeneutical *justice* for 'non-domination'.

Leading voices on the subject of political freedom have emphasised that the mere absence of arbitrary interference into individual lives by the state is not enough to constitute liberty.[23] Even *de facto* freedom, while still at the whim of an unaccountable authority (even if that power is not exercised), does not constitute real freedom but, rather, *domination*. Pettit's theory of *non-domination* therefore requires that certain conditions must be met for interferences to be compatible with political freedom: 'What is required for non-arbitrary state power … is that the power be exercised in a way that tracks, not the power-holder's personal welfare or world-view, but rather the welfare and world-view of the public'.[24]

For Pettit, what is most important to safeguard against domination is the notion of *contestation*. He gives three conditions that must be met to ensure the possibility of effective and meaningful contestation: a 'potential basis for contestation', 'a channel or voice available by which decisions may be contested' and 'a suitable forum in existence for hearing contestation'.[25] Fricker adds a fourth condition, namely that epistemic justice must be served in the process of contestation:

> [D]uring the debate-like exchange that constitutes the contestation, the citizen (or her representative) must be subject neither to testimonial injustice, nor to hermeneutical injustice in respect of what she needs to communicate. Epistemic justice of these two anti-discriminatory kinds are requirements for contestation, because if the citizen suffers an unjust deficit either of credibility or of intelligibility, then s/he precisely cannot get the fair hearing that contestation requires.[26]

With this, the connection between the importance of (legal) procedure, contestation and hermeneutical justice start coming into clearer view. Consider the following example Fricker gives to substantiate hermeneutical justice as a constitutive condition of contestation: in the context of domestic abuse, for a long time it was not recognised that the failure to leave an abusive partner is not necessarily an indication of the severity of the abuse. *Legally speaking*, Fricker argues, the inadequate collective understanding of the victim's experience helped delay the legal move to construe cases of pre-meditated counter-violence on the victim's part as the result of 'long-term provocation'.[27] Therefore, when a victim kills their abusive partner, the defence of provocation to a murder charge might not be accepted where the experience of long-term domestic violence is not properly understood by the court (or such a defence is not advanced by counsel for the same reasons).[28] Consequently, the victim might find themselves disabled as a contester.[29] With this example, hermeneutical justice as a precondition of contestation is already transplanted by Fricker herself from the domain of political freedom into the context of law and the rule of law. Expanding on this shift, the next section considers a recent domestic abuse case from English law, which concretely demonstrates what 'being disabled as a contester' can look like within the legal context.

Hermeneutical injustice in law

On 14 August 2010 Sally Challen killed her husband of 31 years, striking him more than twenty times with a hammer. She was convicted of murder and sentenced to a minimum term of 18 years imprisonment.[30] While Challen was serving her prison term, advocacy groups were advancing the societal understanding of domestic abuse. The pattern of controlling behaviours that an abusive partner can exer-

23 Fricker, 'Epistemic Justice as a Condition of Political Freedom?' (n 9) p. 1321.

24 Philip Pettit, *Republicanism: A Theory of Freedom and Government* (Oxford University Press 1997) p. 56, as cited in Fricker, 'Epistemic Justice as a Condition of Political Freedom?' (n 9) p. 1322.

25 Pettit (n 24) pp. 186-87.

26 Fricker, 'Epistemic Justice as a Condition of Political Freedom?' (n 9) p. 1326.

27 ibid p. 1329.

28 In many jurisdictions, successfully advancing such a defence would normally result in reduction of a murder charge to an offence carrying a lesser penalty.

29 Fricker, 'Epistemic Justice as a Condition of Political Freedom?' (n 9) p. 1330.

30 *Regina v Challen* [2019] EWCA Crim 916.

cise, making it virtually impossible for a victim to leave a domestic situation, is now understood under English law as 'coercive control', but was not well understood collectively at the time. It has long been argued by some that unless judges and juries saw medical records as evidence of physical violence, they were unlikely to conceptualise specific types of controlling behaviour as domestic abuse.[31] To remedy this, in 2015 Parliament enacted the Serious Crime Act, making coercive control a criminal offence. The new law was hailed as recognition of the growing understanding of what can constitute domestic abuse. As Harriet Wistrich, Challen's solicitor, explained: 'We're saying the fact that the law only came into being in 2015 shows that previously we didn't have that mechanism for understanding controlling behaviour'.[32] This hermeneutical aspect was further emphasised by Challen's son, who campaigned for the release of his mother: 'We talk a lot more now because we're able to. Understanding how coercive control works has given us the words – and I know, if I'd had those words earlier, I would have got the police. I could have stopped it'.[33]

Challen appealed her conviction on the grounds that (1) the concept of coercive control was not properly understood at the time of her trial, and so the killing was not interpreted as a response to a 'provocation' and (2) she was suffering from two previously undiagnosed mental health disorders that were not previously taken into consideration. At her appeal in 2019, the counsel for Challen argued that had coercive control been properly understood in 2011 at the time of the original trial, it would have been possible to submit a plea of provocation. Although ultimately the Court of Appeal was not persuaded that these new insights about the theory of coercive control afforded the appellant a ground of appeal (coercive control is still not a defence to murder as such) had it been the sole ground, it did recognise that the theory could be relevant in the context of the two partial defences open to a murder charge, namely provocation and diminished responsibility.[34] Ultimately, Challen's conviction was quashed by the court on the grounds of her previously ignored disorders at the time of commission of the offence. A retrial was ordered in light of that new evidence, leaving the door open for the theory of coercive control to be considered more fully. Before the retrial could take place, however, the Crown accepted Challen's guilty plea to the lesser charge of manslaughter and, given the time she had already served, she was released from prison.

Although the Court of Appeal did not ultimately accept what might be described as the 'hermeneutical injustice argument' in Challen's case, the fact that it was such a prominent part of the arguments advanced demonstrates the importance of hermeneutical *justice* in law. It offers strong support for Fricker's claim that if an experience is not properly understood the victim will find herself significantly challenged, if not disabled, as a contester. Challen and her counsel have expressed their conviction that she might still be in prison today were it not for the emergence of the theory of coercive control, a new conceptual tool that made it possible for those involved, Challen included, to make sense of her experience and others like it.[35] At the very least, the advancement of this argument signals the important role of hermeneutical justice (and epistemic justice more broadly) in legal cases. It also draws attention to the general idea that 'institutional bodies to whom citizens may need to contest must... achieve epistemic justice in their hearings'.[36] This is of particular importance to legal institutions where decisions are being made daily with far reaching consequences for individual lives.

31 Anna Moore, '"I miss him so much": why did a devoted wife kill the man she loved?' *The Guardian* (29 September 2018).

32 Jamie Doward, 'Fear led out mother to kill our father. It wasn't murder' *The Guardian* (17 February 2019).

33 *Challen* (n 30).

34 ibid.

35 This raises the point of legal representation, which serves to mitigate the defendant's inability to understand and/or communicate their experiences in a legally relevant way. However, legal representation can suffer from the same, or different, hermeneutical injustices. At Challen's original trial the defence of provocation was not advanced despite the word 'control' being mentioned various times by multiple witnesses. Even if counsel does not suffer from the same hermeneutical lacuna, they might still be up against lack of understanding in the relevant institutions (e.g. judges and juries) if the understanding is not sufficiently shared in society, see on this Fricker, 'Epistemic Justice as a Condition of Political Freedom?' (n 9) pp. 1319-20 In this context, the Challen case further emphasises the crucial importance of legal representation, for the rule of law and the respect of human dignity see David Luban, 'The Rule of Law and Human Dignity: Re-examining Fuller's Canons' (2010) 2(1) Hague Journal on the Rule of Law 29.

36 Fricker, 'Epistemic Justice as a Condition of Political Freedom?' (n 9) p. 1330.

These sections have revealed hermeneutical justice as a 'compound constitutive condition, not only of contestation, but of non-domination'.[37] The discussion of Pettit has thus served to shed light on the salience of the notion of hermeneutical injustice for contestation, and how it pertains to the legal domain. Additionally, the Challen case demonstrates that, although hermeneutical injustices have always existed in both legal systems and in society at large, legal institutions and legal procedures in systems committed to the rule of law are aimed at limiting the instances of injustice generally, including those of a hermeneutical kind. If the possibility of contestation is what stands between us and domination, and contestation demands epistemic justice, we must find ways to safeguard epistemic justice in the law. Before turning to how the computational turn in law challenges this, thereby threatening the rule of law, let us first consider the latter notion more closely.

The rule of law and giving an account of oneself

The rule of law is a complex and essentially contested notion.[38] For our purposes, there are two connected elements crucial to the rule of law that in this context merit highlighting. Firstly, that the law ought to be accessible to the individual because it facilitates both contestation and 'self-application'. And, secondly, that the formal and procedural elements of the rule of law protect human dignity, because they facilitate 'giving an account of oneself' in light of the law.[39] Let us consider both these elements briefly.

In his *The Morality of Law*, Lon Fuller formulated formal principles of 'the inner morality of law' which include generality, publicity, clarity, consistency, feasibility, prospectivity and congruence.[40] Although these requirements are sometimes presented as being logically independent of each other, they are at the very least united by the fact that they 'establish law as something predictable, something which individuals can reliably take into account as they go about the planning of their lives'.[41] This predictability requires that every citizen should have access to the law. As Jeremy Waldron explains, this entails accessibility in two senses. First, that law is epistemically accessible: 'it should be a body of norms promulgated as public knowledge so that people can study it, internalise it, figure out what it requires of them, and use it as a framework for their plans and expectations'.[42] And secondly, that 'legal institutions and their procedures should be available to ordinary people to uphold their rights, settle their disputes, and protect them against abuses of public and private power'.[43] These accessibility requirements point to the particular importance of self-application and (the facilitation of) contestation in the legal domain.

Additionally, Fuller contended that his 'principles of legality' also inevitably enhance human dignity.[44] The connection between dignity and the rule of law becomes clearer when examining Waldron's conception of the former notion. On his account, dignity concerns the standing an individual has in society and in her dealing with others:

> Dignity is the status of a person predicated on the fact that she is recognised as having the ability to control and regulate her actions in accordance with her own apprehension of norms and reasons that apply to her; *it assumes she is capable of giving and entitled to give an account of herself* (and of the way in which she is regulating her actions and organising her life), an account that others are to pay attention to; and it means finally that she has the wherewithal to demand that her agency and her

37 Fricker, 'Epistemic Justice as a Condition of Political Freedom?' (n 9) p. 1327.

38 Jeremy Waldron, 'Is the Rule of Law an Essentially Contested Concept (in Florida?)' (2002) 21(2) Law and Philosophy 137; Jeremy Waldron, 'The Rule of Law and the Importance of Procedure' (2011) 50 Nomos 3.

39 Waldron, 'How Law Protects Dignity' (n 4); Waldron, 'The Rule of Law and the Importance of Procedure' (n 38).

40 Lon L Fuller, *The Morality of Law* (revised edition, Yale University Press 1964); Luban (n 35) p. 31.

41 Jeremy Waldron, 'The Rule of Law in Contemporary Liberal Theory' (1989) 2(1) Ratio Juris 79.

42 Jeremy Waldron, 'The Rule of Law' in Edward N Zalta (ed), *The Standford Encyclopedia of Philosophy* (2020).

43 ibid.

44 Luban (n 35).

> presence among us as a human being be taken seriously and accommodated in the lives of others, in others' attitudes and actions towards her, and in social life generally.[45]

The idea of 'giving an account of oneself' in the legal context thus looks to people's capacity to understand the law and to apply it to their own circumstances. It concerns their ability for self-control and for monitoring and modulating their behaviour where necessary.[46] This entails the ability of citizens to access the law, to understand it and in principle to apply it to themselves (i.e. 'self-application'), rather than awaiting coercion into compliance by the state. Waldron emphasises the importance of human dignity: '[Legal systems] operate by using, rather than suppressing and short-circuiting, the responsible agency of ordinary human individuals'.[47] He further notes:

> [L]aw is a mode of governing people that acknowledges that they have a view or perspective of their own to present on the application of the norm to their conduct and situation. Applying a norm to a human individual is not like deciding what to do about a rabid animal or a dilapidated house. It involves paying attention to a point of view and respecting the personality of the entity one is dealing with. As such it embodies a crucial dignitarian idea - respecting the dignity of those to whom the norms are applied as *beings capable of explaining themselves*.[48]

The idea of 'giving an account of oneself' thus surfaces in a particular normative view of legal procedure.[49] As Waldron points out, argumentation and interpretation of the law and the procedures that enable them are thus not just contingently related to human dignity, but rather form important preconditions necessary for the fulfilment of it, because they enable giving an account of oneself in the legal context.[50] These formal and procedural characteristics are part of any system of governance under the rule of law that aims to treat individuals with respect; it ensures that they 'count as a human being'.

Law is something that legal subjects can and should be able to make sense of, in terms of the 'big picture' of their life.[51] The recognition of a set of norms as 'the law' is not the full extent of what makes up the legal discipline; at least as important as having the norms in place is what we do with those norms. Therefore, the exercise of interpretation, which is intimately bound up with that of argumentation, allows for the application of law across heterogenous contexts that the complexity of human life demands.[52] This is where the overlap between notions of dignity with interpretation in law and the possibility of arguing for a specific interpretation become more apparent. As Waldron says, to deny the possibility of arguing for a given interpretation 'is to truncate what the Rule of Law rests upon: respect for the freedom and dignity of each person as an active center of intelligence'.[53] The law, by its very nature, can always be contested by those who are expected to apply it to themselves. This is what distinguishes a normative view of the legal system as built around the rule of law from perspectives that see it as primarily about 'manipulating behaviour'.[54] The question that this raises with respect to computational law is whether an algorithm can ever be said to respect the dignity, in this rich sense, of those who are subject to it. To what extent might it bypass, or minimise opportunities to exercise the practices that are core to law, such as interpretation, argumentation and contestation?

Self-application and contestation thus rely on the subject's capacity to understand and interpret how the law relates to their own life, and this indeed is exactly what is chal-

45 Waldron, 'How Law Protects Dignity' (n 4) p. 202.
46 Jeremy Waldron, 'The Concept and the Rule of Law' (2008) 43(1) Georgia Law Review 1, pp. 26-27.
47 ibid p. 26.
48 Waldron, 'How Law Protects Dignity' (n 4) p. 210.
49 Waldron, 'The Rule of Law and the Importance of Procedure' (n 38).
50 Waldron, 'How Law Protects Dignity' (n 4) p. 203.
51 ibid p. 210.
52 Laurence Diver, 'Digisprudence: The Affordance of Legitimacy in Code-as-Law' (PhD thesis, University of Edinburgh 2019) p. 111.
53 Waldron, 'The Concept and the Rule of Law' (n 46) pp. 59-60.
54 Mireille Hildebrandt, *Law for Computer Scientists and Other Folk* (Oxford University Press 2020) p. 206.

lenged by hermeneutical injustice. Although the law as we know it has always known hermeneutical injustices (as the Sally Challen case demonstrates), it can be argued that in modern legal systems under the rule of law there has at least been a formal and procedural commitment to preventing, mitigating and rectifying those injustices. After all, if one accepts the premise that the legal resolution of the hermeneutical injustice in Challen's case contributed to the quashing of her conviction, then it must also be recognised that this was facilitated by the possibility of appeal, argumentation on what the right interpretation of the facts and the law ought to be, the consideration of new evidence and the placing of it into its revised social context and thus, ultimately, by the contestation of the original decision in a (superior) court of law. The point is therefore not to say that hermeneutical injustice as a challenge to the rule of law and human dignity did not exist before the introduction of computational law, or that the (pursuit of) complete adherence to the rule of law is a silver bullet to creating a perfect legal system or society. Rather, the point is that computational law has the potential to exacerbate these challenges even further and potentially pose new ones, on both an individual and systemic level, to a point where our current approaches to mitigating them might not suffice.

The next section aims to illustrate how the protection that the rule of law offers against potential hermeneutical injustices does not necessarily translate to a new embodiment or *mode of existence* of law,[55] as in the case of computational law. This will require thoughtful consideration and hard, cross-disciplinary and design-focused work.[56]

Computational law and hermeneutical injustice

As Dan McQuillan points out, the unconstrained application of machine learning algorithms will impact our notions of justice.[57] Referring to Fricker, McQuillan notes that machine learning methods are productive of the kind of epistemic injustices under discussion here and draws attention to the potential implications of these methods for both testimonial and hermeneutical injustice. As regards to the latter he notes that 'the set of social groups whose life patterns will be authoritatively interpreted by distant machines is growing ever larger', while specifically raising the issue of these processes being applied directly in legal contexts.[58] As an example of this in the legal context, McQuillan discusses Northpointe's notorious COMPAS tool, a proprietary algorithm used in the U.S. criminal justice system that assigns scores to defendants, purporting to predict their risk of recidivism. If not for the research conducted by ProPublica that uncovered how this tool discriminates against black Americans, suspicions of unfairness or discrimination by individual defendants might never have come to be actual knowledge of that harm and would have rendered them disabled as contesters.[59] Without knowledge of the workings of the algorithm and without a fully developed conceptual and terminological 'toolkit' that includes notions like 'algorithmic discrimination' (or 'coded gaze' as in Buolamwini's work), it is much more difficult for those subjected to this type of discrimination to make sense of their treatment by legal institutions and consequently to contest the legal decisions taken against them.

55 Hildebrandt, *Smart Technologies and the End(s) of Law* (n 3) p. 133.

56 See e.g. Laurence Diver, 'Digisprudence: The Design of Legitimate Code' [2021] Law, Innovation & Technology (forthcoming).

57 Dan McQuillan, 'People's Councils for Ethical Machine Learning' (2018) 4(2) Social Media + Society.

58 ibid p. 4.

59 Julia Angwin and others, 'Machine Bias: There's software used across the country to predict future criminals and it's biased against blacks' (*ProPublica*, 2016) ⟨https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing⟩.

Consider the Dutch System Risk Indication (SyRI), adopted in 2014 by the Dutch Ministry of Social Welfare and Employment. This system produces risk notifications though data analysis, flagging citizens it deems to be at risk of not complying with a broad variety of social security laws.[60] The goals of the system are '...prevention of and combating the unlawful use of government funds and government schemes in the area of social security and income-dependent schemes, preventing and combating taxes and social security fraud and non-compliance with labour laws'.[61] SyRI analyses citizens within a certain geographical area but how this analysis is conducted is unclear due to the secrecy surrounding the workings of the system, leading the Dutch platform for civil rights protection to describe it as 'a *carte blanche* in a black box'.[62] The risk models, the accompanying risk indicators and the concrete data on which SyRI functions are kept secret and therefore unknown to the individuals affected by the system, despite the system having a 'significant effect' on them.[63]

Philip Alston, United Nations Special Rapporteur on extreme poverty and human rights, in the context of his research on 'digital welfare states',[64] submitted an amicus brief to the Hague District Court when the question of the legality of SyRI was brought before it. There, he set out how fundamental procedural safeguards are severely lacking from SyRI. Firstly, he notes that the relevant legislation lacks clarity to such a degree that any individual 'would be unable to form any reasonable expectation in advance about how the use of SyRI would affect his or her rights'.[65] At best, individuals would only be able to form an 'extremely general idea at best about the functioning of SyRI and how it might affect them individually'.[66] Secondly, crucial information that would inform a welfare beneficiary or their representative of what is happening in a specific project is deliberately kept secret, which also applies to the request to deploy the system itself by government authorities and to the data sources and the risk indicators used, as well as to the inner workings of the algorithm that produces the risk score. According to Alston this level of secrecy, in its various dimensions, is deeply problematic: '[This] runs counter to other principles, including that of the rule of law. In democracies, laws are made public, among other reasons, in order for citizens to know what is expected of them...'.[67]

He argues that if a neighbourhood-specific fraud inspection like this were to happen 'in the real world', the general public would 'resist and protest' such an invasion of their private life. The fact that this happens in the digital realm therefore only makes things more complicated:

> The psychological and other effects of a physical raid on a neighbourhood by fraud inspectors is relatively easy to imagine, but a digital raid on such a scale leaves equally problematic traces. That SyRI operates in relative silence and is de facto invisible to the naked eye may actually add to the unease and prejudice suffered by those living in those areas.[68]

This 'invisibility' manifests in at least two ways: firstly, basic information is kept secret about the risk models used in SyRI so that the inner workings of the system are *unknown*, and secondly, the inner workings of some of these systems might be *unknowable* due to their technical opacity or black-box nature. In both cases, it clearly poses a challenge to the epistemic accessibility of the law and an individual's ability to give an account of themselves in light

60 The legal basis for employment of SyRI by public authorities is derived from Wet SUWI ss. 64–65, as well as Besluit SUWI, ch. 5a.

61 Wet SUWI, as translated into English by the court in *NJCM c.s./De Staat der Nederlanden (SyRI)* (Case number C-09-550982-HA ZA 18-388, District Court of the Hague 2020), para. 4.4.

62 'Never a system like SyRI again' (Platform Burgerrechten ('Platform civil rights') 2020) ⟨https://bijvoorbaatverdacht.nl/nooit-meer-een-systeem-als-syri/⟩.

63 *NJCM c.s./De Staat der Nederlanden (SyRI)* (n 61) paras. 6.65, 6.82.

64 Philip Alston, Report of the Special rapporteur on extreme poverty and human rights, submitted in accordance with HRC resolution 35/19 (advanced unedited version, A/74/48037, 2019).

65 Philip Alston, Brief by the United Nations Special Rapporteur on extreme poverty and human rights as amicus curiae in the case of *NJCM c.s./De Staat der Nederlanden (SyRI)* (Case number C-09-550982-HA ZA 18-388, 2019) para. 2.

66 ibid para. 24.

67 ibid para. 26.

68 ibid para. 29.

of it. But whereas in the former case traditional avenues of contestation to combat this inaccessibility might still offer some solutions, in the latter case those traditional procedural avenues are increasingly being foreclosed. As a consequence, if a citizen does not have the hermeneutical tools to make sense of what has happened to them, because the computational system does not or cannot provide them, it will be effectively impossible to contest the decisions taken against them, despite the fact that they produce significant legal effects. Indeed, there are consequences involved in the operation of SyRI that 'are difficult to measure but all too real in their consequences' and those targeted by SyRI 'are those least likely to be able to defend themselves against the intrusions and the resulting negative consequences'.[69] These 'real consequences' do not only include the discriminatory effects these systems can have but also to the hermeneutical injustices they can create or entrench.

The potential hermeneutical injustices that the computational turn in law can create thus pose a new challenge to contestation, which can be said to consist in two distinct aspects that are deeply interconnected. Firstly, on a more individual level, by depriving the individual in question of (legally) significant knowledge, like the algorithmic label that designates them as a risk, it becomes significantly more difficult for them to understand their life and themselves in light of the law as it applies to them. Let us call this the *individual* hermeneutical challenge to contestation.[70] As the stories of Carmita Wood and Sally Challen have demonstrated, this ability is a critical precondition for contestation and an important aspect of human dignity. In the computational context this is illustrated by research into SyRI and research like that of Buolamwini on the 'coded gaze', in that uncovering the discriminatory effects of the algorithms in question and by constructing a conceptual framework and accompanying vocabulary facilitated the recognition of similar cases. These new hermeneutical resources epistemically empowered individuals and enabled more effective contestation. Secondly, on a more structural or systemic level, an increase in the use of an algorithmic systems in law, like SyRI and COMPAS, can create an institutional legal environment that affords less space for interpretation and argumentation and for the procedures that have traditionally offered legal protection. A computational legal environment that does not afford us the formal and procedural safeguards the rule of law has traditionally presented, because it does not allow for interpretation, argumentation and contestation to the same extent, also has limited capacity to prevent or rectify hermeneutical injustices. This can be described as a *systemic* hermeneutical challenge to contestation. These two challenges are two sides of the same coin, but are nevertheless distinct because the former emphasises the consequences of hermeneutical injustice in computational law for the individual and how it affects their capacity for self-understanding and their personal epistemic ability to contest and apply the law and give an account of themselves in light of it, whereas the latter emphasises the consequences of hermeneutical injustice for contestation at the level of legal procedures and institutions.

It is crucial to note, however, that the fact that computational law might not be able to offer legal protections in the *same* way, does not necessarily mean it cannot do so in *any way*. It does however mean that we should not take hermeneutical justice for granted in a computational legal environment.

Conclusion

Hermeneutical *justice* in the legal context will not always present itself in a clear-cut form of a new concept — like 'sexual harassment', 'coercive control' or 'the coded gaze' — that can empower those who are suffering the negative consequences of its absence. It can come in many epistemic forms in aid of improving one's understanding of the law and their life in light of it. Whether it is to understand why you are being singled out for police or administrative investigations while others are not, why your benefits are being denied or more generally to understand your

[69] Brief by the United Nations Special Rapporteur on extreme poverty and human rights as amicus curiae in the case of *NJCM c.s./De Staat der Nederlanden (SyRI)* (n 65) para. 34.

[70] See e.g. Bert-Jaap Koops, 'On Decision Transparency or How to Enhance Data Protection after the Computational Turn' in Mireille Hildebrandt and Katja de Vries (eds), *Privacy, Due Process and the Computational Turn* (Routledge 2013) pp. 211-13.

position in society, the fact is that an algorithmic system can have the 'all too real consequence' of hindering you in making sense of your own experiences in relation to the law that applies to you. Hermeneutical injustice targets an individual's understanding of themselves at a fundamental level. At its most extreme, the algorithmic system can render the individual disabled as a contester and thereby threaten their legal protection under the rule of law.

The previous sections have thus brought us to the heart of the matter and to the questions this paper has sought to raise: what happens to our ability to contest if the computational turn in law limits our hermeneutical abilities and resources? What does that mean for legal protection under the rule of law and the notion of human dignity that it rests upon? If computational law does not allow for interpretation and contestation in the same way that law-as-we-know-it does, can it still be said to respect human dignity? I have sought to make clear that it is crucial that computer scientists, programmers, designers and those who instruct and employ them do not gain inappropriate influence over our collective hermeneutical resources, while shutting the rest of us out. This makes hermeneutical justice an important ideal for the proper functioning of a legal system under the rule of law because it is simply what makes contestation meaningful for individuals – one cannot contest what one cannot name. We therefore ought to ensure that hermeneutical injustice is not a ubiquitous bug of the computational law of the future, but rather that hermeneutical justice is a feature of it.

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A reply: Hermeneutical injustice in sociotechnical systems

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"Hermeneutical injustice and the computational turn in law" presents an important and thought-provoking argument regarding the social harms of computational law. By applying theories of hermeneutical injustice to computational law, the author demonstrates the complex normative bases for legal decision-making and articulates a new source of injustice that can arise when computation enters legal processes. The paper provides a cogent reminder that many of the law's functions and moral bases cannot be readily translated into algorithmic decision-making, and thus that it is not sufficient to evaluate computational law merely by comparing the decisions of judges and algorithms. More holistic analyses are necessary.

Although the paper provides a valuable application of legal theory to computational law, it could have been further strengthened through greater attention to the interactions between computational and 'traditional' law. Throughout the text, the author positions these two forms of law as distinct practices with competing affordances. A more sociotechnical approach would have instead considered how computational law overlaps with, is shaped by, and itself shapes traditional law, thus blurring the boundaries between these two practices.

This sociotechnical approach could help us trace how traditional and computational law interact to exacerbate both types of hermeneutical injustice that the author attributes to computational law. The first is the individual hermeneutical challenge, through which individuals are unable to understand or contest computational law's application to their lives. Many of these sources of hermeneutical injustice are in fact structured by traditional law. For instance, many computational law systems are shielded from contestation in part by legal regimes of opacity and trade secrecy. When Eric Loomis challenged the use of COMPAS to inform his sentence, he was unable to examine the algorithm itself because its creator, Northpointe, considered the algorithm to be a trade secret (*State v. Loomis* 2016 [5]). Based on the author's description, a similar dynamic appears to be the case for the Dutch System Risk Indication (SyRI).

The second type of hermeneutical injustice described in the paper is the systemic challenge, through which computational law reduces the space for interpretation and argumentation. Here, we can look not just to the computation itself but also to how computation influences the human decision-makers enacting law. Both empirical and experimental research have shown not only that people respond to pretrial risk assessments in unexpected and biased ways, but also that they are often unaware of these behaviours [2, 6]. Novel human-algorithm interactions can therefore alter legal decision-making processes in a manner that is opaque to both individuals and judges, introducing another mechanism that could reduce the terrain for understanding or contesting how decisions are made.

The ultimate question — which the author poses in the conclusion but does not otherwise address — is what to do about the hermeneutical injustice of computational law. How might we take up the author's call "to ensure that hermeneutical injustice is not a ubiquitous bug of the computational law of the future"? Three particular paths (which can operate in tandem rather than being mutually exclusive) strike me as most worth discussing.

The first path is to oppose the turn to computational law altogether. Although we should resist the impulse to treat traditional law as necessarily more just than computational law or to oppose every form of computational law, there are indeed many reasons to resist particular manifestations of computational law. This strategy can be seen in the growing calls for abandoning criminal justice

risk assessments and the spate of bans on facial recognition.

The second path is to reform technical processes and practices such that people are granted greater epistemic access to how decisions about them are being made. One such approach is research promoting transparent, interpretable, and explainable models. Although transparency and explanations for black-box models are often misleading and unstable, interpretable models are a more promising approach to providing insight into certain dimensions of how computational law operates [4]. Another approach involves adapting algorithm design and evaluation processes to better account for social and political contexts [3]. More sociotechnical and experimental analyses of algorithms can help us gain new insights about how computational law operates and adapt computational legal systems in light of these findings.

The third path is to address the complex ways that computational and traditional law interact to obstruct meaningful contestation and exacerbate hermeneutical injustice. It is necessary to enhance existing forms of legal contestation that are often applied to shield computational law from public scrutiny, for instance by challenging trade secrecy paradigms and strengthening open records regimes [1]. Fundamental shifts in how computation is integrated into legal systems may also be necessary. For instance, the increasing recognition that algorithms can be biased and reflect the standpoints of their developers calls into question the privileged treatment that computational law often receives as mere technical aids. Recasting computational insights as forms of expert testimony subject to cross-examination rather than as 'neutral' or 'objective' facts could more appropriately account for how these systems are created and enhance opportunities to meaningfully contest them.

Although the precise path forward for combatting hermeneutical injustice is not yet clear, this paper presents a valuable call to action.

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Author's response: The paths less travelled

Emilie van den Hoven

Green's reading of my paper as an analytical diagnosis rather than a practical cure is apt. In his reply, Green sketches three possible practical paths forward in pursuit of hermeneutical justice in the computational legal context: (1) to oppose (some forms of) computational law altogether; (2) to design for better epistemic access to legal decision-making; and (3) to facilitate meaningful contestation where interaction between 'traditional' law and computational 'law' exacerbate hermeneutical injustice. These three complementary approaches to what that action might look like in practice are most welcome.

Although I think that capturing the details of practical interactions between the two forms of law is important, my paper articulates a fundamental concern that can help us better understand an important normative problem posed by computational law. I would suggest that an analysis along these lines precedes the choice of paths outlined by Green. Firstly, because we need to establish which problems to design against in the dynamic socio-technical reality. Secondly, because hermeneutical injustice in this context is exactly what might affect the choice of paths that are available to us and the ways in which we are able to progress on them.

That is not to say that traditional law does not produce hermeneutical injustices of its own. In fact, the law has never been without them. Moreover, it is true, as Green points out, that traditional law has played an important role in creating epistemic opacity. My argument is therefore not that contestation is perfect in traditional law and impossible in computational law, but rather that there are specific features intrinsic to computational systems that might make contestation significantly more difficult. What might such a curtailment of contestation mean for the hermeneutical abilities that are core to the rule of law and to the notion of human dignity that it rests upon?

The goal of the paper is thus to draw attention to the possibility that hermeneutical injustices might (1) occur more easily under computational law, (2) might be more difficult to detect; and that (3) traditional methods of contestation might not be sufficient to mitigate it. Yet, the point is also that this does not condemn us to Green's first path as the only response. I believe that some of the socio-technical measures that Green outlines are valuable and necessary. However, crucially, Green presupposes that there is no hermeneutical injustice that affects them prior to being deployed. Solutions, like cross-examination of computational insights and bias detection, are to no avail if they are affected by the same hermeneutical problems that they are trying to solve. Therefore, we must help ourselves to the analytical notion of hermeneutical injustice to be able to effectively design against it and determine which paths of legal protection we deem worthy of pursuit.