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Predictive Evidence and Unpredictable Freedom

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Abstract—When determining in criminal proceedings whether an individual performed a certain culpable action, predictive evidence is often ignored. Most notably, and with few exceptions, base-rates are excluded. The hostility of criminal fact-finding towards predictive evidence is also apparent in the deeply rooted suspicion of bad character and previous convictions. In this paper, I seek to explain this hostility by suggesting that criminal fact-finding implicitly adheres to the view that culpable conduct requires free will that is necessarily unpredictable. While theorists tend to agree that it is possible to predict a free action, at least with some degree of confidence, I contend that criminal fact-finding adheres to the view that free actions cannot have either subjective or objective probabilities. It is not only the lack of sufficient information that prevents an accurate prediction of how an agent will act freely: free actions cannot be predicted because their probability does not exist.

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1. *Introduction*

When determining in criminal proceedings whether an individual performed a certain culpable action, predictive evidence is often dismissed.[1] Most notably,

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[1] I rely on Uviller's distinction between trace and predictive evidence: the former results from a past event that leaves some traces in the present (such as eyewitnesses or fingerprints), while the latter 'looks forward from an established event or trait to predict the likely repetition of its occurrence'. See R Uviller, 'Evidence of Character to Prove Conduct: Illusion, Illogic, and Injustice in the Courtroom' (1982) 130 U Pa L Rev 845, 847.

and with only a few exceptions, predictive base rates are excluded.[2] Using such evidence in court also seems *intuitively inappropriate*. For example, using the high rate of crimes involving illegal firearms in a certain neighbourhood to support the conviction of an individual resident in a crime involving an illegal firearm seems highly objectionable (henceforth, the 'crime rates scenario'). The objection to such base rates is not directed solely at the sufficiency of such evidence (on the grounds that crime rates are insufficient on their own to prove that the individual is guilty). The objection also requires that such evidence should not be used at all in determining the individual's guilt: that crime rates should be *inadmissible* in criminal proceedings.[3] The hostility of criminal fact-finding towards predictive evidence is also apparent in the deeply rooted suspicion of bad character and previous convictions.[4]

While I share the view that the various accounts that seek to justify this hostility towards predictive evidence have been unsuccessful,[5] I do not defend this view here.[6] Instead, I seek to propose an alternative account, which is admittedly both counter-intuitive and demanding in its metaphysical commitments, yet successfully identifies which types of predictive evidence should not be admitted in criminal fact-finding, and provides a unifying justification for why this is the case. I would suggest that the fact-finding practices used to determine culpability in criminal proceedings *implicitly adhere* to the view that culpable conduct requires *free will* and that this free will is *necessarily unpredictable*. While theorists of free will disagree on when an action can be considered free, they tend to agree that it is possible to predict a free action, at least to some degree of confidence. Contrary to this dominant view, in this article I suggest that criminal fact-finding adheres to a theory of free will that includes a necessary condition of unpredictability, according to which free actions *cannot have probabilities* (henceforth, 'the unpredictability condition'). This condition means that an *accurate* assessment of what an agent is likely to do *freely* is not merely epistemically unfeasible but metaphysically impossible. It is not only the lack of sufficient information that prevents an accurate prediction of how an agent will act freely: free actions cannot be predicted because their probability does not exist.

[2] For a descriptive study on the use of base rates in the United States, see JJ Koehler, 'When Do Courts Think Base Rate Statistics Are Relevant?' (2002) 42 Jurimetrics J 373.

[3] This intuitive objection to admissibility distinguishes this example from the lottery and preface paradoxes, in epistemology, and the prisoners' and gatecrasher's paradoxes, in legal theory. The latter paradox is discussed in the text accompanying n 64.

[4] 'English law's suspicion of bad character and extraneous misconduct evidence has been cultivated for many centuries. It is deeply embedded in English judicial culture and institutions, and has frequently been actively propounded and celebrated': P Roberts and AAS Zuckerman, *Criminal Evidence* (2nd edn, OUP 2010) 586.

[5] F Schoeman, 'Statistical vs Direct Evidence' (1987) 21 Noûs 179; M Redmayne, 'Exploring the Proof Paradoxes' (2008) 14 Legal Theory 281.

[6] I defend this view in A Pundik, 'What Is Wrong with Statistical Evidence? The Attempts to Establish an Epistemic Deficiency' (2008) 27 CJQ 461; A Pundik, 'The Epistemology of Statistical Evidence' (2011) 15 International Journal of Evidence & Proof 117; Pundik, 'Statistical Evidence and Individual Litigants: A Reconsideration of Wasserman's Argument from Autonomy' (2008) 12 International Journal of Evidence & Proof 303.

While I tend to think that, if free will exists, it is necessarily unpredictable, I do not pursue this claim here. Nor do I claim that the unpredictability condition is formally or consciously adopted by any existing legislation or judgment. I only argue that this condition is able to provide the sought-after justification for excluding predictive evidence.

In this article, I assume that criminal law seeks to avoid punishing those who are not culpable for their actions, and hence that criminal punishment is constrained by culpability. Consequently, criminal proceedings constitute the legal context in which the role of attributing culpability is at its clearest. This constraint does not imply retributivism—namely, that punishment is inflicted because it is deserved. Instead, any theory of punishment that considers culpability to be a *constraint* on other legitimate goals of punishment should refrain from knowingly convicting non-culpable persons.[7] I also assume, like most theorists of free will, that acting freely is a necessary condition of culpability.[8] While some might hold that our practices of attributing culpability do not require us to settle the metaphysical question of free will,[9] I share the position that the distinction between justified and unjustified attribution of culpability—which any theory of culpability needs to make—is likely to rely on (or bring through the back door) notions very similar to 'freedom' and 'control'.[10]

The scope of my discussion is restricted in two respects. First, while I believe my claim is applicable more widely, to legal and non-legal practices of determining culpability alike,[11] I focus here on legal practices because they are easier to identify. Second, some culpable actions may cause the agent to perform further actions that may be both predictable and culpable (getting drunk voluntarily and then driving dangerously). The agent's culpability for the latter seems to be *derived* from their culpability for the former. When, how and why culpability for one action is derived from another are complicated issues to address, and it is particularly questionable whether the agent's culpability goes beyond their culpability for the first action. Be that as it may, such derivatively culpable actions are outside the scope of this article.

Section 2 explains the unpredictability condition by contrasting it to existing theories of free will and making some preliminary remarks on what a theory of free will that includes this condition might look like. Section 3 explains how the unpredictability condition can be used to provide a unifying

[7] One notable example of such a theory is Hart's mixed theory, which accepts the retributivist constraint ('only those who have broken the law—and voluntarily broken it—may be punished') while rejecting retributivism as the 'General Justifying Aim of the system', HLA Hart, *Punishment and Responsibility* (2nd edn, OUP 2008) 9.

[8] A notable exception is that of semi-compatibilist theories (see the text accompanying n 14).

[9] P Strawson, 'Freedom and Resentment' (1962) 48 Proceedings of the British Academy 1.

[10] V Tadros, *Criminal Responsbility* (OUP 2005) 69.

[11] Consider a pupil who is blamed for cheating in a certain exam, based on the statistical evidence according to which 80% of their fellow pupils cheated in that exam.

justification for excluding predictive evidence.[12] Section 4 defends the suitability of the unpredictability condition to criminal fact-finding by criticising the suitability of the competing view, according to which being subject to causal influence enables the prediction of human conduct without rendering it unfree.

2. *The Unpredictability Condition of Free Will*

Since a free will theory that includes the unpredictability condition denies that free actions have probabilities, it is necessarily *incompatibilist*.[13] For compatibilist theories of free will, an action may be free even if it is determined by antecedent causal factors, so relying on these factors to predict that the agent's action poses no greater threat to freedom than determinism itself (which poses none). By contrast, if free actions are *necessarily* unpredictable, an action that is determined by causal factors outside the agent's control *cannot* be free. This is because these causal factors would make the action at least potentially predictable (the possibility of prediction, and its accuracy, would depend on the state of our knowledge).

A similar point would apply to semi-compatibilist theories, such as Fischer and Ravizza's influential theory that distinguishes between 'regulative control', which is incompatible with determinism but is not required for culpability, and 'guidance control', which suffices for culpability and is based on the agent's responsiveness to reasons.[14] While semi-compatibilists uphold a stark division between *free* actions and *culpable* actions, and could thus accept that free actions are unpredictable, they still hold, like 'full' compatibilists, that *culpable* actions may be predictable (for example, because they may be determined by causal factors that do not undermine guidance control). By contrast, in the following sections I claim that the unpredictability condition is able to justify the hostility of criminal fact-finding towards predictive evidence by looking into how *culpable* actions are proven. Consequently, my claim, if successful, would also suggest that the theory of free will to which criminal fact-finding adheres is libertarian rather than compatibilist or semi-compatibilist.

A constitutive feature of libertarian theories of free will is the claim that, if the agent's action were (fully) determined by antecedent causal factors outside their control, they would be neither free to do, nor culpable for doing, what they did. Yet, libertarians tend to accept the view that the agent's *free* actions

[12] This section starts by summarising the argument I made in Amit Pundik, 'Freedom and Generalisation' (2017) 37 OJLS 189. Readers who are not familiar with that paper and are left with some concerns about the claims made might find replies there.

[13] My previous work was criticised by Picinali for not specifying the theory of free will to which it is committed. See Federico Picinali, 'Generalisations, Causal Relationships, and Moral Responsibility' (2016) 20(2) International Journal of Evidence & Proof 121. I hope this section rectifies this shortcoming.

[14] J Fischer and M Ravizza, *Responsibility and Control: A Theory of Moral Responsibility* (CUP 1998) 31–4.

have *objective probabilities*,[15] and that position is rarely challenged.[16] According to the objective interpretation of probability, the underlying reality itself is indeterministic. One common way to understand what objective probabilities are is to think of the indeterminism as lying in the cause itself.[17] Consider the following probabilistic generalisation: dropping a glass from a certain height onto a wooden floor will cause it to break in 50% of cases. According to this understanding, dropping the glass is a genuinely indeterministic event: even had we known all the relevant facts (the particular fragility of the glass, the distance from the floor and so on) and the applicable laws of nature, it would have still been impossible to know, before the glass hit the floor, whether it would break in that instance.

The same logic applies to human conduct: under the objective interpretation, it is impossible to predict with certainty how an agent will act, even if we know all that could possibly be known, because the underlying reality itself is indeterministic. However, just as it is possible to predict that the probability the glass will break is 50%, it is also possible to predict with some degree of confidence what the agent will do. The better the prediction becomes, the closer it will be to the objective probability of that action. It is unsurprising that this is the dominant view among libertarians, because it enables them to account for the common practice of predicting what course of action an agent is likely to choose *freely*. If free actions have objective probabilities, they could be subject to causal influence, which would affect the probability that the agent will choose to act in a certain way without rendering the action unfree.

However, if criminal fact-finding adheres to the unpredictability condition, it cannot be based on any theory of freedom that holds that free actions have objective probabilities.[18] While this adherence requires a unique type of libertarian theory of free will,[19] and rules out most contemporary libertarian theories,[20] nothing in the commitment to libertarianism requires acceptance of the view that free actions have objective probabilities.[21]

[15] P van Inwagen, 'Free Will Remains a Mystery' (2000) 14 Philosophical Perspectives 1, 14–18; T O'Connor, *Persons and Causes: The Metaphysics of Free Will* (OUP 2000) 97; T O'Connor, 'Agent-Causal Power' in T Handfield (ed), *Dispositions and Causes* (OUP 2009) 189, 197.

[16] For exceptions, see L Vicens, 'Objective Probabilities of Free Choice' (2016) 93 Res Philosophica 1; G Sela, 'Torts as Self-Defense' (DPhil thesis, University of Oxford 2017).

[17] D Lewis, *Philosophical Papers*, vol 2 (OUP 1986) ch 19. Another alternative (known as probabilistic causation and discussed in Section 4) is that the indeterminism lies in the causal *relation*.

[18] Compatibilism does not imply that determinism is true, only that it poses no threat to freedom. Consequently, it is logically open for compatibilists to accept that the world is indeterministic and that free actions have objective probabilities. However, such a route is unlikely to be taken by compatibilists because it would deny them their luck-based objections to libertarianism. For the challenge luck poses to libertarianism, see N Levy, *Hard Luck* (OUP 2011) ch 3 (although Levy defines himself as a 'disappointed compatibilist' and argues that luck undermines compatibilism as well, ibid 2 and ch 4).

[19] A Kantian version of such a theory may be found in H Bergson, *Time and Free Will: An Essay on the Immediate Data of Consciousness* (Frank Lubecki Pogson tr, Kessinger Publishing Company 1910). An alternative version may be based on the semantics of counterfactuals: counterfactual propositions about the action an agent would have carried out freely under different circumstances have no truth values. See Sela (n 16).

[20] See n 15.

[21] Vicens (n 16). For O'Connor's reply, see T O'Connor, 'Probability and Freedom: A Reply to Vicens' (2016) 93 Res Philosophica 289.

While offering a comprehensive account of a libertarian theory that includes the unpredictability condition is outside the scope of this article, I would like to make a few tentative remarks to suggest what such a theory might look like. Notably, the unpredictability condition is a necessary rather than sufficient condition of freedom. Some contemporary compatibilist theories specify conditions that are unrelated to determinism, such as responsiveness to reasons,[22] and a libertarian theory that includes the unpredictability condition is likely to incorporate such conditions as well.[23]

A libertarian theory that includes the unpredictability condition need not deny that, in many cases, human conduct is predictable. For example, if a person drinks coffee almost every morning, we can predict with a high degree of confidence that they are going to drink coffee tomorrow morning as well. While such actions may be predictable, such a theory would deny that they are free in the sense that libertarians attribute to the term 'freedom'. Drinking coffee may certainly be free in various significant senses: it may be free from external interventions such as coercion, deception or manipulation; it may be free from political or social interference (drinking coffee is neither illegal nor socially unacceptable); it may be free from shortage of coffee beans, etc. However, that the action is free in any of these senses does not entail that it is free in the sense libertarians attribute to the notion of freedom and consider necessary for culpability, namely that a free action is one that is undetermined by causal factors beyond the agent's control. If it is the person's genetic composition or caffeine addiction that will determine their drinking of coffee tomorrow morning, all the aforementioned senses of freedom may hold, yet libertarians would insist that the individual's coffee drinking was unfree. A theory that includes unpredictability could accept that many actions are indeed predictable, but suggest that they are predictable precisely *because of* their being unfree: the same causal factors that make an action predictable also render it unfree.[24]

A libertarian theory that includes the unpredictability condition would need to account for the role of the agent's subjective reasons in their free actions. One option would be to accept that an action that was determined by the agent's reasons cannot be free (because only undetermined actions may be free), but insist that such an action may still be culpable because its culpability may be derived from the agent's previous free actions that resulted in acquiring or keeping these subjective reasons.[25] Since derivative culpability is outside

[22] Fischer and Ravizza (n 14).

[23] 'Being able to appreciate and act for reasons does not suffice for being a free agent. But such an ability is necessary for free will': Randolph Clarke, *Libertarian Accounts of Free Will* (OUP 2003) 15.

[24] Sela (n 15) suggests another explanation along similar lines. According to his 'Tuesday Freedom' approach, some types of action are carried out freely only *occasionally*: on most mornings, the agent drinks their coffee without exercising their free will, yet on Tuesday mornings, the agent drinks (or does not drink) their coffee freely. Predictions are based on the pattern created by the unfree occasions, and are hence irrelevant for predicting how the agent will act *freely*.

[25] See, most notably, Kane's notion of self-forming actions, R Kane, *The Significance of Free Will* (OUP 1996) 74.

the scope of this article, I will focus on an alternative view, also common among libertarians, according to which *reasons are not causes* and reason-explanations are *non-causal* in nature.[26] Such a view need not deny that the agent may experience some motivations or subjective reasons for action as more powerful than others (perhaps because they cohere better with their beliefs, values and goals).[27] For example, an agent could freely choose to donate to charity *mainly* because they want to help others, and *also* because they want to claim tax relief. However, such a view would deny that the difference in strength reflects a difference in the causal influence that each reason exerts on the agent; it would reject Davidson's influential claim that reason-explanations are causal explanations.[28] Consequently, from this perspective, the agent is not 'pushed' by some reasons to act in one way and by other reasons to act in another way until some reasons prevail. Instead of being pushed around, when acting freely, it is the agent who chooses on which of their reasons to act.[29]

Under this view, the role of reasons would probably amount to that of *enablers* of free decisions.[30] Free actions result from 'torn decisions':[31] for an action to be free, the agent needs to have reasons for each option between which they deliberate. For example, for an agent's decision to donate to charity to be free, they need to have reasons to keep the money for themselves. The conflicting reasons *enable* the agent's choice between different courses of action, because an agent cannot treat an action as a potential course of action they might take if they have no reason whatsoever to perform that action. Should the agent happen to have no reason to keep the money, and thus not be torn between the options, their decision to donate cannot be free (but if their decision is determined by a habit or previous decision to donate regularly, they may well be praiseworthy for developing this habit or making the previous decision). Such an action could still have a reason-explanation (for example, they donated because they wanted to help the poor), but this explanation is *non-causal*, because reasons are not causes. The cause of their unfree action lies elsewhere—for instance, in the habit they developed (either freely or unfreely). Understanding reasons as enablers rather than causes is consistent with the claim that free actions have no objective probabilities. That an agent is torn between two options does not mean the objective probability of their

[26] See eg C Ginet, 'Reasons Explanation of Action: An Incompatibilist Account' (1989) 3 Philosophical Perspectives 17.

[27] I thank Timothy O'Connor for pressing me on this point.

[28] D Davidson, 'Actions, Reasons, and Causes' (1963) 60 Journal of Philosophy 685.

[29] The sentence above assumes an agent-causalist libertarian theory rather than a non-causalist or event-causalist one; for the differences, see Clarke (n 23) chs 3–7, and it might be possible to include the unpredictability condition in a non-causalist or event-causalist theory as well.

[30] For the distinction between causes and enablers, see LB Lombard, 'Causes, Enablers and the Counterfactual Analysis' (1990) 59 Philosophical Studies 195.

[31] The term 'torn decision' is taken from M Balaguer, *Free Will as an Open Scientific Problem* (MIT Press 2009) ch 3.

choosing either is 50%; deliberating and ultimately choosing between conflicting reasons is a prerequisite of acting freely, not a measure of probabilities.

Furthermore, free actions may still have rational explanations under this view, in the sense that they could be explained by the agent's subjective reasons for action.[32] Consider Mr Broyer, who stands outside a bank and deliberates between two options: going inside to rob it or walking away.[33] Under libertarian theories, if Broyer's action is free, it cannot be determined by factors outside his control. Until Broyer acts, even an omniscient bystander (be it God or an evil neuroscientist) cannot know what Broyer will do.[34] The unpredictability condition adds that, if Broyer's action is free, it also lacks an objective probability. Not only can an omniscient bystander not know what Broyer will do, they cannot even estimate rationally, because any estimation as to how Broyer might act would be equally good (or, more precisely, equally bad).

In reality, Broyer eventually opted to enter the bank to rob it. Under the unpredictability condition, while it was entirely unpredictable that he would freely go into the bank, his action was not whimsical or capricious, because it is possible to *explain* why he did so, based on his reasons for acting this way (he badly needed the money he intended to steal, for instance). What makes free actions so unique is that, had Broyer walked away, it would have *also* been possible to explain why he did so, based on other reasons of his (such as wanting to obey the law).[35] After all, he stood outside the bank and deliberated because he had reasons for either option.[36]

What *cannot* be explained about Broyer's action is why he went inside *rather than* walking away.[37] None of the causal factors outside Broyer's control, and *not even his reasons*, determined this outcome. What determined his going inside rather than walking away was *Broyer himself, as an agent*, enacting his will to cause the action. To generalise this example, for an action to be free, the agent needs to have a rational explanation for each of the courses of action they may freely take; yet, once the agent has acted, there is no *contrastive*

[32] The discussion in the text is based on Clarke's discussion of indeterminism and contrastive rational explanation: Clarke (n 23) 39–49. Clarke's discussion is conducted in the context of event-causalist theories of free will, but is equally applicable to agent-causalist theories.

[33] This example is inspired by the Israeli case of CrimA 9849/05 *State of Israel v Broyer* 66 PD 726 (2006).

[34] The theological problem of foreknowledge and free will might differ from the problem of determinism and free will, but the former is used here only for the purpose of illustrating the unpredictability condition.

[35] I do not assume that only choices that comply with some thicker norms of rationality (eg Kant's Categorical Imperative) may be free.

[36] Questions concerning the conditions required for a mental process to constitute 'deliberation' and the norms with which such a process should comply are outside the scope of this article.

[37] Clarke suggests that, in some cases, it may be possible to provide a contrastive explanation (eg if the agent preceded his action with a judgment about which course of action would be best to take). See Randolph Clarke, 'Reflections on an Argument from Luck' (2004) 32 Philosophical Topics 47, 52. I am concerned that this suggestion might lead to an infinite regress (for what contrastively explains the agent's preceding judgment?). Furthermore, the unpredictability condition is incompatible with this suggestion. While Clarke stipulates that the agent's previous judgment was among the causes of their action, according to the unpredictability condition, the later decision was free only if it had no objective probability, so the previous judgment could not causally affect it.

explanation for why they have freely chosen one course of action over the other courses of action between which they deliberated.[38]

Notably, the types and tokens of actions that may be free under the unpredictability condition are considerably fewer than under other theories of freedom (including many actions that are commonly regarded as 'free', such as drinking coffee). This implication of the unpredictability condition might be perceived as unattractive: *prima facie*, the more actions one can perform freely, the better-off one is because one has 'more' freedom. Putting aside the methodological question of whether having an unattractive implication serves as an argument against a certain theory, I would like to suggest that this implication is not problematic, because having more opportunities to act freely does not necessarily make the agent better-off. First, the extent of the loss, if any, from not having 'more' freedom seems to depend more on the quality of free actions than on their quantity: making a few important decisions in life freely matters more than drinking coffee freely every morning. Second, many predictable actions are *not even open to moral evaluation* (other than being merely permissible). Drinking coffee may not cause any harm to others, violate any right and so on, and consequently no blame or praise could be attributed to the agent for acting this way. In these cases, even if such actions are unfree, the range of actions for which the agent may be blameworthy or praiseworthy remains unaffected. Lastly, acting freely is not cost-free for the agent, because it might require time, effort and deliberation on their part. If it turns out that fewer of our actions are free, rather than this outcome being a source of disappointment, it may actually be liberating.

One might further object that the unpredictability condition renders many actions that seem intuitively culpable unfree, and thus non-culpable. For example, a driver who caused an accident because they were texting while driving could not be culpable if they did not face a torn decision after which they resolved to text. It is questionable whether such an action is truly absent-minded: that the decision was made hastily or failed to meet standards of either reasonableness or objective rationality does not mean the driver did not deliberate between conflicting options and make a free choice to text. More importantly, even if their texting was done without any deliberation or conscious choice-making, they may still be *derivatively* culpable (for example, for developing or not fighting the habit to text while driving). As mentioned above, when, how and why culpability for one action is derived from another are complicated issues to address and are outside the scope of this article, but the point is that, if the driver is absent-minded, the only way they could be culpable for the accident is through their culpability for some previous action.

[38] For theories of contrastive explanations more generally, see B van Fraassen, *The Scientific Image* (OUP 1980) 97–157; P Lipton, 'Contrastive Explanation' in D Knowles (ed), *Explanation and Its Limits* (Royal Institute of Philosophy 1990) 247–66.

If there is no conscious decision that the deriver made freely, what is the basis for holding them culpable to begin with?

3. *The Unpredictability Condition and Criminal Fact-Finding*

A. The Culpability Account

Recall the crime rates scenario, in which the prosecution seeks to adduce the high rate of crimes involving illegal firearms in a certain neighbourhood to support the conviction of a resident in a crime involving an illegal firearm. In previous work,[39] I have suggested the culpability account, according to which predictive evidence supports the prosecution's claim that the accused committed the alleged crime only if the accused's conduct was determined by a certain *causal* factor that rendered their conduct unfree. Yet, in the context of attributing culpability, it is necessary to presuppose the exact opposite: that the accused was free to determine their own conduct. Using these types of generalisation to determine culpability is objectionable, because it involves *contradicting* presuppositions about the individual's conduct.[40]

The culpability account first argues that inferences about human conduct, drawn for either prediction or conviction purposes, require reliance on *causal* generalisations—that is, generalisations that reflect a causal connection between the type of fact from which the inference begins and the type of fact the inference seeks to establish. If an inference is based on a non-causal generalisation, a mere correlation, it is unlicensed and thus invalid.[41] The causal relation can operate either directly or through a common cause. Inferring that a smoker is likelier to contract cancer than a non-smoker is based on a causal generalisation that smoking is a cause of (lung) cancer. By contrast, inferring that a Coca-Cola drinker is likelier to contract cancer than a non-drinker involves a causal generalisation that reflects a common cause. It is living in a hot country that is the common cause of both Coca-Cola drinking and (skin) cancer. The culpability account does not require us to *specify* the (direct or indirect) causal generalisation; it only requires that the *existence* of such a causal generalisation be presupposed.[42]

[39] Above n 12.

[40] That determining culpability should not be based on contradictory presuppositions should not be confused with the stronger claim that *every* case of practical decision making is subject to *all* epistemic norms—a claim I do not endorse. Nor is it assumed that holding contradictory beliefs is, in itself, morally wrong—only that it is wrong to rely on contradictory beliefs to treat someone as culpable.

[41] This claim is part of the Common Cause Principle; see H Reichenbach, *The Direction of Time* (2nd edn, University of California Press 1991) 158–9; F Arntzenius, 'The Common Cause Principle' (1992) 2 PSA 227.

[42] I object to the opposite stance, according to which a mere correlation between the two types of fact can suffice to infer an unknown from a known fact, since this stance faces difficulty in rejecting *spurious correlations* (such as the statistically significant correlation between the number of people who drown by falling into a swimming pool and the number of films featuring Nicholas Cage (Tyler Vigen, 'Spurious Correlations' <www.tylervigen.com> accessed 16 April 2019). For more detail, see Pundik (n 12) 199–200.

But even if inferences about human conduct require reliance on causal generalisations, why cannot free actions be proven with such generalisations? Starting with a simple example, assume that Richard is exposed to radiation of a particular kind, which affects his nervous system, resulting in blotches all over his skin and an irresistible urge to attack everyone around him. Assume further that *every* person exposed to this radiation develops these symptoms. When Richard is admitted to hospital, it seems unproblematic to infer from the blotches that, given the opportunity, he will go berserk and should therefore be restrained. However, inferring from these marks that a violent action that had taken place before Richard arrived at the hospital was committed by him (rather than by someone else), for the purpose of convicting him of a violent offence, seems intuitively problematic.

According to the culpability account, this inference should not be used for the purpose of determining culpability, because it leads to a contradiction. To infer from Richard's skin marks that he had acted violently, it is necessary to presuppose a *causal* generalisation: either one caused the other or they both have a common cause. In this example, the radiation caused both Richard's blotches and his violent conduct. However, Richard's acting violently may be culpable only if he acted *freely*. Establishing Richard's guilt by inferring from his skin marks that it was he who acted violently is, therefore, contradictory: Richard's conduct is treated as free and unfree at the same time. This example also explains why the very same inference seems unproblematic when restraining him in the hospital because, in the medical context, it is not necessary to presuppose that Richard's violent conduct will be free and culpable.

Moving to probabilistic generalisations, consider the following variation on the previous example. Assume that Stephen is exposed to another type of radiation, which affects the nervous system and always causes certain skin blotches but causes an irresistible urge to attack others, when the opportunity arises, in only 80% of cases. According to the subjective interpretation of probability,[43] which is commonly considered the most suitable for legal purposes,[44] probabilistic generalisations reflect the limited state of our knowledge rather than the true nature of the world. While the generalisation about the radiation is probabilistic, it imperfectly reflects a reality that may be deterministic. If the world is indeed deterministic, Stephen belongs to one of two possible subgroups. One possibility is that he belongs to the subgroup of people who possess an extra unknown variable, which, together with the radiation, determines that he will go berserk. The other possibility is that he belongs to the

[43] For the application of the culpability account under the objective interpretation, see Pundik (n 12) 204–5.

[44] For criminal law, see L Alexander and KK Ferzan with S Morse, *Crime and Culpability: A Theory of Criminal Law* (CUP 2009) 31; for tort law, see S Perry, 'Risk, Harm, and Responsibility' in DG Owen (ed), *Philosophical Foundations of Tort Law* (Clarendon Press 1995) 321, 333–5; for health and safety regulation, see MD Adler, 'Against "Individual Risk": A Sympathetic Critique of Risk Assessment' (2005) 153 U Pa L Rev 1121, 1247.

subgroup of people who do not possess the extra variable, in which case the exposure to the radiation will not cause him to go berserk.

Supporting Stephen's conviction by inferring from the blotches on his skin that he was (80%) likely to have acted violently is problematic. If Stephen does indeed possess the extra variable, then—similarly to deterministic generalisations—this inference leads to a contradiction: his conduct is taken to be both free (in order to be culpable) and unfree (as, together with another unknown variable, his violent actions were determined by the radiation). If Stephen does not possess the extra variable, then inferring from his skin marks that he acted violently is mistaken and misleading because, if he belongs to the subgroup of people who were not caused to act violently by the radiation, then the probability that he acted violently is not affected by the exposure to the radiation. In sum, this inference is either contradictory, because it requires inconsistent presuppositions, or misleading, because it is mistaken and yet is presented as informative.

B. *Justifying the Hostility towards Predictive Evidence*

The culpability account is able to provide a unifying justification for the hostility of criminal fact-finding towards predictive evidence. Returning to the crime rates scenario, inferring from the crime-rate data that the resident was likelier to have committed a crime involving an illegal firearm requires presupposing that there is a causal generalisation that makes the resident's conduct predictable to some extent, be it the dangerous character of the neighbourhood or its socio-economic conditions, for instance. Such causal factors are outside the control of the individual resident.[45] The inference from crime rates to the resident's committing the alleged crime is hence either inconsistent with their being culpable or mistaken.

The culpability account also supports the common law's suspicion of previous convictions and yields some criticism of recent reforms. The rules and case law governing the admissibility of previous convictions are vast and complex, and I cannot provide a comprehensive analysis of them here. However, applying the culpability account to previous convictions of child molestation may serve as an example of how such an analysis might look. Previous convictions of child molestation are admissible in both the UK and the United States.[46] While the admission of such previous convictions has been criticised on various grounds, such as being unconstitutional,[47] unfair[48] and even truth-

[45] One might respond that the resident may still have some control over how to respond to these causal factors, leaving their conduct both predictable and free. I discuss this response in Section 4.

[46] For the UK, see the Criminal Justice Act 2003, c 44, pt 11, ch 1, s 103; for the United States, see Federal Rules of Evidence, r 414.

[47] M Sheft, 'Federal Rule of Evidence 413: A Dangerous New Frontier' (1995) 33 Am Crim L Rev 57.

[48] J McCandless, 'Prior Bad Acts and Two Bad Rules: The Fundamental Unfairness of Federal Rules of Evidence 413 and 414' (1997) 5 William and Mary Bill of Rights Journal 689, 694.

supressing,[49] the connection to the issue of free will seems to have gone unnoticed. The culpability account would draw attention to the importance of identifying the exact generalisation involved and considering whether using it for conviction conflicts with other presuppositions made in criminal proceedings. Like any inference about human conduct, inferring from the accused's previous convictions that they are likelier to have committed the alleged similar offence(s) relies on a causal generalisation. These previous convictions may be probative because they indicate that the accused suffers from a condition, such as perversion, illness or addiction, that raises the probability of reoffending. According to the culpability account, if these previous convictions indeed support the prosecution's contention that the accused committed the alleged crime, it might only be at the price of exposing that the accused's conduct is unfree and thus non-culpable.[50]

A similar analysis applies to motive. Evidence of motive is usually admissible in court,[51] and Redmayne even holds that 'excluding motive evidence is counter-intuitive'.[52] For example, that the accused's wife had an affair and their marriage broke down 'shows that he had a motive (albeit an irrational motive) for killing her'.[53] I do not share Redmayne's intuition (for example, I am not convinced that evidence of the accused's being poor should be used to support his conviction of theft). More importantly, it is commonly thought that the general approach of substantive criminal law to motive is that the accused's motives are irrelevant.[54] The culpability account would suggest that criminal fact-finding should also be wary of motives. One way in which motives may be probative of the accused's conduct is by reflecting external influences that were outside their control and rendered their conduct unfree. If poverty is probative of stealing because poverty *causes* (some) poor people to steal, the culpability account can raise the same objection levelled against the radiation that causes (some) people to go berserk. A similar objection can be made if adultery is probative of murder because it causes (some) cuckolded husbands to kill their wives.

However, both motive and previous convictions could sometimes be used without raising similar objections. Recall that a theory of free will that includes the unpredictability condition may hold that the individual's subjective reasons

[49] M Cowley and J Colyer, 'Asymmetries in Prior Conviction Reasoning: Truth Suppression Effects in Child Protection Contexts' (2010) 16 Psychology, Crime & Law 211.

[50] For the use of previous convictions to refute the defence's claims, see the following paragraphs.

[51] 'When motive is relevant, evidence tending to show its existence is usually admissible, subject to exclusion if the risk of unfair prejudice is too great': DP Leonard, 'Character and Motive in Evidence Law' (2001) 34 Loy LA L Rev 439, 439–40.

[52] M Redmayne, *Character in the Criminal Trial* (OUP 2015) 70. See also DN Husak, 'Motive and Criminal Liability' (1989) 8 Criminal Justice Ethics 3.

[53] *R v Phillips* [2003] EWCA Crim 1379.

[54] 'Hardly any part of penal law is more definitely settled than that motive is irrelevant': Jerome Hall, *General Principles of Criminal law* (2nd edn, Bobbs-Merrill 1960) 88; 'It has been uniformly accepted in Anglo-American jurisprudence that motive is neither an element of a crime, nor a defense to its existence': Theodore Sachs, 'Criminal Law – Humanitarian Motive as a Defense to Homicide – State v Sander, (NH 1950)' (1950) 48 Mich L Rev 1199.

for action are not causes but merely enablers.[55] If the prosecution needs to prove the existence of such an enabler, the culpability account would raise no objection to using predictive evidence for that purpose. For example, if the accused claims that he did not steal or kill his wife, because he had no subjective reason to do so (and hence was unable to choose this course of action), evidence of motive may be used to refute these claims. Similarly, previous convictions of child molestation may be used to refute the accused's claims that they lacked any reason to commit such crimes (because they lack such sexual desire, for instance). Indeed, even when existing rules of evidence exclude previous convictions, they allow the prosecution to use them to refute the accused's claims of 'clean record'.[56] The culpability account explains and justifies this exception by interpreting the accused's claim as arguing for lack of subjective reasons to commit the alleged crime, a claim that can be refuted by establishing an enabler with evidence of previous convictions and motives.[57]

That predictive evidence could be probative of the existence of enablers rather than of causes could also explain why the hostility of criminal fact-finding toward predictive evidence seems to extend to inferences supporting the *defence*. Assume that the defence would admit that the resident committed the alleged crime, but then seek to adduce crime rates to support the claim that they did so unfreely.[58] The culpability account itself does not object to such an inference, because crime rates are not used to attribute culpability to the accused but to support the claim that the accused lacked free will to begin with, and hence cannot be found culpable. However, such predictive evidence does not necessarily indicate a lack of free will, because the high crime rates could also be understood as reflecting the prevalence of *enablers* among the residents rather than causal powers to which they are exposed. For example, the high rate of crimes involving illegal firearms in a certain (poor) neighbourhood may reflect a reality in which more residents have subjective reasons to commit these crimes (for example, it is harder for them to obtain firearms legally, or the neighbourhood is unsafe so residents need a means of self-defence). If crime rates merely reflect enablers, this evidence supports neither the defence's claim that the accused acted unfreely nor the prosecution's claim that the accused committed the alleged crime (for such an inference requires a *causal* generalisation).

Understanding predictive evidence as reflecting enablers rather than causes seems to stem from a wider presumption, according to which an accused is assumed to have acted freely unless the available evidence cannot be

[55] See the text accompanying n 30.

[56] For the UK, see Criminal Justice Act 2003, s 101(1)(f); for the United States, see Federal Rules of Evidence 2014, r 404(a)(2)(A).

[57] Establishing an enabler could also help the prosecution in refuting the defence's claim that the accused was *unable* to commit the crime—see the text accompanying n 60.

[58] Unlike the prosecution, the defence would have to give up various alternative claims (such as 'it was not the accused who committed the crime') to make their argument. Perhaps this explains why I was unable to find any case in which the defence was indeed attempting to make this argument.

accounted for otherwise. This presumption clearly raises various important questions about its truth, scope and refutability, but I doubt there is currently predictive evidence that establishes a lack of free will.[59] Be that as it may, criminal fact-finding seems to follow this presumption irrespective of the culpability account, as indicated by the fact that the prosecution need not prove that the accused acted freely, as distinct from proving that the accused satisfied the *actus reus* and *mens rea* of the crime. As a result of this presumption, if it were possible to account for predictive evidence without denying that the accused acted freely, criminal fact-finding would take this route. When this presumption is supplemented with the culpability account, it becomes clear why predictive evidence should be excluded irrespective of which party seeks to use it. Criminal fact-finding treats predictive evidence as reflecting enablers rather than causes, because only enablers do not deny the accused's freedom; but since enablers support neither the prosecution nor the defence, this evidence should be excluded altogether.

C. *The Narrow Extension of the Culpability Account*

It is important to note that the culpability account objects only to inferences that are based on causal generalisations in which the *direction* of the causal connection runs *from* the characteristic the person shares with other people to whom the generalisation applies *to* the culpable conduct. It is only then that the evidence reflects a causal generalisation that renders the conduct unfree and is thus unsuitable for the determination of culpability. Unlike crime rates, it is possible to use the evidence of the victim's bloodstains that were found on the accused's clothing, despite its reliance on a generalisation by which individuals with the victim's blood on their clothes are likelier to have killed the victim in question than individuals whose clothes are not stained with the victim's blood. This is because this inference does not presuppose a common antecedent factor among people with blood-stained clothes that causes them to commit a murder; rather, *it is their own free action that caused their commonality*, the killing that caused their clothes to be stained with blood.[60]

The direction of causation also explains why the culpability account does not object to evidence of *opportunity*. If two people are found at the scene of a murder by stabbing and one of them is completely paralysed, it seems intuitive to infer that the able-bodied person is the likelier of the two to be the murderer. As with the bloodstains example, the question remains whether these

[59] For similar scepticism about the existing evidence, see *Mobley v State*, 455 SE2d 61 (Ga 1995), 66. Note that this case focused on the use of such evidence in the *sentencing* stage, and no attempt was made to use this evidence in the conviction stage to argue that the accused lacked free will. For the use of predictive evidence in the sentencing stage, see the text accompanying n 94.

[60] This example also illustrates an important difference between the culpability account and other attempts to give an account of what is wrong with using statistical evidence in court. While some accounts focus on what caused the *creation of the evidence* (eg Judith Jarvis Thomson, 'Liability and Individualized Evidence' (1986) 49(3) LCP 199), this article focuses on what caused the *individual's conduct*.

inferences are based on causal generalisations running *from* the characteristic the accused shares with other people *to* the culpable conduct. Ruling out the paralysed individual and suspecting the able-bodied person of the crime is not based on the causal generalisation that being healthy (or being able to move) *causes* people to commit murder. Rather, people immobilised through paralysis are outside the group of potential suspects to begin with, because they are *incapable* of committing the crime. Being able, or having an adequate opportunity, to commit the crime is a necessary condition (an enabler)[61] of committing that crime, but it is not its cause (just as the presence of the victim at the crime scene is a necessary condition of their death, not its cause).

Notably, while the culpability account provides a unifying justification for excluding various types of predictive evidence (as defined above),[62] it does *not* object to the use of *statistical evidence* as such. In particular, the culpability account does not object to types of statistical evidence that are used in legal fact-finding as a matter of course, such as DNA evidence used for identification. Rather than presupposing that the accused's culpable behaviour was caused by their genetic composition, the inference is based on their culpable behaviour causing their genetic composition to be found at the crime scene.[63] As the examples of bloodstains, opportunity and DNA evidence illustrate, the narrow extension of the culpability account is not a deficiency but, rather, a notable advantage.

A more contentious type of statistical evidence that falls outside the extension of the culpability account consists of hypothetical scenarios that elicit intuitive objections seemingly similar to the crime rates scenario. In what is known as the 'gatecrasher paradox',[64] for instance, the organisers of a rodeo sell 499 tickets, yet 1,000 spectators are counted at the event. On the basis that 501 spectators have not paid to attend, the organisers claim the price of a ticket from a spectator at random, arguing that it is more probable than not that this random spectator did not pay for their ticket. Finding the random spectator liable upon this evidence alone seems intuitively wrong,[65] yet the culpability account does not apply to it because there is no causal connection going from the shared property (participating in this rodeo) to the culpable conduct (gatecrashing).

However, I doubt this limited extension forms a flaw in the culpability account, let alone a serious one. As I argued elsewhere, such hypotheticals and the intuitions they elicit are not theoretically useful for determining which

[61] See the discussion in the text accompanying n 30.
[62] Above n 1.
[63] For a more detailed explanation, see Pundik (n 12) 212–13.
[64] LJ Cohen, *The Probable and the Provable* (Clarendon Press 1977) 74.
[65] Empirical research shows that people tend to disregard such evidence; see D Kahneman and A Tversky, 'Causal Schemas in Judgment Under Uncertainty' in M Fishbein (ed), *Progress in Social Psychology* (Erlbaum 1980). However, this intuition is not accepted by everybody: J Brook, 'The Use of Statistical Evidence of Identification in Civil Litigation: Well-Worn Hypotheticals, Real Cases, and Controversy' (1984) 29 St Louis U L J 293, 330.

evidence should not be used in legal fact-finding (and why), because they include features that render them particularly confusing and unhelpful.[66] For example, the gatecrasher paradox elicits an intuition about sufficiency (that the spectator should not be found liable), and it is less clear what intuition they elicit about admissibility, which is the question addressed by the culpability account.

Moreover, the inferences in these hypotheticals have a *different structure* from those drawn from predictive evidence. A distinctive feature of these hypotheticals is the fact that the specific case at hand *belongs* to the group of cases from which the evidence is gathered. In the gatecrasher paradox, the defendant is one of the 1,000 spectators who attended the rodeo (501 of whom did not pay for their tickets). Consequently, the inference seems purely *analytical*, because the move from '501 out of 1,000 spectators gatecrashed' to 'the probability of a randomly chosen spectator having gatecrashed is 50.1%' does not add new information. The statistical evidence in these hypotheticals is thus *not* predictive to begin with, because it does not look 'forward from an established event or trait to predict the likely repetition of its occurrence'.[67] By contrast, predictions of human conduct are not merely analytical, because they are based on a group of observed cases, from which the fact-finder is invited to infer something about *an unobserved* case. For example, in crime rates, the case at hand is clearly not part of the group of cases in which it was known that residents acted violently, because the very fact in dispute is whether this particular resident acted violently. Given this difference in structure, it is far from obvious that the intuitive objection in these hypotheticals and its justification are the same as in the case of predictive evidence.

A more important limitation of the culpability account relates to areas of law that do not require culpability as a condition for liability. One might believe that the hostility towards predictive evidence still extends to private law, at least in some cases. For example, it might seem intuitively objectionable to support a claim of medical negligence against a doctor with evidence of their previous negligent conduct. However, it is important to note that, in *Laughton v Shalaby*,[68] such evidence was deemed *admissible*, and the general rule is that character evidence is treated significantly differently in criminal and civil proceedings.[69]

One might insist that *Laughton* should have been decided differently, or that the intuitive objection should prevail at least when the predictive evidence is based on other people's actions (such as the rate of negligent conduct among

[66] See Pundik (n 12) 192–3.
[67] See n 1.
[68] *Laughton v Shalaby* [2014] EWCA Civ 1450.
[69] While the admissibility of character evidence in criminal proceedings is heavily regulated, in civil proceedings 'Such evidence is admissible if it is potentially probative of an issue in an action': *O'Brien v Chief Constable of South Wales Police* [2005] UKHL 26, [53]. See also Roberts and Zuckerman (n 4), 6.

doctors in the same hospital). Perhaps this intuition could be debunked by classifying it as yet another example of the (mis)perception of tortious liability as requiring culpability. Indeed, references to blame are not unheard-of in negligence cases,[70] and nor are considerations of retributive justice (even across various jurisdictions).[71] In medical negligence cases, in particular, both claimants and defendants view liability as reflecting culpability (or closely related concepts, such as accountability and responsibility).[72] However, whatever role culpability is intuitively given, the goal of tort law is arguably not to punish the tortfeasor,[73] but rather to correct the victim's harm, promote optimal levels of care or enhance distributive justice.[74]

More generally, predictive evidence is used in various non-criminal areas of law in addition to medical negligence, such as: compensation for loss of earnings (to calculate the life expectancy the claimant would have likely enjoyed had the defendant not unlawfully harmed them);[75] toxic torts (to prove causation);[76] employment law (to prove group-based discrimination);[77] human rights (to prove the extent of damage caused by the violation of the claimant's human rights);[78] and competition law (to calculate the economic damage resulting from price-fixing).[79] That the culpability account is limited to areas of law that are constrained by culpability is therefore not a deficiency but rather a point of strength, because it is able to explain and justify why certain exclusionary rules of predictive evidence exist only in criminal proceedings.

[70] In English law, see eg: 'If no blame can be imputed to the defendant, the action, based on negligence, must inevitably fail': *Snelling v Whitehead* [1998] RTR 385, 386 (Lord Wilberforce); 'since in my judgment Mr. Tarleton was in no way to blame, he was not negligent': *Mansfield v Weetabix Ltd* [1998] 1 WLR 1263 (Leggatt LJ).

[71] Ronen Perry, 'The Role of Retributive Justice in the Common Law of Torts: A Descriptive Theory' (2006) 73 Tenn L Rev 177.

[72] Regarding this view among claimants, see Edward A Dauer, 'Strong Reciprocity and Accountability: Behavioural Analysis of Patients' Legal Responses to Medical Injury' (2006) 2 International Journal of Law in Context 257. For this view regarding defendants, see Donald DeWees, David Duff and Michael Trebilcock, *Exploring the Domain of Accident Law: Taking the Facts Seriously* (OUP 1996) 425.

[73] For an example in English Law, see: 'tortious liability has in many cases ceased to be based on moral blameworthiness': *Nettleship v Weston* [1971] 2 QB 691 (CA), 709–10.

[74] Gary T Schwartz, 'Mixed Theories of Tort Law: Affirming both Deterrence and Corrective Justice' (1997) 75 Tex L Rev 1801, 1801.

[75] While the exact method of doing so is disputed (see R Lewis and others, 'Court Awards of Damages for Loss of Future Earnings: An Empirical Study and an Alternative Method of Calculation' (2002) 29 *Journal of Law and Society* 406; *CA 10064/02 Migdal Insurance Company v Rim Abu-Hana* [Israel, 2002]), it is undisputable that *some* generalisation about life expectancy should be used.

[76] Such evidence played a key role in tobacco litigation: see eg *Blue Cross v Philip Morris* 113 F Supp 2d 345 (EDNY 2000). However, in other cases such evidence was rejected: see eg the asbestos cases *Cimino v Raymark Industries* 151 F 3d 297 (5th Cir 1998) and *In re Fibreboard Corporation* 893 F 2d 706 (5th Cir 1990)).

[77] Perhaps the most notable case is a class action of gender discrimination on behalf of two million women against Walmart, the world's largest private employer (*Walmart v Dukes*, 564 US 338 (2011), though the admission of such evidence in support of discrimination is not new: see eg *Alabama v United* States 371 US 37 (1962).

[78] *Hilao v Estate of Marcos* 103 F 3d 767 (9th Cir 1996).

[79] *United States v Columbia Pictures* 25 FRD 497 (SD New York 1960).

4. *Against the 'Partial Influence' View*

The unpredictability condition yields a binary view, according to which human conduct is either free (and thus unpredictable) or determined by causal factors outside the agent's control (and thus predictable to some degree). There is a widely held view that denies this dichotomy. According to the partial influence view, being subject to *partial* causal influence enables the prediction of human conduct without rendering it unfree. For example, when a person grows up in a crime-infested neighbourhood and then, as an adult, commits a crime, their criminal conduct may be free even if their growing up in that neighbourhood causally influenced their conduct to some degree, as long as it did not fully determine it. This view seems both intuitive and theoretically attractive because it enables us to predict what course of action the agent is likely to choose *freely*: the agent's action is predictable to some degree of probability because it is partially influenced by some causal factors, but it may still be free because it is not *determined* by these factors.

In this section, I claim that rejecting the culpability account by resorting to the 'partial influence' view is more problematic than it seems. Even if its proponents could provide an alternative justification for the hostility of criminal fact-finding towards predictive evidence, this view is also unsuitable for criminal proceedings for other reasons. This section is divided according to the different concepts that may be used to account for the partial influence view: probabilistic causation, degrees of freedom and degrees of culpability. I outline each one in turn, briefly note some difficulties in their philosophical foundations and describe their unsuitability for criminal proceedings.

Notably, the partial influence view is consistent not only with compatibilist theories, which hold that even *fully* determined conduct may be free, but also with most libertarian theories, which accept that free actions may have objective probabilities that may be causally influenced by factors outside the agent's control. Consequently, any challenge to the suitability of this view to criminal proceedings is also a challenge to the suitability of compatibilist and libertarian theories that explain the predictability of free actions with the partial influence view.

A. *Probabilistic Causation*

The first way to explicate the partial influence view is through the concept of probabilistic causation: the cause (growing up in a crime-infested neighbourhood) merely raises the probability of the effect (the agent's committing of a crime) without necessitating this outcome, thereby leaving the agent free to refrain from criminal conduct. The agent's conduct is hence *both* predictable (because of their background) *and* free, even under most libertarian theories of free will (because it is not determined by causal factors).

Indeed, when the culpability account was described earlier, the indeterminacy was placed in the cause itself, namely the *relatum*. Recall the example of dropping a glass, which causes it to break in 50% of cases. The indeterminacy under this understanding is analogous to flipping an imaginary coin, where the outcome (heads or tails) determines whether a *particular instance* of dropping would necessitate a particular glass to break. This imaginary coin, also known as an objective chance,[80] serves as an activation mechanism that randomly separates between cases in which the dropping *fully* determines the breaking and those in which the dropping has *no effect* (in terms of breaking the glass). By contrast, theories of probabilistic causation place the indeterminacy in the *relation* between cause and effect, the dropping and the breaking: the cause *raises* the probability that the effect will occur.[81] The indeterminacy does not render the dropping fully effective only in *some* cases (in which the dropped glass breaks) and entirely ineffective in others (in which the dropped glass remains unbroken). Instead, the indeterminacy limits the effectiveness of the causal relation between the dropping and the breaking in all cases: a causal relation means that the dropping *raised the probability* of this breaking rather than necessitated or determined it. When a dropped glass breaks, the dropping is the cause of its breaking, just as is the case under deterministic causation. By contrast, when a different dropped glass does not break, the effect of the glass being broken does not exist and hence there is no causal relation (probabilistic or otherwise) in this case because a relation requires (at least) two relata. What was it, then, that determined that a certain dropped glass would break rather than not break? According to theories of probabilistic causation, the answer is that *nothing did*, not even an objective chance (otherwise the indeterminacy is pushed from the causal relation back to the cause itself). Placing the indeterminacy in the causal relation means that there is a causal explanation for why a certain glass broke (because it was dropped), but in most cases there is no *contrastive* explanation for why it broke rather than remaining intact despite being dropped.[82]

The idea of causation as probability-raising has been criticised for being subject to numerous counterexamples in which the cause actually *reduces* the probability that the effect will occur.[83] For example, assume that smoking causes lung cancer and is also correlated with being poor: poor people are likelier to smoke. Assume further that pollution from oil refineries raises the probability of lung cancer more significantly than smoking. If most people in a given city live in affluent neighbourhoods near an oil refinery, then smoking actually *reduces* the probability of contracting lung cancer (because smokers

[80] Lewis (n 17).

[81] For a general introduction, see J Williamson, 'Probabilistic Theories' in H Beebee, C Hitchcock and P Menzies (eds), *The Oxford Handbook of Causation* (OUP 2009) ch 9.

[82] For some exceptions, see Clarke (n 37).

[83] For description and response, see C Hitchcock, 'Do All and Only Causes Raise the Probabilities of Effects?' in J Collins, N Hall and LA Paul (eds), *Causation and Counterfactuals* (MIT Press 2004).

are less likely to live near an oil refinery). This example is an instance of what became known as Simpson's Paradox.[84]

More importantly, even if the latter objection could be answered (such as by refining the reference class), it focuses on the ability of theories of probabilistic causation to account for the causal relation on the *type* level (a connection between types of events, such as the activity of smoking and the medical condition of lung cancer). Probabilistic causation faces further difficulties in accounting for the causal relation at the *token* level (a connection between the singular event of dropping a specific glass and the singular event of its breaking). It is particularly unsuitable for identifying *actual causation*—that is, the actual cause(s) of a specific effect that has already occurred—because there are forceful counterexamples in which an *actual* cause *reduced* the probability of the effect. Consider the following example, in which Assassin A is a gifted shooter and his chances of hitting a target are 90%. However, he prefers someone else to do the dirty work, so once he notices that Assassin B is also aiming at the target, he decides to wait before he shoots, to see what Assassin B will do (even though only one of them can attempt the assassination in practice because the target will take cover after the first shot). Assassin B is very dedicated to his job, but he is not as gifted as his counterpart: his chances of hitting the target stand at just 50%. Unfortunately for the target, Assassin B decides to shoot and shoots well, so the assassination attempt is successful. While B's shooting is clearly the cause of the target's death, theories of probabilistic causation yield the awkward conclusion that it *cannot* be the cause, because they hold that causes raise the probability of their effects, while B's shooting *reduced* the probability of the target's death from 90% to 50%. While the scholarship on actual causation is vast and includes various attempts to address such cases,[85] I share the view that they are mostly unsuccessful.[86]

If theories of probabilistic causation are unable to account for actual causation, they are unsuitable for criminal proceedings, which focus mostly on the token level (the singular criminal case) and seek to identify the cause(s) of a specific outcome that already occurred. While the application of probabilistic causation to legal contexts has been discussed mainly within the context of tortious liability,[87] similar points could be applied to the criminal context. If theories of probabilistic causation were to be accepted in criminal proceedings,

[84] For a description of the paradox and attempted solutions, see N Cartwright, 'Causation Laws and Effective Strategies' (1979) 13 Noûs 419; Brian Skyrms, Causation Necessity (Yale UP 1980).

[85] See, in particular, David Lewis's extension of his counterfactual theory to probabilistic causation: D Lewis, *Philosophical Papers*, vol 2 (OUP 1986).

[86] See eg P Menzies, 'Probabilistic Causation and Causal Processes: A Critique of Lewis' (1989) 56 PSA 642. Even Lewis himself eventually abandoned his extension. See D Lewis, 'Causation as Influence' (extended version) in Collins, Hall and Paul (n 83) 75, 79–80.

[87] See eg Wright's defence of 'the actual causation requirement, which relieves a defendant of liability if his tortious conduct was not in fact a cause of the plaintiff's injury': R Wright, 'Actual Causation vs Probabilistic Linkage: The Bane of Economic Analysis' (1985) 14 JLS 435, 435.

radical and counter-intuitive reforms might be required. Assassin B, who, we intuitively conclude, caused the target's death, could not be convicted of murder under these theories because his shooting reduced the probability of death and thus could not be its cause. I therefore doubt that rejecting the culpability account by resorting to the partial influence view is likely to succeed if this view is explicated with probabilistic causation.

B. *Degrees of Freedom*

Perhaps a more tenable explication of the partial influence view is that the agent's freedom is influenced by some causal factors outside their control, but only *to some degree*, leaving them with a less-than-maximum extent of freedom. There is something intuitively plausible about this explication: human beings are different in so many ways, and are subject to such a wide range of personal and environmental circumstances, that believing they all enjoy the exact same degree of freedom seems unrealistic. Notably, this explication is not committed to the view of probabilistic causation: growing up in a crime-infested neighbourhood does not merely raise the probability of the agent's committing a crime. Instead, the causal relation between 'growing up in that neighbourhood' and 'committing a crime' can be deterministic: growing up there causes the agent to be *less* free, by denying them a certain *share* of their freedom.

Under this explication, actions may be simultaneously predictable and free. Their predictability is based on the causal factors that limit the agent's freedom. The stronger these factors are, the more predictable an action becomes: the stronger the influence of the neighbourhood on the resident, the more predictable their criminal conduct becomes. Yet, the action may still be free because these causal factors do not determine how the agent will act: if they eventually commit a crime, they still did so freely, *to some degree*.

My reservation about this explication is that it could quickly descend into a discriminatory and even racist world view. If, indeed, different people have different degrees of freedom, surely young black men in the United States could serve as an example of one collective that enjoys significantly less freedom than another, that of middle-aged white men (although opinions might differ as to the causes of, and responsibility for, this phenomenon). According to Michael Levin's troubling view, the cause of the higher crime rate among black people is probably genetic, mediated by lower intelligence, impulsive temperament or higher serum testosterone levels.[88] Yet while such genetic influences may make black people more prone to crime, he clarifies that they

[88] 'Race differences in IQ and temperament, variables which significantly affect criminal behavior, are significantly genetic in origin' and 'one mediating mechanism may be the race difference … in serum testosterone, known to facilitate aggression': M Levin, *Why Race Matters: Race Differences and What They Mean* (Praeger 1997) 316 and 317, respectively.

do not render them unfree.[89] Instead, Levin concludes that 'blacks have less free will than whites'.[90] But, he argues, 'diminished responsibility does not imply greater leniency',[91] and he calls for harsher treatment of black people than white people (for example, in addition to heavier punishments, he also suggests 'swifter administration of punishment to blacks, along with stricter limits on appeals').[92]

It is easy to object to Levin's conclusions on the basis that the lesser freedom that young black men enjoy does not result from their genetic composition and the offensive mediating factors Levin purports (such as lower intelligence), but from the ongoing discrimination by the state and hegemonic groups. It is also possible to object to Levin's calls for harsher treatment of black people and argue that the lesser freedom they enjoy should lead to more *lenient* treatment relative to other groups, particularly by the criminal justice system, which has arguably contributed to the higher rate of criminality among black people. However, it is important to note that, while these progressive responses may reach more palatable conclusions, they still accept Levin's fundamental claim that 'blacks have less free will than whites'.

Furthermore, the explication of degrees of freedom seems to me incompatible with criminal proceedings because the latter does not treat the question of whether black people are less free than white people as an *empirical question*. It is a matter of fact that some people have more options, superior abilities and stronger willpower than others. However, criminal proceedings seem to follow a normative assumption, according to which all members of society *should be treated* as either (fully) free or (entirely) unfree, at least in the context of determining culpability. A notable advantage of this binary approach to free will is that it treats all members of society as *equally* free. One might retort that, even if this advantage supports the view that criminal proceedings should adopt this normative assumption, it does not make it *true*: metaphysically, black people may have less freedom, whatever the law may choose to assume. Be that as it may, this article focuses on the assumptions that criminal fact-finding would need to make about free will to justify its hostility towards predictive evidence, not on questions of whether these assumptions are true or not.

C. *Degrees of Culpability*

Nelkin observes that 'We often judge some people to be more blameworthy than others for their actions'[93] and that 'we have intuitions ... that difficulty is

[89] '[T]hat we are free when we do what we choose to do, although our choices are caused by unchosen genes, preserves the freedom of individuals whose unchosen genetic aggressiveness leads them to [choose] lawbreaking': Levin (n 88) 320.

[90] Levin (n 88) 322.

[91] Levin (n 88) 323.

[92] Levin (n 88) 325.

[93] DK Nelkin, 'Difficulty and Degrees of Moral Praiseworthiness and Blameworthiness' (2016) 50 Noûs 356, 356.

mitigating in blameworthy cases, and excuses based on difficulty play a large role in our moral and legal practices'.[94] Indeed, sentence mitigation seems to provide a paradigmatic case to support Nelkin's observation. For example, a paedophile's sentence might be mitigated by the fact that he was a victim of molestation in his childhood. If the partial influence view is explicated with degrees of culpability, this mitigation acknowledges that his being a victim himself renders him worthy of less culpability than a paedophile who was not a victim of similar offences in his childhood. According to this explication, culpable actions may be predictable based on the causal factors outside the agent's control that reduce their culpability: being a victim of molestation in his childhood partially influenced the paedophile to molest other children, thereby rendering his actions predictable to some degree and reducing his culpability, but without undermining his freedom and excusing him altogether.

Notably, degrees of culpability do not have to be based on either probabilistic causation or degrees of freedom. The causal relation between the antecedent factors and the agent's culpability may connect between these factors and a certain *share* of the agent's culpability. Furthermore, degrees of culpability may be based on a binary concept of freedom. One might hold that causal factors outside the agent's control may reduce their degree of culpability without affecting their freedom because being subject to partial causal influence is consistent with being (fully) free (according to compatibilist or libertarian theories that accept that free conduct has subjective or objective probabilities). Alternatively, one could argue that the binary question of whether one is free or unfree is immaterial to culpability because the latter does not require free will (according to semi-compatibilist and reactive attitude theories).[95]

Nelkin argues—persuasively—that libertarians have no advantage over compatibilist theories in accounting for degrees of culpability because existing libertarian theories lack any unique theoretical resource to do so.[96] Libertarians would account for degrees of culpability by connecting them to degrees of objective probability that free actions allegedly have: the higher this probability is, the stronger the external causal pressure on the agent to act in a particular way, thereby making it more difficult for them to resist and rendering them worthy of less culpability for yielding to the pressure. However, as Nelkin demonstrates, there are various counterexamples to this view. For example, a person who makes an extraordinary effort to overcome a temptation to act wrongly—thereby reducing the probability of the action significantly—but who eventually fails, and yields to the temptation, would be *more* culpable than a person who yields to the same temptation after making virtually no effort to resist it. Libertarians would reach this counter-intuitive outcome because the

[94] Nelkin (n 93) 370.
[95] Above n 14.
[96] Nelkin (n 93) 358–60.

objective probability of the former committing the culpable action was lower, yet they committed it nevertheless. Nelkin then suggests a compatibilist way to account for degrees of culpability, and concludes that 'attention to degrees of blameworthiness and praiseworthiness ... can play an important part in a larger case for compatibilism'.[97]

At first glance, a libertarian theory that includes the unpredictability condition seems to be even more vulnerable to Nelkin's criticism, because, if free actions have no objective probabilities, this view is left with no theoretical resources to account for degrees of culpability. However, I think Nelkin's conclusion is too hasty. First, that culpability comes in degrees could be denied altogether. It may be suggested that, whenever the agent's culpability seems to be greater, this is not because it is of a higher degree, but because the agent is *culpable for more than one thing*. The person who made great efforts to resist the temptation is *not more* (or less) culpable than another who made virtually no effort. Rather, they are both *equally* culpable for the same thing: acting the way they ultimately did. It is the second person who is culpable for an additional thing: not making any effort to resist the temptation in the first place.

Second, even if culpability does come in degrees, libertarian theories could utilise whatever theoretical resource compatibilists would use to account for degrees of culpability, by connecting degrees of culpability to this component rather than to objective probabilities. As for the unpredictability condition, it is a necessary rather than sufficient condition of freedom, and a libertarian theory that includes it is likely to incorporate other conditions, which could explain, *inter alia*, why one agent is worthy of more culpability than another.[98] Consequently, such a theory need not deny the existence of degrees of culpability, only that the component that makes an action worthy of more culpability also makes it more (or less?) predictable.

Third, sentence mitigation could be accounted-for without any reference to the partial influence view, no matter how this view is explicated. True, responses to culpable conduct are typically scalar: punishment, for example, could include a longer or shorter period of imprisonment, or a heftier or lighter fine. However, it is possible to explain why the paedophile's childhood experience serves to mitigate the appropriate punishment without referring to this experience as a factor that causally influenced him to molest other children. To mention just a few alternative explanations: the shorter imprisonment could be related to the increased effect that imprisonment would have on him as a result of his experience, his vulnerability to becoming a victim again during imprisonment, an attempt to compensate him for his bad luck or maybe even pure mercy. While exploring the justification for sentence mitigation lies outside the scope of this article, the important point is that

[97] Nelkin (n 93) 374.
[98] See the text accompanying n 23.

sentencing mitigation need not be based on the view that the factors that justify mitigation are causal factors that partially influenced the perpetrator's conduct.

Last, and most important for the purpose of this article, those who rely on the partial influence view to account for sentence mitigation face a challenge to account for the conviction stage of the trial. If sentence mitigation is based on the view that evidence such as crime rates reflects a partial *causal* influence, why not allow its admission at the conviction stage? After all, if the accused's personal background (be it their childhood experience or socio-economic conditions, for instance) made their actions more predictable, this means that they are likelier to have committed the alleged crime. Proponents of the partial influence view would hence need to explain why the prosecution should not be allowed to admit the very same evidence at the conviction stage to support its allegation that the accused has committed the offence.

5. *Conclusion*

In this article, I have proposed to account for the hostility of criminal fact-finding towards predictive evidence with the unpredictability condition. I have suggested that the fact-finding practices used to determine culpability in criminal proceedings implicitly adhere to the view that culpable conduct requires free will that is necessarily unpredictable.

While I have not defended the claim that free will is unpredictable, or that it even exists, the sceptic could nevertheless utilise my account to claim that it demonstrates the futility of any attempt to hold people culpable for what they did *freely*. This is because the unpredictability condition itself is so metaphysically demanding that it is unlikely to exist. Alternatively, when we know enough about a certain person, we can predict how they will act with a high degree of confidence, so the unpredictability condition is hardly ever met, even if it does exist. Either way, the sceptic could posit that, if criminal fact-finding adheres to the unpredictability condition, it in fact adheres to the view that we rarely act freely, if ever at all, and we should hence dispense with any attempt to use criminal proceedings to attribute culpability to individuals.

While I find this sceptical claim forceful and tempting, it is important to remember, as some sceptics have emphasised,[99] that what is at stake here is not only our practices of attributing culpability, but also various issues that seem to depend on the existence of free will: praise, the ability to deliberate, being the ultimate source of one's actions and achievements, and perhaps even the meaning of life.[100] The sceptical stance *vis-à-vis* free will is thus anything but

[99] eg D Pereboom, *Free Will, Agency, and Meaning of Life* (OUP 2016).
[100] This list is based on Clarke (n 23) 7.

the noncommittal or intuitive position to which one can retreat in the absence of a plausible theory of free will. Such a stance would require us to make radical and counter-intuitive changes to our practices, attitudes and even way of life—probably more so than any theory of free will, including one that incorporates the unpredictability condition.