

The Inevitable Efficiency of Using Racist Statistical Evidence in Court

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In a hypothetical case, Abraham, a wealthy Jewish businessman, is accused of a tax fraud but he denies the allegations. In his trial, the prosecution seeks to use statistical evidence which had been gathered and analysed with the utmost proficiency. According to these statistics, the probability of a person committing tax fraud is doubled if he is Jewish. The use of such evidence is obviously objectionable. The question is *why* this evidence should be excluded from court. This paper argues that it is very difficult for efficiency theories of law to provide a good justification for excluding this evidence. In contrast, corrective justice theories (e.g. Weinrib) are better placed to do so. If successful, this argument identifies an advantage of corrective justice theories over their efficiency competitors. It also identifies the limitations of the efficiency theories and highlights that they lead to some problematic consequences in evidence law, consequences which have so far been overlooked.

§1 Introduction

Evidence law has come under much less discussion by the efficiency theorists than other areas of law, such as tort and criminal law – and even criminal and civil procedure.¹ Furthermore, discussion of evidence law has focused mainly on the questions of if and how economic analysis and methods can provide interesting insights into the law of evidence.² Very little attention has been given to the corresponding question of whether evidence law can contribute to the debate between efficiency and deontological theories.³

This paper focuses on the latter question and provides one example of how a problem in evidence law can shed light on this debate. It does so by discussing a challenge which has preoccupied evidence scholarship for many years: the justification for excluding racist statistical evidence from court. Consider the following hypothetical scenarios. Martin, a young black man, is accused of

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¹ For some notable exceptions, see , ch 5; ; . See also Lempert's detailed criticism, .

² In addition to the general schemes mentioned above (n 1), some interesting attempts have been made to utilise efficiency theories to provide insights into the rule of evidence. See, for example, ; .

³ One important exception is Roberts' and Zuckerman's argument that utilitarianism cannot explain the importance of the presumption of innocence in criminal evidence law, see , p. 355.

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committing a violent robbery. He denies the allegations. In his trial, the prosecution seeks to use statistical evidence which had been gathered and analysed with the utmost proficiency. According to these statistics, the probability that a young man would commit a violent robbery is tripled if he is Black. Abraham, a wealthy Jewish businessman, is accused of a tax fraud and he also denies the allegations. In his trial, the prosecution seeks to use statistical evidence (again, professionally gathered and analysed), according to which the probability of a person committing tax fraud is doubled if he is Jewish.

In both hypothetical cases, the use of statistical evidence is obviously objectionable. The starting assumption of this paper is therefore that using this type of evidence in court is so absurd that any decent theory about the use of evidence should object to its use in court. The question is *why* this evidence should be excluded from court. This is a normative question which calls for a *justification*, not for a mere explanation.

The argument of this paper is that it is very difficult for efficiency theories of law to provide a good justification for the exclusion of this type of statistical evidence. In contrast, deontological theories of law such as Weinrib's theory of corrective justice are better placed to do so.⁴ If successful, this argument identifies an advantage of deontological theories over their efficiency competitors. It also identifies the limitations of the efficiency theories and highlights that they lead to some problematic consequences in evidence law, consequences which have so far been overlooked.

In this paper, the term "racist statistical evidence" refers to evidence about the rate of similar misconduct amongst people of the same race, as exemplified by the scenarios above. It is important to emphasise that this is only a subset of all statistical evidence. Other types of statistical evidence might be acceptable or also objectionable. The paper focuses on this particular subset because statistical evidence concerning the rate of similar misconduct amongst people of the same race is a paradigmatic example of evidence which should *not* be used in court. If efficiency theories cannot provide a good justification for its exclusion, not only is this a troubling finding on its own, it is also an indication that efficiency theories might not be able to justify the exclusion of other no less controversial types of statistical evidence.

The argument is established by identifying and rejecting various potential answers which efficiency theories might offer to the question: why should racist

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statistical evidence be excluded in Martin and Abraham's respective cases? Most of these potential answers are probably untenable, regardless of whether one adopts efficiency or deontological theory. However, establishing this general scepticism is beyond the scope of this paper. The focus here is on showing that these answers are inconsistent with efficiency theories themselves. There is one exception. Some answers to the question involve the autonomy and individuality of the litigant against which the statistics is adduced (the most detailed account is that of Wasserman).⁵ These answers are discussed and shown to have good prospects of providing the sought-after justification. However, they are also shown to be more consistent with deontological than with efficiency theories.

The paper is structured according to the different types of justification which the efficiency theorists might offer. The first part of the paper addresses justifications which are *practical* in nature. Firstly, efficiency theorists could suggest that the cost of using statistical evidence in court (created by gathering, analysing and presenting it) is higher than the benefit gained from its help to the legal fact-finding. Secondly, efficiency theorists might point to some practical obstacles involved in gathering, analysing, and presenting statistics *correctly*. In particular, they might emphasise the cognitive biases from which human beings suffer when interpreting and weighing statistical evidence. Based on these practical difficulties, they might argue that racist statistical evidence should not be used in court.

The first part of this paper lists several difficulties with the practical responses. Firstly, it is shown that supporting these practical justifications with empirical findings is more difficult than it appears. These claims require more than just emphasising that human beings are not very good at dealing with statistics. Secondly, even if there are practical difficulties, excluding the evidence might not be the best solution to respond to them. Instead of excluding this evidence, the efficiency theorists should offer more proactive measures on how to overcome the practical difficulties and make the use of this evidence cost-effective. Finally, it is suggested that these practical responses are insufficient to provide a comprehensive justification. The problem with using racist statistical evidence is not merely practical. Even if the cost-benefit analysis shows that using this evidence sufficiently helps the fact-finder to justify its costs, surely the efficiency theorists are able to suggest a principled reason why it should not be used.

⁵ . I critically evaluate his account in .

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The second part of the paper moves to the principled answers which efficiency theorists might suggest. It discusses answers which focus on the alleged deficiencies in the evidence *itself*. First, the efficiency theorists might dismiss the statistical evidence as simply *irrelevant* to the particular case (and thus using it in court is a waste of resources). However, it is shown that this answer is inconsistent with the concept of relevance as it is used in evidence law, that it leads to counter-intuitive results, and that it begs the question. Second, the efficiency theorists might rely on one of the various accounts which allege that using statistical evidence to reach conclusions about a specific case is *epistemologically* deficient and thus irrational. However, not only do these epistemic accounts suffer from some generic problems, they are also particularly unattractive to efficiency theorists.

The paper then turns to potential second-order costs which might be created from the use of racist statistical evidence. The third part of the paper discusses externalised costs which might be imposed on third parties. The efficiency theorists might argue that using racist statistical evidence creates adverse reactions amongst the general public and/or the legal profession and that these adverse reactions create sufficient disutility to offset any benefit from using this evidence. However, this justification is unattractive, particularly in the context of evidence law. There might have been times when the use of some types of credible evidence commonly used nowadays (e.g. fingerprints) also created adverse reactions amongst third parties (the general public and the legal profession). If the rules of evidence were determined according to the public opinion of the day, such evidence might never have been introduced.

The fourth part of the paper discusses second-order costs which are imposed on the litigants themselves. In particular, it focuses on Wasserman's argument that using statistical evidence about misconduct rates amongst other similar people treats the individual litigant as a predetermined mechanism whose behaviour can be learnt from observing other similar mechanisms. Since litigants should be treated as autonomous individuals, Wasserman concludes that this evidence should not be used in court. However, although this account has several merits, it is more consistent with deontological than with efficiency theories.

§2 Answers from Practicality

§2.1 Costs of Use

When discussing the use of statistical evidence, Brillmayer and Kornhauser claim that:

The admission of technical evidence or the adoption of technological methods favors those with access to experts. In criminal proceedings this advantage tends to create a bias against criminal defendants, in civil proceedings against “small” plaintiffs and defendants.⁶

The efficiency theorists do not have to prescribe to Brillmayer and Kornhauser’s underlying egalitarian assumptions, but they could adopt a similar line of argument. They might argue that the cost of gathering, analysing and presenting racist statistical evidence in court is sufficiently high to offset any benefit from using it. These costs are imposed on the litigants and on the public purse, because lawyers, judges and juries have to immerse themselves in the complicated technicalities of statistics.

There are two main problems with this claim. First, it proves too much because complicated and technical evidence is used throughout both criminal and civil litigation: medical evidence in clinical negligence; forensic accountancy in white-collar crime; and engineering expertise in construction cases. These examples are merely the tip of the iceberg.⁷ Many other types of forensic evidence may be no less complicated to understand than statistical evidence, and hiring their forensic experts might be no less expensive than hiring statisticians. Therefore, if this claim is true, it should apply to many other types of evidence, and maybe to all expert evidence. This claim is over-inclusive and, as such, cannot provide a persuasive justification for excluding racist statistical evidence.

Second, there are other means to deal with the issue of these costs, which may be more cost-effective than excluding the evidence altogether. For example, the procedure of single joint expert, in which an expert is appointed by the court to provide a single expert opinion about a disputed issue, could help reduce litigation costs.⁸ This reduction in cost is both direct (one expert would be paid rather than two) and indirect (saving the time, and thus the cost, of the legal representatives immersing themselves in the technical details). Other alternative means may include public funding for experts, regulation of tariffs, etc. Of course, none of these

⁶, p. 152.

⁷ For a recent extensive evaluation of the use of scientific evidence in court, see .

⁸ See , §20.30-§20.46, pp. 623-629 (single joint expert); §20.73-§20.78, pp. 640-641 (assessors).

solutions is problem-free, but the main point is that restricting the use of the evidence is not the sole solution to reduce the costs of using it. Other solutions should be carefully examined and compared before the costs of use could serve as a good argument for restricting the use of statistical evidence.

§2.2 Cognitive Biases

Using statistical evidence *correctly* is not trivial. Behavioural psychologists have found that human beings suffer from systematic cognitive biases when interpreting and weighing statistical evidence.⁹ Interestingly, problems in how to correctly use and present statistics have been experienced both in the academic literature¹⁰ and in practice.¹¹ Efficiency theorists might refer to the difficulties in using statistical evidence correctly in order to justify why racist statistical evidence should not be used to determine whether Martin or Abraham committed the alleged crimes.

However, extracting a comprehensive justification from these cognitive biases is more difficult than it might appear. First, to support a justification, one needs to do more than show that *there are* practical difficulties. One has to show that these cognitive biases render the use of the statistical evidence counter-productive, i.e. to make the fact-finder *less likely* to discover the truth about Martin and Abraham. Showing that the fact-finder fails to conform to Kolmogorov axioms of probability and their consequences,¹² which is what some of these difficulties show,¹³ is not enough. Using practical difficulties to justify the exclusion of the above statistical evidence requires the efficiency theorists to establish several nontrivial empirical contentions.

⁹ . For an up-to-date survey of these findings, see , pp. 250-252

¹⁰ See, for example, the debate between Tribe and Finkelstein & Fairley, about the correct statistical analysis of an example brought by Finkelstein & Fairley, ; ; .

¹¹ A recent example is the controversy around the use of statistical evidence in the case of Sally Clark, see ; .

¹² . Two consequences which receive substantial attention are the principle of negation and Bayes' Theorem. The principle of negation says that the probability that a certain event would occur equals the probability of "one minus the probability this event would not occur" (in formal notation, $P(E) = 1 - P(\neg E)$). Rejecting this principle stands at the heart of Jonathan Cohen's controversial theory of Baconian probability, , §53, pp. 177-181. Bayes' Theorem is a simple formula with which the agent should update his prior probabilities in light of new evidence. The literature on these issues is immense. An accessible introduction to Bayesian epistemology can be found in , ch. 4. A good critique of their philosophical foundations can also be found in .

¹³ n 9.

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A particularly difficult empirical contention to establish is that the most cost-effective method to overcome the difficulties in using statistical evidence correctly is by not using it at all. Perhaps these cognitive biases may be better overcome by education and training of the legal profession¹⁴ and/or by inviting expert statisticians to assist the legal fact-finder to make the most of this evidence.¹⁵ If the main problem with the racist statistical evidence against Martin and Abraham were merely the difficulties in using it correctly, then the conclusion would not necessarily be that this evidence has to be excluded. Instead, the conclusion may be that the practical difficulties should be overcome in a way which would allow the legal system to make *better use* of this evidence. Therefore, on their own, the cognitive biases are unable to justify why statistical evidence on the rate of similar misconduct amongst Blacks or Jews should not be used in court.

Last, there is something inherently unsatisfying in responding to the troubling idea of using racist statistical evidence with practical difficulties. The practical difficulties in using statistical evidence correctly are important. But are they really the main problem with using racist statistical evidence about Blacks and Jews? Even if this evidence could be used correctly from a statistician's perspective, surely the efficiency theorists can offer more principled justifications as to why this evidence should not be used in court. The remainder of the essay therefore turns to examine what these principled justifications could be.

§3 Answers from Epistemology

The first type of principled justification which the efficiency theorists could suggest relies on a defect in the racist statistical evidence *itself*. This part of the paper is divided into two subparts. The first discusses the intuitively appealing response that racist statistical evidence is simply *irrelevant* to the particular cases of Martin and Abraham. The second subpart discusses more sophisticated responses which aim to

¹⁴ Various scholars have rightly called for such training, see, for example, , pp. 148-149.

¹⁵ In its public letter, the Royal Statistical Society 'urges the Courts to ensure that statistical evidence is presented only by appropriately qualified statistical experts, as would be the case for any other form of expert evidence', see . See also Dawid, who compares the current legal approach to statistics to the state of science before Galileo and argues that 'statisticians ... have much to contribute towards identifying and clarifying many delicate issues in the interpretation of legal evidence' (Dawid refers to both statistical and non-statistical evidence), , pp. 71-72. These remarks resonate on similar suggestions made decades ago in the United States, see for example, , pp. 66-67 and , pp. 502, 516-517.

show that racist statistical evidence suffers from an epistemic deficiency which makes it incapable of supporting the fact which it was adduced to prove.

§3.1 Relevance

A common response to statistical evidence is that it is *irrelevant* to the individual case at hand. It could be argued that the rate of violent robbery amongst young black men is simply irrelevant to the question of whether Martin committed the alleged violent robbery or not (and, similarly, the rate of tax frauds amongst Jews is irrelevant to the question of whether Abraham committed the alleged tax fraud).

However, the concept of relevance on its own cannot justify why racist statistical evidence in these examples is objectionable. There is no obvious reason why *all* statistical evidence is irrelevant by its virtue of being “statistical”. Schoeman brings the following example.¹⁶ Assume that you hear on the radio that 70 per cent of the eggs in a certain supermarket have been found to be contaminated. Would you consider this evidence *irrelevant* to the eggs you have just purchased from that supermarket? Probably not, but according to the irrelevance response, you should have regarded this statistical evidence as irrelevant. Were you irrational in wasting money by refusing to eat those eggs because you relied on statistical evidence? Probably not, but if the statistical evidence is irrelevant as alleged, how could it be rational to base your decision on it? This example shows that evidence does not necessarily become irrelevant just because it is statistical.

There are plenty of other practices in which we determine our conduct based on statistical evidence. Insurance companies determine their premiums based on statistical evidence about other people with the same characteristics. If statistical evidence is really irrelevant, are these decisions irrational? Some people are persuaded to stop smoking based on the statistical correlation between smoking and lung cancer. Is it *irrational* to stop smoking forty cigarettes a day based on statistical correlation between heavy smoking and lung cancer? Holding statistical evidence to be irrelevant condemns too many of our practices and intuitions, and requires implausible and radical reforms of those practices. Taking the irrelevance response to its logical extent, one may wonder how you can lead your life if any evidence about similar cases to yours is irrelevant.

¹⁶, pp. 184-185.

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It is possible to suggest that the relevance of the evidence depends on the context in which it is used. Based on this context-dependency, it may be argued that the racist statistical evidence is irrelevant *in the context of a trial*.¹⁷ Whilst I am personally sympathetic to the contextualisation of the concept of relevance, it is important to note two points. First, it is incompatible with the current definition of relevance in evidence law, which includes no indication for context-dependency. According to Stephen's original definition, evidence is relevant if and only if it changes the probability of a proposition that has to be proved.¹⁸ This definition is widely accepted on both sides of the Atlantic. In the United Kingdom, the canonical phrasing is of Lord Simon: 'relevant ... evidence is evidence which makes the matter which requires proof more or less probable'.¹⁹ In the United States, Rule 401 of the United States Federal Rules of Evidence contains a similar definition.²⁰ There is no indication in these definitions if and how the fact that the evidence is used inside a courtroom should affect the question of whether the evidence changes the probability of the fact which requires proof.

More importantly, on its own, contextualising the concept of relevance does not help the efficiency theorists to either explain or justify the exclusion of racist statistical evidence. Even if relevance of the evidence depends on the context in which it is used, the efficiency theorists would need to answer many other questions: what is the property which makes the evidence irrelevant in this context but not in another; why does this property make only racist statistical evidence irrelevant and not other commonly used statistical evidence (e.g. DNA evidence); why does this property make the use of this evidence *inefficient*; etc. To answer these questions, efficiency theorists would have to tell a long story about the use of evidence in court (and the remainder of the paper explores some options for what this story might be). The main point is that utilising the concept of relevance, context-dependant or not, cannot *on its own* explain or justify why racist statistical evidence should not be used in court. Even if the justification for excluding this evidence somehow includes the contextualisation of the concept of relevance, the efficiency theorists need to provide

¹⁷ I thank Antony Duff for raising this point with me so vividly.

¹⁸ When exploring Stephen's definition, Roberts and Zuckerman state that relevance requires 'that the existence of *y* be rendered more or (Stephen should have added) less probable to *x*', , p. 99.

¹⁹ , p. 756.

²⁰ "Relevant evidence" means evidence having any tendency to make the existence of any fact that is of consequence to the determination of the action *more probable or less probable than it would be without the evidence.*' (emphasis added).

a more comprehensive explanation than merely invoking relevance. Dismissing racist statistical evidence as irrelevant therefore fails to discharge the challenge.

§4.3 Epistemic Defects

The efficiency theorists might argue that the problem with racist statistical evidence has nothing to do with the debate between efficiency and deontological theories and all to do with *fundamental epistemic defects* in the evidence itself. The evidence scholarship contains a wide range of theories which aim to identify a certain quality which statistical evidence lacks and which makes it epistemologically incapable of establishing the fact requiring proof. Jonathan Cohen has argued that, even though statistical evidence raises the probability, it fails to provide the *evidential weight* to support the factual findings.²¹ Judith Thomson has suggested that statistical evidence lacks an appropriate causal connection to the fact requiring proof.²² Mary Dant has claimed that statistical evidence fails to support an inference to the best explanation.²³ More recently, Alex Stein has asserted that statistical evidence is unsusceptible to individualised testing.²⁴ These attempts are grouped here as “the epistemic accounts” because they share the view that making inference from the statistical evidence to the particular case is *epistemologically* deficient. They all attempt to identify a quality that non-statistical evidence (e.g. eye-witnesses, confessions, the individual’s medical records) has, but statistical evidence lacks. The efficiency theorists could resort to any of these accounts and argue that racist statistical evidence should be excluded from court because it is inadequate from an epistemic perspective.

However, resorting to any of the epistemic arguments will not help the efficiency theorists to provide a solid justification for excluding racist statistical evidence. First, each of these accounts has been extensively criticised by both philosophers and lawyers. Each of the epistemic accounts makes interesting philosophical claims and discussing them in depth would make an already lengthy paper too long.²⁵ However, it is worth noting that these accounts are highly

²¹ Cohen (n 12).

²² . See also .

²³ . A more sophisticated version of this account was recently provided in .

²⁴ Stein (n 1).

²⁵ I pursue a detailed critical analysis of these accounts in .

controversial. Schoeman provides a concise and effective rebut of various epistemic accounts.²⁶ Cohen's general theory of Baconian inductive probability draws substantial criticism in both philosophy and law.²⁷ Wasserman, for example, dedicates substantial sections to criticise Cohen's account.²⁸ Stein's recent theory was also scrutinised in the literature and the foundations of his account have been criticised by various authors.²⁹ Before they could rely on any of these accounts to provide a justification, the efficiency theorists would need to ensure that their chosen epistemic account is actually sustainable.

Second, it is possible to add two generic arguments which show that the epistemic direction is unpromising to the extensive literature about these accounts. The first argument is that epistemic accounts have general applicability, whilst the statistical evidence is objectionable only when it is used in court. Epistemology questions, *inter alia*, how a rational agent ought to think and form his rational beliefs.³⁰ If it is epistemologically unwarranted to form a belief using certain irrational methods, then one would expect this epistemic principle to apply regardless of whether the agent is a juror, scientist, or layman. However, such a conclusion goes against too many of our intuitions and practices. The use of statistical evidence about the rate of violent crimes in a certain neighbourhood is strongly objectionable when it is used to convict an individual of committing a violent crime; it is less objectionable when is used to allocate more police forces to patrol this neighbourhood; and it is not objectionable at all when used to determine the budget of the Accident & Emergency department of the local hospital. If the evidence lacked some epistemic quality (as the proponents of the epistemic accounts allege), and if epistemic principles should apply to a rational agent regardless of whether he is a juror, police chief or public-health policy maker, then the difference between the attitudes to statistical evidence in each context cannot be explained or justified. The problem with racist statistical evidence cannot therefore be purely epistemic.

²⁶ Schoeman (n 16).

²⁷ For philosophy, see ; ; and Cohen's response in . For law, see ; .

²⁸ , pp. 968-975.; ; .

²⁹ See, for example, ; . A complete and up-to-date list of Stein's critics can be found in <http://www.professoralexstein.com/publications/reviewsdiscussions.html>. I addressed his response to the problem of statistical evidence in , pp. 509-515.

³⁰ This description is based on , pp. 11-12.

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The second generic problem with the epistemic accounts is that any restriction of the use of statistical evidence might itself be epistemologically unwarranted. The proponents of the epistemic accounts accept that the use of statistical evidence improves the probability of finding the truth. Cohen argues that statistical evidence lacks weight, but he does not deny that statistical evidence raises the probability that the proposition which the evidence is adduced to establish is true.³¹ Thomson argues that high probability is not a sufficient condition for justification, and by that she implies that using statistical evidence raises the probability of the decision being correct (even though it would be less justified, according to her).³² Dant explicitly accepts that statistical evidence is no worse than non-statistical evidence when it comes to the ability to lead the fact-finder to the truth.³³ Stein supports a requirement of individualised testing, but accepts that general evidence increases the probability of reaching the truth (despite carrying no weight).³⁴ Furthermore, Koehler and Shaviro have persuasively argued that using statistical evidence improves the accuracy of legal fact-finding.³⁵ But if using statistical evidence increases the probability of finding the truth, how could it be that its *restriction* is epistemologically unwarranted? To the extent that epistemology is concerned with finding the truth, then *it is the restriction of the use of statistical evidence which is epistemologically unwarranted*. If epistemology can provide any guidance to the law of evidence,³⁶ it requires that the use of statistical evidence should be *intensified* rather than restricted. Therefore, it is hard to see how relying on epistemology could help in justifying the exclusion of racial statistical evidence.

There is a third reason why the epistemic accounts are particularly unattractive for efficiency theorists. Even if such accounts were successful, they would only show

³¹ This is demonstrated in the gatecrasher paradox where Cohen insists that the statistical evidence increases the mathematical probability above the required burden of proof in civil proceedings, see Cohen (n 12), p. 75.

³² Thomson (n 22), p. 207.

³³ Dant (n 23), p. 58.

³⁴ This is nicely exemplified in Stein's solution to the red/blue buses paradox: 'Although it is logically possible to ascribe [the claimant's] allegation a 0.8 probability—in the sense that systematic rulings in favour of the claimants in similar cases would produce, in the long run, eighty correct decisions out of one hundred—this probability ascription would not carry much weight' (emphasis added), Stein (n 1), p. 85.

³⁵ .

³⁶ But see my sceptical remarks about the role of epistemology in the law of evidence, , doubt 4.

that using statistical evidence fails to satisfy some epistemic criteria. However, efficiency theories aim to maximise social welfare rather than comply with epistemic standards. There is no immediate reason why maintaining certain epistemic standards would increase social welfare.³⁷ On the other hand, as Koehler and Shaviro argue, and as the proponents of the epistemic accounts concede, statistical evidence *improves* the accuracy of legal fact-finding. But in that case, why is it justified *from an efficiency perspective* to sacrifice accuracy merely in order to satisfy some opaque epistemic criteria? Therefore, efficiency theorists will find little utility in resorting to the epistemic accounts in order to justify why the racist statistical evidence against Blacks and Jews should not be used in court.

§4 Answers from Legitimacy

Failing to find a solution in epistemology, the efficiency theorists might return to more familiar ground and look for *externalised costs* which the use of the racist statistical evidence in court imposes on third parties. In particular, they might argue that using this evidence creates adverse reactions amongst the general public and that such reactions create sufficient disutility to offset any accuracy benefit. They could find support for this position in some of the existing objections to the use of statistical evidence in court. For example, Tribe and Nesson have argued that its use collides with the ritualistic functions of the trial,³⁸ and with the legitimacy and acceptability of the judgment by the public.³⁹ These accounts are termed ‘the legitimacy accounts’ because they focus on the legitimacy of the legal system as a social institution. Their justification for restricting the use of statistical evidence is based on adverse institutional effects which the use of statistical evidence creates. The efficiency theorists could utilise the legitimacy accounts to argue that using racist statistical evidence creates disutility amongst third parties, mainly members of the general public. This disutility is composed not only from the immediate adverse reactions (such as anger, frustration, discontent), but also from the long-term risk that the public

³⁷ It could be argued that maintaining these standards creates some satisfaction and thus utility amongst third parties. This issue is discussed in the next section.

³⁸ LH Tribe, 'Trial by Mathematics: Precision and Ritual in the Legal Process' Harvard Law Review 1329.

³⁹ CR Nesson, 'Reasonable Doubt and Permissive Inferences: The Value of Complexity' 92 (6) Harvard Law Review 1187 [henceforth Nesson]; C Nesson, 'The Evidence or the Event? On Judicial Proof and the Acceptability of Verdicts' 98 (7) Harvard Law Review 1357 [henceforth Nesson II].

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might lose its trust in the legal system if it used racist statistical evidence to determine the rights and liability of Blacks and Jews. This disutility, so the argument goes, is sufficient to offset any benefit to the accuracy of the legal fact-finding which the use of statistical evidence may have (henceforth, “the answer from legitimacy”).

The problem with the answer from legitimacy is that it falls prey to a long list of objections that have been raised against the legitimacy accounts.⁴⁰ First, like the legitimacy accounts themselves,⁴¹ this answer relies on some strong assumptions, which need to be established by empirical research. One assumption that they have to establish is that the use of racist statistical evidence will create disutility amongst the general public. This assumption is hard to establish for two reasons. First, it is necessary to establish the existence of *actual* disutility. The answer from legitimacy does not depend on how members of society *should* react to the racist statistical evidence, or on how one wishes they had reacted. The justificatory force of this answer completely depends on how members of society *actually* react to this evidence, as racist or unpleasant as this reaction might be. Second, the argument refers to the *aggregative* disutility based on the reactions of *all* members of society. Pointing to adverse reactions amongst the relevant minority group (or to other groups which would identify with their cause) is not enough. Some members of the society might consider excluding this evidence as hypocritical and/or unfair. Their positive reaction to the use of racist statistical evidence might offset the adverse reactions of other members.

To utilise the legitimacy accounts, the efficiency theorists would have to establish another contentious empirical assumption: that the externalised costs are higher than the benefit of using this evidence. This assumption is also hard to establish. Recall that, according to Koehler and Shaviro’s argument (conceded even by those who object to the use of statistical evidence on epistemic grounds, see §3.2 above), using statistical evidence and methods improves the accuracy of legal fact-finding.⁴² To justify the exclusion of racist statistical evidence based on the

⁴⁰ Shaviro provides an excellent criticism of the legitimacy accounts in .

⁴¹ For example, Nesson asserts that verdicts based on statistical evidence are perceived as illegitimate: ‘Although the defendant probably caused the plaintiff’s injury, the factfinder cannot reach a conclusion that the public will accept as a statement about what happened. ... What is crucial in this situation is that the public cannot view whatever statement the factfinder makes as anything other than a bet based on the evidence’, Nesson [II], supra 39, p. 1379. However, Shaviro brings various cases where the statistical evidence is not only acceptable to the public, but also excluding it would make the verdict unacceptable (e.g. DNA), Shaviro (n 40), pp. 545-548.

⁴² Recall also that the practical issues with using statistical evidence correctly are insufficient to establish a proper justification for the exclusion of racist statistical evidence, see §2 above.

externalised costs of third parties, the efficiency theorists would also have to show not only that using racist statistical evidence creates aggregative disutility, but also that this disutility is *sufficiently* high to offset any contribution which this evidence may make to the accuracy of legal fact- findings.

It should be emphasised that these empirical issues are *not* raised to show that the cost-benefit analysis *must* lead to the conclusion that using racist statistical evidence is cost-effective even when the externalised costs are included. The purpose of raising these issues is to highlight how difficult it would be for the efficiency theorists to ground their objection to racist statistical evidence in the externalised costs it creates amongst the general public.

Regardless of the validity of the empirical assumptions, the answer from legitimacy also faces three principled difficulties. First, like the legitimacy accounts themselves, this answer prefers *appearance* over *actual* justice.⁴³ The accurate determination of factual matters is important for all theories, utilitarian and deontological alike. More factually-mistaken decisions suggest more *unjust* decisions (and this seems to be true regardless of one's conception of justice). If statistical evidence improves accuracy (and *inter alia* if racist statistical evidence improves accuracy), then it should not be excluded from court just because it has a bad press. The answer from legitimacy embodies a problematic preference of an *appearance* with which the general public feels comfortable over an *actual* justice in terms of more factually correct decisions. Shaviro concludes his case against the legitimacy accounts by stating that this preference 'suggests that one cares less about the actual existence of injustice than about one's own capacity to achieve peace of mind through wishful thinking'.⁴⁴ It 'shows a disturbing preference for illusion over reality and for appearance over substance'.⁴⁵ The same can be said on the attempt to justify the exclusion of racist statistical evidence based on third parties' reactions. Evidence rules should be based upon principle and not perception.

Second, even if the main problem with racist statistical evidence were the externalised costs which its use creates for third parties, excluding the evidence would

⁴³ Shaviro (n 40), p. 537 and p. 553. It seems that even Nesson himself, when advocating the explanation of acceptability, realises the vulnerability of his argument to this objection: 'to argue that the search for truth may be compromised in order to enhance the power of the law's substantive message is...to make an argument that is in some sense inherently unsatisfying', Nesson II, *supra* 39, p. 1391.

⁴⁴ Shaviro (n 40), p. 537.

⁴⁵ Shaviro (n 40), p. 553.

still be the wrong course of action. If the justification to exclude accuracy-improving evidence were based on the adverse reactions it creates amongst the general public, then efficiency theorists should tackle the *reactions themselves*, not the evidence. They should not agree to the exclusion of accuracy-improving evidence. Instead, they should advocate programmes and reforms which would neutralise these externalised costs by helping the public to overcome its intuitions, biases, and fears.

Last but not least, resorting to the disutility of third parties is particularly unattractive from the perspective of efficiency theories. Although this is a possible strategy to employ, its price should be acknowledged. In particular, it blurs the theoretical distinctiveness and undermines the normative force of the efficiency theories.⁴⁶ If a legal rule can be objected to based on the adverse reactions it creates amongst the general public, then this strategy leads to the preservation of inefficient practices just because the public likes them, is used to them, etc. This point is particularly biting because the public perception constantly changes. In the context of evidence law, there are various types of evidence which are nowadays an integral part of our legal system but might have been disliked by the public in their early days. I am not aware of any empirical research on that, but assume for the sake of argument that the public reacted with suspicion to fingerprints. If evidence rules were fixed according to the public's perceptions and reactions, this type of evidence might never have been introduced. Relying too much on the public's adverse reactions might therefore lead to stagnation and blunt the important normative implications of the efficiency theories.

§5 Answers from Autonomy

An interesting response to the problem of statistical evidence appears in those accounts which focus on the defendant's individuality and autonomy. The most detailed account is that of Wasserman.⁴⁷ The purpose of this section is not to evaluate this account in detail,⁴⁸ but only to show why it would be difficult for efficiency theorists to rely on it to provide a justification to exclude racist statistical evidence. In contrast, deontological theorists have more theoretical resources to employ Wasserman's account successfully.

⁴⁶ I thank John Gardner for raising this point with me.

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⁴⁸ Such an evaluation can be found in .

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Wasserman's main thesis is that 'we object to reliance on statistical evidence only when it adds insult to the injury of a false finding of liability',⁴⁹ because it demeans the defendant as an individual:

what is objectionable is the reliance on others' conduct, or the defendant's past conduct, to infer his commission of a wrongful act. We object to this inference because *it ignores the defendant's capacity to diverge from his associates or from his past, thereby demeaning his individuality and autonomy.*⁵⁰

Wasserman emphasises that, whilst accuracy is an important concern, it is not the sole concern and 'we are especially concerned about falsely attributing misconduct to a defendant based on the frequency of similar misconduct by others or by the defendant himself.'⁵¹

Wasserman's account explains why it is objectionable to find Martin guilty of violent robbery based on the behaviour of other black men (or to find Abraham guilty of tax fraud based on the behaviour of other Jews). Using racist statistical evidence assumes that the behaviour of one Jew can be learnt from observing how other Jews behave. Using racist statistical evidence assumes meaningful and useful inferences about Martin's conduct can be made from the way other Blacks behave. These inferences undermine the law's commitment to treat each of us as an autonomous individual. Martin and Abraham should be convicted based on the facts of their respective cases, not based on what choices other Blacks and Jews have made.

It is relatively easy for deontological theorists to rely on Wasserman's account to justify the exclusion of racist statistical evidence. In particular, corrective justice theorists can easily rely on Wasserman's account. The reason is that theories of corrective justice are more likely to put emphasis on treating the litigant as an autonomous individual. This is most evident in Weinrib's theory, which is based on Kantian ethics.⁵² Under his theory, the imposition of tort liability on the individual is justified by his voluntary choice to act wrongfully.⁵³ Understanding fault thus requires treating the litigant as an autonomous individual whose choice cannot be

⁴⁹ Wasserman (n 47), p. 935.

⁵⁰ Wasserman (n 47), p. 942-943, emphasis added. Von Hirsh raises a similar argument in the debate about the use of statistical evidence to support preventive confinement of convicted persons because it violates 'the basic concepts of individual liberty', see , p. 745.

⁵¹ Wasserman (n 47), p. 940.

⁵² 'Implicit in corrective justice's relationship of doer and sufferer are the obligations incumbent in Kantian legal theory on free beings under moral laws', , p. 82.

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inferred from the way similar people chose to behave.⁵⁴ In general, when corrective justice theorists hold an individual at fault, they consider her to be an autonomous agent who can and should be regarded as *responsible* for her conduct and take ownership of its consequences.⁵⁵ Corrective justice theorists can therefore rely on Wasserman's account to justify the exclusion of racist statistical evidence.

The proponents of efficiency theories might also try utilising arguments from autonomy to justify the exclusion of racist statistical evidence. For example, they might argue that demeaning the individual's autonomy is a form of cost which racist statistical evidence imposes on the party against which it is used. However, it is argued here that these sorts of explanations are unpersuasive since resorting to the litigant's individuality and autonomy is incompatible with efficiency theories.

Efficiency theories regard the law as an instrument to maximise social welfare in the society.⁵⁶ The legal imposition of liability in a particular case is considered desirable when it improves aggregative social welfare in the long run.⁵⁷ In tort law, where these theories are probably most developed, they are future-looking and their interest in compensation is not necessarily for the sake of the victim himself. The accident has already occurred and the question of how the losses should be distributed between the parties is not a question of efficiency but of distributive justice.⁵⁸ Efficiency theories impose liability when doing so would affect how future agents will behave. Imposing liability is desirable if and only if the conduct is *inefficient*,⁵⁹ and if

⁵³ For the role of Kantian free will in Weinrib's theory, see Weinrib (n52), ch. 4. For its consistency with the imposition of negligent and unintended harm, see Weinrib (n 52), ch. 6. For a thorough critique of Weinrib's position, see , III(A)(2), pp. 478-488.

⁵⁴ 'In elucidating the significance of the interaction, *the judge must treat the parties as the free wills that his role presupposes them to be*', Weinrib (n 52), p. 105, emphasis added. And also 'Private law draws its moral character from the notion of free will that it presupposes', Weinrib (n 52), p. 108.

⁵⁵ Perry's theory, for example, is based on Strawson's understanding of responsibility as reflecting reactive attitudes, see Perry (n 53), IV(B), pp. 500-502.

⁵⁶ , .

⁵⁷ , p. 3.

⁵⁸ *Ibid.* Shavell proceeds to argue that distributive goals should be achieved by income tax and not by legal rules, see Shavell (n 57), pp. 654-656. See also Posner, who claims that 'the distributive neutrality of the economic analysis of torts is not a merely adventitious characteristic of that analysis. Neutrality is required as a matter of justice, where justice is defined in terms of economic efficiency', , p. 204. This feature of the economic analysis of law is grounded in the Coase Theorem, according to which social utility remains unaffected by the way resources are distributed (assuming zero transaction costs), see .

⁵⁹ That is when the cost of avoiding the damage (e.g. precaution) is smaller than the expected loss (this was termed as "Hand Formula", after Learned Hand J in).

imposing liability in the case at hand would deter agents from engaging in a similar activity in the future. Imposing liability is undesirable if it would deter agents from engaging in *efficient* activity.⁶⁰ According to efficiency theories, “fault” is therefore not a moral notion but rather a technical term of tort law.⁶¹ For the purpose of tort law, whether someone is at fault or not should be determined by the (in)efficiency of her conduct, not by its morality.⁶²

Under the efficient theorists’ understanding of fault, one cannot justify the exclusion of racist statistical evidence based on the individual’s autonomy. The approach of the efficiency theories to individual autonomy differs from that of corrective justice. Efficiency theories clearly assume that individuals have preferences and that they respond to (economic) incentives.⁶³ If this is all that were included in the individual’s autonomy, then these theories would probably accept that individuals should be regarded as autonomous. However, the individual’s autonomy in efficiency theories does not have *intrinsic* value as it does in corrective justice theories (most evidently in Weinrib’s theory). For efficiency theories, the agent’s autonomy is instrumental, a precondition of responsiveness which is required for the liability rules to achieve their desired effect in guiding the individual in her future conduct. The difference between the two types of theory is most evident in cases in which respecting the autonomy of a particular individual would lead to a *reduction* in the aggregative social welfare. Corrective justice theories would insist that the individual’s autonomy is important enough to be respected even if it requires sacrificing aggregative social welfare. By contrast, theories which focus purely on efficiency would not.

If efficiency is the only consideration which should determine whether imposing legal liability is desirable or not, it is hard to justify a sacrifice in efficiency for the sake of individual autonomy. As autonomy has no intrinsic value in efficiency theories, autonomy considerations will not trump efficiency considerations. This

⁶⁰ If the conduct does not affect efficiency or if imposing liability would not change the behaviour of agents in the future, the efficiency theories would probably not be interested in the question as to whether imposing liability is desirable or not.

⁶¹ ‘The negligence rule is said to be *fault-based* because liability is found only if the injurer was at fault in the sense of having been found negligent’, Shavell (n 57), p. 180.

⁶² See Posner, who regards justice as ‘defined in terms of economic efficiency’, Posner (n 58).

⁶³ ‘... the view taken will generally be that actors are “rational.” That is, they are forward looking and behave so as to maximize their expected utility’, Shavell (n 57), p. 1. And ‘economic analysis gives much greater weight than other approaches to the view that actors are rational, acting with a view toward the possible consequences of their choices’, *ibid*, p. 4.

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means that, according to the efficiency theories, as long as statistical evidence promotes accuracy (and thus efficiency), it should be used *even if it fails to regard the individual as autonomous*. Efficiency theorists are therefore left with no means to object to the use of racist statistical evidence in court.