

Regulation by generalization

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Abstract

Both criminal and regulatory laws have traditionally been skeptical of what Jeremy Bentham referred to as evidentiary offenses – the prohibition (or regulation) of some activity not because it is wrong, but because it probabilistically (but not universally) indicates that a real wrong has occurred. From Bentham to the present, courts and theorists have worried about this form of regulation, believing that certainly in the criminal law context, but even with respect to regulation, it is wrong to impose sanctions on a “Where there’s smoke there’s fire” theory of governmental intervention. Yet, although this kind of punishment by proxy continues to be held in disrepute both in courts and in the published work, we argue that this distaste is unwarranted. Regulating – even through the criminal law – by regulating intrinsically innocent activities that probabilistically, but not inexorably, indicate not-so-innocent activities is no different from the vast number of other probabilistic elements that pervade the regulatory process. Once we recognize the frequency with which we accept probabilistic but not certain burdens of proof, probabilistic but not certain substantive rules, and probabilistic but not certain pieces of evidence, we can see that defining offenses and regulatory targets in terms of non-wrongful behavior that is evidence of wrongful behavior is neither surprising nor inadvisable.

Keywords: evidentiary offense, generalization, presumptions, regulation.

Introduction

“Where there’s smoke, there’s fire,” goes the venerable adage informing many of our everyday decisions. Although what looks like smoke may have a cause other than fire, smoke is so often the indicator of fire that it is rarely a bad strategy to presume the presence of fire from the observation of smoke. Similarly, when a promised payment does not arrive we assume it was not sent, although checks sometimes *do* get lost in the mail. And when a physician sees yellowing skin and nausea she concludes that her patient has hepatitis, although some rare diseases produce identical symptoms.

Yet, although it is common to infer a cause from the presence of its typical indicator, a surprising amount of legal and regulatory practice and commentary is to the contrary. In criminal, civil and regulatory law, policy-makers, adjudicators and commentators

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often appear more reluctant to take action based on the likely cause of an observed consequence than a physician to prescribe treatment based on the likely cause of observed symptoms. A common argument is that individuals subject to regulation, liability, or punishment must be given an opportunity to show that even the most reliable of indicators has produced the wrong conclusion in their particular case. The inferential logic lying behind “Where there’s smoke, there’s fire” may be satisfactory for presuming the existence of fire, it seems, but surprisingly often not for presuming the existence of liability-incurring acts.

We argue here that the common aversion to what we call *evidentiary regulation* or *regulation by generalization* is misguided. Although many commentators and regulators find it repugnant to hold people legally responsible on the basis of probabilistically reliable but non-universal indicators of regulable conduct, we argue that this repugnance is a product of undue skepticism about probabilistic inference coupled with unwarranted faith in the reliability of eyewitness and other forms of sensory observation. Moreover, even the most seemingly direct forms of regulation – the typical speed limit, for example – rely on probabilistic inferences about the relation between the regulated activity and a primary social harm, so it should not cause alarm when probabilities provide the basis for targeting the behavior of individual agents.

Bentham on presumed offenses

We go back to Jeremy Bentham to focus our analysis. In the *Principles of the Penal Code*, Bentham describes what he calls *presumed offenses* (Bentham 1931). These were unusual, Bentham thought, because they punished people for engaging not in wrongful or “injurious” conduct, but in conduct that, although not wrong in itself, justified an inference that those engaged in it were doing something *else* that *was* genuinely wrong. With respect to presumed offenses, the likelihood that someone had committed a genuine wrong warranted punishing them for acts that were indicative of, but not coincident with, wrongful conduct. These indicative acts provided evidence of wrongful acts, explaining why Bentham also referred to presumed offenses as *evidentiary offenses*.

As an example, Bentham noted the crime of possessing shipwrecked property (including the ship itself) with altered markings.¹ In 17th-century England, Bentham tells us, it was an offense to be found in possession of shipwrecked property whose identifying marks had been painted over or otherwise obliterated. The law was not based on the belief that it was intrinsically wrong to own shipwrecked property with altered markings; after all, a lawful acquirer might simply wish to remove the traces of a previous owner. But although innocent explanations were possible, the offense was based on the fact that in most cases the identifying marks would have been removed for less benign reasons, typically to disguise property that had been stolen from its rightful owner. So although there *might* be shipwrecked property with innocently obliterated markings, such a high percentage of altered markings were illicit, said Bentham, that *all* property with altered markings could be *presumed* to have been stolen. Making possession of such property an offense thus efficiently punished those who had obtained property illegally and deterred those who would seek to steal shipwrecked property.²

As a further example, Bentham described a law in which a woman who failed to report the birth of a subsequently missing child was deemed guilty of infanticide. Like ships with altered markings, the act itself is relatively innocent. Moreover, there are

possible innocent explanations, such as an embarrassed unwed mother sending her child to live with distant relatives. Yet, innocent explanations were unlikely and failing to report a proved birth of a missing child was deemed infanticide not because it *was* infanticide, but because it probabilistically, even if not necessarily, indicated that an infanticide had taken place.

A persistent skepticism

The evidentiary offenses that engaged Bentham are relics of the past, but they illustrate a problem that is still with us. Bentham himself viewed such offenses as necessary evils in a world of imperfect law enforcement and a widespread modern view is more skeptical yet. Criminal law theorists like the philosopher Douglas Husak believe it to be profoundly unjust to find people guilty of a crime simply because they have done something that *indicates* wrongful conduct, rather than finding them guilty under the suitable standard of proof of having actually done something wrong (Husak 1998, 2004). Relatedly, the philosopher Judith Jarvis Thomson has gone beyond the criminal law to object, on moral grounds, to targeting people for regulation or liability on the basis of the category into which they or their conduct fall, as opposed to requiring a more particularized indication of regulable conduct (Thomson 1986). Even more recently, criminal law theorists like Bernard Harcourt argue not only against racial profiling, but also against all forms of actuarially based sanctions (Harcourt 2006). For Husak, Thomson and Harcourt, among others, the evidentiary offense appears to be a form of guilt by association. They argue that people should be punished not for what has been done by a class of which they happen to be a member, but only for what they themselves have done. And they argue as well that probabilistic determinations of individual responsibility create an unacceptable risk of punishing people who themselves have done nothing wrong. And if we go further afield into the regulatory published work, we find advocates of contextual regulation (Zelenak 1986; Semeraro 2003; Buzbee 2005), which is almost the antithesis of basing regulation on probabilistic patterns, and proponents of “best practices” regulation (Zaring 2006), which emphasizes examples rather than rules. These two approaches focus on the largely situational and non-repeatable dimensions of conduct and its regulation and thus avoid, so its proponents claim, the generalizing and probabilistic character of evidentiary regulation.

Skepticism about regulation by generalization, however, is important not primarily because such skepticism has its academic adherents, but rather because it is widespread in actual legal decisions. Consider, for example, the practice of selling a book or a magazine without a cover. Typically, the copyright page of a mass-market paperback states “If you purchased this book without a cover you should be aware that this book is stolen property. It was reported as ‘unsold and destroyed’ to the publisher and neither the author nor the publisher has received any payment for this ‘stripped book.’” The practice underlying this message is that publishers and distributors routinely give retailers full credit for any unsold book or magazine. But because it would be costly for a retailer to return to the distributor every unsold (and now virtually worthless) copy of last week’s *Time* magazine, the retailer sends back only the covers of the unsold copies, warranting that the contents have been destroyed. The publisher or distributor then gives the retailer credit for each returned cover, saving all parties the cost of shipping a large volume of worthless paper. If the retailer is of a mind to steal, however,

he returns the cover but sells the coverless book or magazine (albeit at a discount), receiving full credit from the distributor as well as payment from the purchaser.

Because selling books and magazines reported as unsold amounts to stealing and because identifying culprits is difficult, New York once prohibited the sale of coverless periodicals. Under the New York law, anyone selling a magazine without a cover was guilty of a crime. Nothing further was required to prove a fraudulent transaction. New York thus treated the sale of coverless periodicals as an evidentiary offense, presuming any seller of a coverless magazine to be engaged in fraud, although it is remotely possible to imagine an innocent sale.

The New York Court of Appeals would have none of this. In the case of *People v. Bunis* (1961),³ the court declared the law unconstitutional, concluding that the statute presumed “corruption or impropriety” rather than requiring proof of corruption or impropriety in each individual case. To the Court of Appeals, it was impermissible to presume that *all* sellers of coverless magazines were crooks when some might actually be innocent.

The same instincts that inspired the New York Court of Appeals led the Supreme Court of the United States, a little more than a decade later, to start down a similar path. In 1973, the Court heard a challenge to a University of Connecticut rule presuming that a person with an address outside Connecticut for any part of the year before enrolling for admission was not a resident of Connecticut at the time of admission and could not be a resident for his or her entire undergraduate career (*Vlandis v. Kline* 1973). The significance of this rule came from the fact that at the time, the non-resident tuition was more than three times that for Connecticut residents. Especially when the differential is this great, state universities seek to root out students who attempt to claim that they are residents when they are not or who attempt to change residency in order to lower their tuition. In other words, Connecticut suspected that almost all students with addresses outside Connecticut for part of the year before matriculation were not the kind of “real” Connecticut residents that Connecticut was committed to assist. Yet, although Connecticut’s probabilistic inference was undoubtedly correct, some people actually *do* move to Connecticut with the intention that the move be permanent and not primarily to save on college tuition. And it is reasonable to suppose that at least some genuine residence changers move just before enrolling at the University of Connecticut or while they are students. Thus, they move to Connecticut for the same legitimate reasons – family connections or employment opportunities, for example, that might lead anyone else to change residency. Under the Connecticut rule, however, none of the bona fide residence changers could obtain the benefit of lower tuition. Like the opportunistic (“fraudulent” seems too strong here) residence changers, the bona fide residence changers were required to pay higher tuition despite not being persons to whom the rule was targeted.

Because the Connecticut rule allowed no exceptions, the Supreme Court held Connecticut’s “irrebuttable presumption” of non-residency to be an unconstitutional deprivation of due process, and because bona fide residence changers were provided no opportunity to show that their situation differed from the majority, the Connecticut rule could not be upheld. As with Aristotle’s argument in the *Nicomachean Ethics* that justice demands – through the vehicle of *equity* – an escape valve for those incorrectly encompassed within the reach of a general rule, so too did Justice Stewart conclude that procedural justice demands the same for those incorrectly encompassed by an irrebuttable presumption (Aristotle 1953).

The story of the irrebuttable presumption doctrine is a short one and within two years the Supreme Court declared dead the doctrine it had so recently created (*Weinberger v. Salfi* 1975). Although in the intervening period the Court had struck down other laws not allowing individuals to show that they were within the area over-encompassed by general rules (*United States Department of Agriculture v. Murry* 1973; *Cleveland Board of Education v. LaFleur* 1974), in 1975 it finally recognized that the irrebuttable presumption doctrine was untenable because virtually all legislation classifies imprecisely, thus making it implausible to strike down every legislative category whose reach is broader than the evil it is intended to address.⁴

The Supreme Court's ultimate conclusion is plainly correct. The Connecticut approach to residency is, after all, in the same spirit as the minimum voting age, which sets a precise event – one's 18th birthday – to encompass all those deemed sufficiently mature, civic-minded and invested in the community to cast a ballot. So too with setting a minimum age for driving (or drinking alcoholic beverages), on the assumption that those under some age are not mature enough to drive (or drink) responsibly, even recognizing that the generalization applies only to most and not to all of those below the designated age. A 15-year-old will not be exempted from the minimum age even if he or she can prove that he or she is far more responsible than the typical 20-year-old. The Connecticut law simply established a residency rule and like all rules it was actually or potentially overinclusive, applying to some people who would have fallen outside the justification for creating the rule in the first place (Schauer 1991).

We seem more comfortable relying on probabilistic regulation when the regulated entity is an institution, particularly when there is no assertion of deceit or criminal intent and when there are likely to be repeat plays, so the regulated entity may benefit as well as lose from chance occurrence. Thus, we may be willing to hold a polluting factory responsible, for example, levy an effluent charge, solely on the basis of an excessive reading by a downstream or downwind monitoring station although unusually large emissions by other smaller sources might in fact have been the cause and weather and atmospheric conditions introduce a random element between what the factory emits and what the monitor observes.

In all cases the law gathers in some whose behavior has been exemplary along with some whose behavior has not. Once the Supreme Court recognized the inevitability of this phenomenon, it recognized the need to abandon the principle that all legislative classifications not allowing for exceptions were for that reason unconstitutional.⁵

The brief life of the irrebuttable presumption doctrine makes it tempting to conclude that cases like *Bunis* are relics from an earlier era. But that conclusion would be mistaken. For not only do we see the widespread academic support for particularistic regulation, we also have a raft of judicial decisions that show a persistent particularist urge and display a stubborn eagerness to follow the instincts behind the irrebuttable presumption doctrine, rather than respecting the analysis that led to its rejection. Florida law illustrates and instructs. At about the time that the New York Court of Appeals decided *Bunis*, the Florida Supreme Court decided *Delmonico v. State* (1963), holding it a violation of the US and Florida constitutions to punish people for possessing spearguns. Although most speargun uses were unlawful, the Florida court concluded, the possibility of a lawful use constitutionally entitled a possessor to an opportunity to show that he was an innocent member of an overwhelmingly guilty class.⁶

Delmonico remains the law in Florida even today. Since 1963, Florida courts have, on the authority of *Delmonico* and similar cases, invalidated laws proscribing the possession of a “hoax bomb” (*In the interest of T.C.* 1991), prohibiting ownership of machinery capable of producing illegal credit cards (*State v. Saiez* 1986), and banning the sale to minors and possession by minors of spray paint and broad-tipped felt markers (the weapons of choice or graffiti artists) (*D.P. v. Florida* 1997). And other states join Florida. A 2000 Illinois decision invalidated a conviction of a salvage yard operator for violating the record-keeping requirements for that business because the statute had been directed at operators who traded in stolen cars and parts, but did not allow a defendant who failed to keep proper records the opportunity to show that he was not the kind of person to whom the law was directed (*People v. Wright* 2000). In Illinois, in Florida, in New York (which has never overruled *Bunis*) and elsewhere, therefore, the hold of particularist instincts remains strong, generating a tilt against laws derived from empirical observations of many individuals engaged in some behavior when it comes to assigning individual responsibility. Rather, the particularist urge demands instead that there be “direct” evidence linking specific individuals with the actual behavior that is the state’s ultimate concern.⁷ So in *United States v. Bajakajian* (1998), for example, a case involving the question whether a \$357,144 forfeiture for failing to report the transportation of more than \$10,000 in currency was an “excessive fine” in violation of the Eighth Amendment, a majority of the US Supreme Court refused to draw any inferences of culpability for anything more than failing to report from the fact that Mr. Bajakajian had indisputably deliberately chosen not to report his possession of the aforesaid \$357,144.

The Supreme Court’s approach to *Bajakajian*, namely of backing away from an obvious but still probabilistic inference, underscores the present vitality of a pull towards particularism, a philosophical approach with a long and illustrious history. From Aristotle to the present, getting to the particulars of a situation or case or person is put forth as an ideal, with generalization seen as at best the time-saving alternative, at worse mere laziness. Legal scholars celebrate deciding “one case at a time” (Sunstein 1999);⁸ philosophers extol the virtues of particularism in reaching moral conclusions (Dancy 1993; Hooker & Little 2000); feminist theorists defend a qualified particularism as preferable to a traditionally male belief in the inherent superiority of generalization and abstraction (Bartlett 1990; Gilligan 1993); and social psychologists talk about looking at each person as an individual, with “going beyond categorization” being “the right thing to do in almost every case” (Stangor 1995). It may be a century and a half since William Blake said “[t]o generalize is to be an idiot. To particularize is the alone distinction of merit” (Blake 1814). And it may be three decades since the Supreme Court’s brief flirtation with the irrebuttable presumption doctrine, but it is clear that the particularist urges that inspired it survive to today. Yet, although the philosophical roots of particularism persist, the philosophy underlying regulation by generalization thrives alongside and society’s employment of evidentiary offenses in a broad range of areas is a very real counterargument to what may seem a rising particularist tide.

Evidentiary offenses

Despite the frequency of judicial challenges and extrajudicial criticism, evidentiary offenses are not only ubiquitous, but they are also necessary for any system of regulation. The reporting requirements that tripped up *Bajakajian* provided that anyone entering or

leaving the USA with more than \$10,000 in currency or other monetary instruments must file a report to customs authorities, or risk a \$250,000 fine and up to 5 years' imprisonment.⁹ Yet, this reporting requirement was not connected with the enforcement of any restriction on traveling with any amount of currency. The requirement is merely based on the fact that people who travel into and out of the USA with large amounts of cash are substantially more likely than the baseline traveler to be engaged in illegal transactions, typically money laundering or narcotics trafficking.

Similarly, our narcotics regulations use quantity possessed as an evidentiary offense. Although possessing any quantity of various designated narcotics is typically a crime, possessing more than a statutorily specified amount commonly thrusts one in a different criminal category. In such cases, the law presumes that people who possess more than the specified quantity are drug dealers.¹⁰ This example is less clean than the previous examples, as possessing large quantities of narcotics for personal use is less innocent than carrying large amounts of cash or possessing shipwrecked property from which identifying marks have been removed. But the structure is the same. We make it a crime to do something that is not in itself wrong (or *as* wrong), but which indicates that the person doing it is almost but not quite certainly doing something inherently wrong.¹¹ In short, although there are pressures against it, the modern era embraces the use of evidentiary offenses in a range of areas, primarily on a pragmatic basis and also when innocents are likely to be aware when a behavior will put them at risk. The individual with a large quantity of cocaine on hand for personal use will not be surprised if he is arrested or if his stash is discovered.

These contemporary examples illustrate that Bentham's desire to use evidentiary offenses as a pragmatic regulatory tool is more widespread than we think and, indeed, more than Bentham thought. Vast segments of regulatory law – perhaps most of it – address a problem or evil with a prohibition not directly framed in terms of that problem or evil. We prohibit driving through a red light rather than prohibiting driving unsafely. American securities laws prohibit insiders from buying and selling (or selling and buying) within a 6-month period to address trading on inside information, although some “short-swing” sales are not based on inside information at all.¹² Firms that violate one of the “per se” antitrust rules – price fixing, for example – are guilty even when their activities do not restrain trade (*United States v. Socony-Vacuum Oil Co.* 1940). People below a certain age may not vote, marry, drive, or drink, even though the problem is irresponsible rather than juvenile voting, marrying, driving or drinking. Recently enacted laws prohibit people from talking on mobile phones while driving although, again, the problem is dangerous driving or distracted driving and not simply holding a conversation on the telephone (Cripps 2001; Note 2002). And almost everywhere in the USA it is an offense to drive with a blood alcohol level higher than 0.10 or 0.08, although once again the evil against which the law is directed is driving while intoxicated and not driving with a certain amount of alcohol in one's bloodstream and at least some drivers who are over the legal limit are not, in fact, intoxicated (*State v. Rolle* 1990). As countless examples show, we not only sometimes, but usually, regulate indirectly, relying on probabilistic inference instead of aiming the regulatory artillery directly at the ultimate target.

Evidentiary offenses, unjust punishment and the protection of notice

In considering regulations that work using probabilistic indicators, it would be useful to examine the differences between the probabilistic regulations that are all around us and

the kind of presumed offenses that concerned Bentham. Perhaps the major difference lies in the distinction between typically milder forms of regulation and the criminal law. Perhaps, it is acceptable to have various privileges and entitlements turn on probabilistic generalizations or for regulatory intervention in general to turn on them. Nevertheless, it may be unacceptable for such probabilistic generalizations to provide the basis for imprisoning or fining people who might be wholly innocent. Surely, this was what bothered the New York Court of Appeals in *Bunis*. Moreover, although the Supreme Court misfired when it invalidated the University of Connecticut's residency rules, we might not be so quick to criticize the Court had it invalidated an irrebuttable presumption in Connecticut's *criminal* law.¹³ If those claiming in-state tuition who had an out-of-state residence at any time during the year before matriculation were not just subject to higher tuition rates, but also liable to prosecution for criminal fraud, it is arguable that things would be quite different, largely because such an approach would on occasion impose criminal liability for assuredly innocent conduct.¹⁴

It is an overstatement, however, to say that evidentiary offenses punish the innocent. The innocent are on notice, although we acknowledge that formal boilerplate notice is often not actual notice (Ellickson 1986; Macaulay 2000). Typically, a person committing an evidentiary offense knows that the act is unlawful, even if he or she does not believe that his or her own act is intrinsically wrong. Even if Mr. Bunis was engaged in an entirely innocent transaction (what that would be is somewhat hard to grasp, but let us give him the benefit of the doubt) he, nevertheless, was engaged in what he knew or should have known was illegal behavior. Bunis may not have been doing anything wrong in the largest sense, but the same applies to people who run red lights when there are no approaching cars or corporate officers who engage in uninformed (by insider knowledge) open-market short-swing transactions in the shares of their own companies.¹⁵ Such examples show that we do not believe that the prosecution of intentional violators of laws whose background justifications do not apply to them and whose own individual behavior is (failing to obey the law aside) morally blameless violates any conception of procedural justice. This is because we understand that notice of illegality is sufficient to justify the universal application of laws drafted with sufficient breadth to encompass individuals who know they are breaking the law but are doing nothing else that is fundamentally wicked. For example, widespread active notification to international travelers of the \$10,000 rule makes it virtually inconceivable that anyone violating the law was unaware of the requirement, the notice cures the primary objection to punishing people who have themselves done nothing fundamentally wrong. The traveler, who knowing that he is neither a drug dealer nor a money launderer, intentionally fails to report, believing – correctly – that he lies outside the class of people at whom the law is aimed and believing – also correctly – that he is doing nothing wrong other than failing to report, will attract little sympathy. Similarly, Bunis would seem to have had little proper cause to object to being prosecuted for selling coverless magazines¹⁶ at least on the seemingly well-founded assumption that he knew or should have known¹⁷ that such sales violated the law.

The inevitability of error with both evidentiary and traditional offenses

Any regulatory system will inevitably make errors, whether it relies on evidentiary or traditional offenses. Ample notice significantly curbs the Type I errors – unjustly

punishing the innocent – of the former. Given this, there is no reason to believe that the risks of punishing the innocent are greater in the case of an evidentiary offense than for a seemingly more “typical” crime. When the law prohibits theft, for example, it prohibits conduct that is intrinsically and not merely indicatively wrong. Nevertheless, in such cases the law still permits a conviction for theft based on proof beyond a reasonable doubt, a more lenient standard of proof – and thus somewhat more likely to produce the conviction of the innocent – than absolute certainty (Schauer & Zeckhauser 1996). Moreover, the law routinely allows individuals to be convicted of theft (and anything else) on the testimony of eyewitnesses, although the inaccuracies of eyewitness testimony are well known (Loftus 1996; Schachter 1996; Loftus & Doyle 1997; Wells & Bradford 1998) and equally routinely allows criminal convictions based on circumstantial evidence resting on inferential links no stronger than the inferential links underlying an evidentiary offense (*United States v. Young* 1978). Suppose, to reprise our running examples, that 99% of the shipwrecked property with obliterated markings is stolen property, that 99% of the people entering or exiting the USA with more than \$10,000 in unreported cash are narcotics dealers or money launderers, and that 99% of all sales of magazines without covers are part of fraudulent schemes to deprive publishers or distributors of their rightful revenues. Although in each of these scenarios there is a 1% chance that someone who is not engaged in genuinely wrongful conduct is being punished and although this is plainly the worry that motivated the New York Court of Appeals in *Bunis*, the Supreme Court in *Bajakajian*, and even Bentham, it is hard to see why this constitutes a distinctive problem of evidentiary offenses. There is presumably something like a 1% chance that we are convicting the innocent when we apply a standard of proof beyond a reasonable doubt rather than one of absolute certainty and so too when a conviction rests on circumstantial or scientific or eyewitness evidence whose likelihood of error is at least 1%. Indeed, the fact that there is, by hypothesis, full notice in the evidentiary offense case arguably makes the risk of injustice greater in the non-evidentiary offense case. The likelihood that *Bunis*, knowing that sales of coverless magazines were unlawful, was in fact innocent is because the overgeneralization of the evidentiary offense is substantially smaller than the likelihood that a hypothetical *Bunis*, convicted of fraudulently selling coverless magazines under a standard of proof beyond a reasonable doubt, but not a standard of absolute certainty, was in fact innocent because of the errors allowed by any standard of proof short of absolute certainty.

The point becomes clearer when we compare two different approaches to trafficking in narcotics. In Florida, anyone possessing more than 28 grams of cocaine is guilty of drug “trafficking,” even when proof of actual selling, distributing, or otherwise transferring cocaine is absent.¹⁸ Even if the defendant were merely a heavy user or were simply stocking up for a rainy day (quite a few rainy days, actually), the definition of the crime and the penalty that attaches to it *presumes* from the quantity that the defendant is trafficking. By contrast, in Illinois it is a distinct crime to possess cocaine *with an intent to sell*, but the law, unlike in Florida, requires proof in each case (*People v. Salazar* 1996). Yet, in practice, evidence of possession of a large quantity of cocaine – more than 28 grams, say – is sufficient to allow the jury to infer an intent to sell (*People v. Munoz* 1982; *People v. Atencia* 1983). So although the Florida approach takes the form of an evidentiary offense whereas that of Illinois does not, Illinois, which allows a jury to rely on the very same presumption that motivated the Florida legislature, is just as likely to trap the innocent. Indeed, because Florida situates the presumption in a publicly accessible

statute, whereas Illinois allows the same presumption to be less transparently in the assessments of individual jurors, the Florida approach may well be superior.

A possible objection to the foregoing analysis arises from the fact that the evidentiary offense introduces two possibilities for error, whereas with the “direct” offense there is only one. That is, any application of an evidentiary rule to an individual two possibilities: (i) the targeted individual simply did not commit the act charged, that is, that he is wholly innocent; and (ii) that the individual committed the act charged but is not within the class of genuine regulatory concern. For rules relating to direct offenses, by contrast, the latter risk is eliminated and only the former remains. To illustrate, assume that proof beyond a reasonable doubt is equivalent to 99% certainty. Under this assumption, if someone is convicted of a traditional offense, burglary, for example, it is far less likely that one could actually commit a non-wrongful burglary than that one could be an innocent seller of coverless magazines – there is no greater than a 1% chance that he has done nothing wrong. But if only 99% of the sellers of coverless magazines are engaged in genuinely wrongful behavior and if one can be convicted of the crime of selling a coverless magazine on proof to a 99% certainty (and thus when there is a 1% chance the sale did not occur at all), then there is almost a 2% chance ($100 - [0.99 \times 0.99]$) that someone not doing anything genuinely wrong would be convicted. If this is so, then it might seem that the evidentiary offense approach is inferior to proceeding more directly precisely because the evidentiary offense involves a greater risk of regulatory misapplication.

To a significant extent, the issue of notice alleviates the problem, because many of the mistargeted applications will still be applications against intentional lawbreakers. But notice aside, the true message of the analysis in this section is not that evidentiary offenses are necessarily equivalent to or preferable to direct offenses, but rather that the errors introduced by an evidentiary offense are of the same type and are commensurable with the errors that pervade all of the other aspects – especially the evidentiary ones – of the criminal law in particular and the regulatory process in general.

The optimal regulatory choice will be one that appropriately weighs the frequency and consequences of false negatives against those of false positives, some of which will be a function of the breadth of the regulatory category compared with the breadth of the primary regulatory concern. In this way, the possibility of error introduced by an evidentiary offense becomes part of the calculation. But so too do counterbalancing factors, namely the way in which evidentiary offenses may at times reduce the possibility of identification errors by using an easily identifiable and provable category of application and the way in which evidentiary offenses may at times reduce the number and consequences of false negatives. We do not argue that evidentiary offenses are superior because of their evidentiary character, or even that their evidentiary character may not introduce an additional risk of misapplication, but rather that there is no reason to treat the evidentiary character of an evidentiary offense as a categorical reason for disfavoring the use of such offenses.

The conclusion that emerges from the foregoing is that there is less of a difference – arguably none at all – between commonly resisted evidentiary offenses and the far more commonly accepted probabilistic features of most of the criminal law, most of the law of evidence and most or all of the phenomenon of using general rules as a way of controlling and guiding human behavior. Although this conclusion is important in helping to put to rest a persistently lingering particularism – not only *Bajakajian*, but also the current law in Florida, Illinois and numerous other jurisdictions make it clear that the instincts

driving the irrebuttable presumption doctrine are unfortunately alive and well – its major significance is in suggesting the ways in which accepting the inevitability of evidentiary offenses opens up a wide range of potentially effective regulatory approaches.

Direct regulation versus regulation by generalization

To many people it seems self-evident that regulation is best aimed at the behavior we wish to control. Yet, the lesson of our analysis of evidentiary offenses, the cornerstone of regulation by generalization, is that both direct regulation and regulation by generalization bear the costs of unjustified punishment (or restriction). This factor provides no a priori basis for avoiding evidentiary offenses, that is, the generalization approach. When Bentham used the alternative label of *presumed offenses*, he wished to suggest that such offenses are based on a presumption and the process of drawing inferences from what we can know directly to what we know only indirectly (Ullman-Margalit & Margalit 1982; Ullman-Margalit 1983). Yet, the lesson of our analysis is that the distinction between direct and indirect knowledge is overdrawn. When we look out our office windows and observe many people walking with open umbrellas (or cars with moving windshield wipers), we *presume* that it is raining and we think of this as a presumption and (as Bentham and countless others have supposed) a form of indirect rather than direct knowledge, because we have seen no raindrops. We have seen only open umbrellas, but we know from accumulated past experience that many open umbrellas almost always indicate rain, so we indirectly presume the existence of rain from our direct observation of open umbrellas.¹⁹

Yet, although the inferential process is obvious when we infer the presence of rain from the observation of open umbrellas, there is also an inferential process when we observe the rain itself. When we see what we perceive to be actual raindrops and thus “infer” that it is raining, we are still drawing inferences, most significantly the inference from what appears to us to be rain to the conclusion that it *is* rain. And, although describing this process as an “inference” may look peculiar from our own perspective – when we are “inferring” the accuracy of our own observation – it strikes us as far less strange when we are referring to the observations of others, especially in light of what we know about the hardly perfect accuracy of sensory perception. So when we move from Jack’s perception that it is raining to Jill’s conclusion, based on Jack’s perception, that it *is* raining, it becomes clearer that there is no escaping the process of inference. For Jill to conclude that it is raining requires her to infer that Jack’s observation was accurate, that Jack’s report of Jack’s observation was accurate and that Jill’s understanding of Jack’s report was accurate as well. Each of these inferences – probabilistic statements based on past experience, not certain predictions – is not different in kind from the type of inference that undergirds the typical indirect presumption. Like the distinction between direct and circumstantial evidence, therefore, the distinction between direct observation and indirect inference typically overstates the reliability of sensory and thus allegedly direct evidence and equally typically understates the inferential nature of the sensory process.

Yet, a worry lingers. Even after we have undercut the alleged distinctions between direct and indirect, presumed and non-presumed and evidentiary and non-evidentiary, a concern remains. Surely, there is a difference between making murder a crime and making possession of a smoking gun close to a recently killed individual a crime. And surely, we

understand the difference between the crime of burglary and the crime of possession of burglar tools, even as we continue to acknowledge the propriety of criminalizing both.

Although these types of offenses differ, that difference dims whenever we formulate a crime in terms other than intrinsic wrongness.²⁰ Whenever an offense or regulatory target is formulated instrumentally, to advance rather than to simply restate some background justification, the distinction between the definition of an offense and the definition of the evidence allowable to establish it is weakened substantially. Thus, the difference between the offense of driving greater than 65 miles per hour and the offense of causing a radar speed detector to indicate a speed in excess of 65 miles per hour may appear, as with the distinction between the crime of murder and the hypothetical crime of possessing a smoking gun, to be a distinction between the offense and the evidence that indicates it. And so too with the distinction between the offense of driving while intoxicated and the offense of causing a breathalyzer to indicate a 0.10 or 0.08 blood alcohol level. But the offense of driving at a speed of greater than 65 miles per hour is itself an imperfect indicator of the deeper concern for unsafe driving and so too with driving while intoxicated, for not all instances of driving in excess of some posted speed are unsafe, nor are all instances of driving while intoxicated. Rather, these behaviors so strongly indicate a deeper concern that we prohibit the behaviors even as we recognize that they are probabilistic and not certain markers of the true concern. But once we understand this, it is no longer clear that the category of presumed offenses is either small or problematic. A presumed or evidentiary offense is one in which the offense is not intrinsically wrong but is made wrong because it indicates the presence of something more deeply or intrinsically wrong. But we now see that this definition of an evidentiary offense, a definition that looked initially troubling, applies to almost all of the traffic offenses that probabilistically but not certainly indicate unsafe driving, to most common possession offenses (for child pornography, burglar tools and sawed-off shotguns, for example), to various non-reporting offenses (like that in *Bajakajian*, but also like almost any corporate reporting requirement) and to countless other offenses that are described in ways that are indicative rather than descriptive or definitional of our ultimate concern. Thus the distinction between the real crime of murder and the hypothetical crime of possessing a nearby smoking gun turns out to be a distinction based solely on our (largely correct) instincts about the probabilistic reliability of the indicator and the consequences in cases in which the probabilities produce the wrong result. Were possession of the smoking gun to indicate murder 99.9999% of the time and were the penalty for murder to be 6 months in the penitentiary rather than life imprisonment or capital punishment, making the possession of a smoking gun a crime punishable like murder would not seem so problematic.

Before pursuing this line of argument to its logical conclusion, we distinguish two types of evidentiary offenses. For the first, there is an actual *causal* relation between the underlying offense and the evidence that may at times be defined as the offense. Many murders do cause smoking guns and our inference from the smoking gun to a murder, even if imperfect, is still based on the fact that many murders do cause there to be smoking guns, just as many rainfalls do cause there to be open umbrellas on the street. And when there is such a causal relation, our instincts are often more comfortable with evidentiary offenses or evidentiary liability (Thomson 1986).

For the second type of evidentiary offense, the implicating behavior still indicates the likelihood of a deeper offense, but bears no causal connection with the offense of

concern. Consider the correlation between broken factory windows, malfunctioning gauges and wildly inaccurate clocks, on the one hand, and unsafe working conditions, such as ungrounded electrical outlets, poorly designed guards on dangerous machinery and slippery conditions underfoot, on the other.²¹ Because broken factory windows and insufficient attention to worker safety often have a common cause – employer negligence or inattention – the two phenomena correlate, although the unsafe working conditions do not cause the broken windows, nor do the broken windows cause the unsafe worker conditions. However, although there is no causation connecting the phenomena, the correlation makes the presence of broken windows an indicator, and often a highly reliable one, of an increased likelihood of unsafe working conditions.

Because broken windows indicate the presence of something that is our deeper concern, could we not then treat the presence of broken windows in just the same way that we treat the failure to report the possession of \$10,000 or more in currency or its equivalent by those entering or leaving the USA? That is, could we make having broken windows an offense in itself, or the predicate for some other form of regulatory intervention, not because we care about broken windows, but instead because controlling those who allow broken windows to be in their factories might turn out to be an efficient method of controlling the very people who maintain unsafe conditions for their workers. Were this approach to be followed, having a factory with broken windows would then be an indicative wrong, usefully contrasted with the seemingly more direct wrong of having a factory with unsafe working conditions, and also usefully contrasted with a causal evidentiary wrong, such as deeming it unlawful to have more than a designated number of reported injuries per month.²²

The question then is whether the absence of a causal relation between the wrong and its indicator makes the purely indicative offense different in important ways from the presumed or evidentiary offense that is grounded on an actual causal connection between the indicator and the wrong. Although most instances of unreported cash carrying, obliterated markings on shipwrecked property and sales of coverless periodicals are caused by the very illegal activity with which we are primarily concerned, is the issue transformed when no such causal relation exists? Is there not something different and more unjust in prosecuting or otherwise regulating someone for doing something that appears to have no connection with a real concern except the presence of a common cause?

When effective regulatory policy is the goal, the answer should depend on statistical reliability. Certain features of a workplace likely indicate unsafe working conditions although they are not unsafe in and of themselves. If these indicators, for example, broken windows, are reliable albeit not causal indicators, would it be untoward to punish a business, for example, with fines, for having them? Can we punish firms or individuals for displaying indicators that are neither intrinsically harmful nor causally related to something intrinsically harmful? Initially, we bridle at the prospect, but further analysis is required.

If the issue is one of civil regulation, where imprisonment is not an option and where the standard of proof is far less than proof beyond a reasonable doubt, the case for probabilistic and indicative regulation, positing that it has high albeit not infallible reliability, is strong. The case against flatly prohibiting such regulation appears compelling. Although harder to argue, the case is no less strong when we are dealing with criminal and not civil regulation, although the required level of reliability may have to be higher before convicting. The safe driver who exceeds the speed limit on a clear dry traffic-free morning is subject to arrest and punishment, although he imposes no risk on others and avoiding

such risk is the goal of speed limits. Be it factory windows or speeding cars the costs of locating the genuinely harmful behavior – unsafe working conditions and unsafe driving, respectively – are seen to be excessive. For a given level of enforcement expense, a more readily available indicator will punish more malefactors per innocent unjustly punished. In the broken window case it might be too costly or intrusive to search every factory for less visible safety violations and in the speed limit case it might be too costly or intrusive or open to abuse to require (and allow) police officers to determine on a rule-free case-by-case basis who is driving safely and who is not, as well as too hard for drivers to know what was expected in any circumstance. So in both cases the visible indicators operate as heuristics to produce the correct result in the vast majority of cases. In an imperfect world, any form of punishment risks punishing some people who are totally innocent. Thus, it is hard to take the actual or potential overinclusiveness of indicative regulation as being any more objectionable than any other form of rule-based regulation, each of which brings the inevitably probability-based evidentiary determination of culpability or liability.

To be clear, our support for regulation by generalization does not diminish our concern with the probability of convicting the innocent or overregulating the adherent. It is to say that there is no reason to believe that the risks of overregulation are more located in evidentiary offenses than in rules generally and in the admission of other forms of fallible evidence. Any regulatory practice will aim to achieve – in light of the potential restriction and the social goals sought to be achieved – an appropriate balance between the Type I errors of overregulation of the innocent and the adherent and the Type II errors of underregulation of the guilty and the violators. This balance will vary across forms of control and across social goals, but it is misguided to think that we eliminate or even reduce the Type I errors by avoiding evidentiary regulation, at least unless we are equally concerned with the Type I errors that emerge from rule-based guidance, from regulatory incompetence and from the epistemological risks of any system of evidence. It is no mistake to try to limit the phenomenon of overregulation, but it is a mistake to believe that there is something about evidentiary or indicative offenses, or regulation by generalization, that make them the prime locus of the problem.

Nor does it follow from the above that regulating purely indicative activity will always or even usually be a wise policy. Especially when the causal relation is absent, it may often be too easy for a potential miscreant to manipulate the system by remedying the indicator while leaving the problematic activity untouched. We do not, after all, want people who operate genuinely unsafe factories to deflect the law's attention just by replacing the broken windows. Indeed, in many cases this possibility will undercut the utility of punishing indicative behavior, where such behavior is not the causal consequence of some genuinely problematic act. Moreover, although, in this essay, we have talked primarily about the probabilistic inference from evidentiary offense to intrinsic wrong, this is mere shorthand for the more comprehensive expected value analysis – weighing the likelihoods and costs of Type I and Type II errors – that would undergird the proper use of any such indicator. Such an analysis would find at times that the proscription of purely indicative behavior will produce valuable rather than perverse incentives. If we treat possession of stolen property as an offense just because it probabilistically indicates theft, most of the people subject to prosecution will have actually committed a theft or knowingly abetted those who have. But even some who are guilty of nothing but stupidity may have reason to alter their behavior in socially desirable ways. If I obtain a flat-screen television off the back of a truck in a New Jersey Turnpike rest area and if I am prosecuted for possession of

stolen property, the likelihood that I have stolen the television will be small, but the likelihood that a regime of such prosecutions will alter the market for stolen goods in socially desirable ways and diminish my abetting behavior is considerably larger.

Conclusion: Expanding the regulatory repertoire

Our basic lesson is that relying on evidentiary, presumed, or indicative offenses is a widely used and often desirable approach to regulating the behavior of individuals and firms. Compared to the alternative of traditional, direct regulation, it may offer a lower sum of Type I plus Type II costs, which implies a superior performance. The two approaches are less different than is commonly believed. Having a criminal or civil penalty rest on an imperfect generalization is less unusual than we have supposed, less abhorrent to justice than numerous courts even to the present day have believed and more properly part of the regulatory repertoire than many people have appreciated.

Evidentiary offenses do create some risk of punishing the genuinely innocent, but so too does virtually every other aspect of any regulatory or punitive system.²³ In an imperfect world such imprecision is inescapable and although it would plainly be desirable to reduce the possibility of wrongful punishment within the constraints of satisfying the other goals that any system of regulation or punishment must serve, there is little reason to believe that serving this goal requires that imperfect generalizations be excluded from determining criminal or civil liability.²⁴ Their use seems inevitable. We owe to Bentham the original conceptualization of the idea of an evidentiary offense, but he appears to have believed mistakenly that evidentiary offenses were an exceptional and uncommon class.

The broader implications of evidentiary offenses can and should inform regulatory practice generally. Typically, regulatory practice identifies the target of concern, assumes that the target will be specified as such in any regulation and then proceeds to inquire into the optimal method of ensuring compliance. Of course, existing regulatory practices examine the relative advantages of *ex ante* and *ex post* regulation, the various institutional forms of enforcement and the size of any penalties, among other issues. But through all of this, the practice of regulatory design continues to assume that if we are concerned about *x*, then we should regulate *x*. But now that we have exposed both the ubiquity and the acceptability of evidentiary offenses, we are better positioned to challenge the assumption that concerns about *x* must be embodied in some form of regulation of *x*. If the regulation of *y* will lead to less *x* and also to lower compliance costs than will the direct regulation of *x*, then there is no a priori reason to exclude the regulation of *y* from the menu of options available for the control of *x*. Regulating *y* to control *x* may strike some people as unjust, especially when some of those who are doing *y* are wholly innocent of “*x*-ing.” But there is nothing unjust about this at all and certainly nothing specially or uniquely or unusually unjust. Such imprecision and its consequences are simply one facet of regulatory design. That facet is like various others that in different ways, neither more nor less severe, are the inevitable concomitants of living effectively in the probabilistic world that we inhabit.

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Notes

- 1 Our analysis is not limited to regulation by the criminal law, but we start with crimes partly because Bentham did, and partly because crimes are the extreme case. If it is acceptable to regulate indirectly through the criminal law, then it is, a fortiori, more acceptable than commonly believed to regulate indirectly through the civil law or other non-criminal forms of regulation.
- 2 Although not discussed by Bentham, the efficiency of such a course of action comes in part from the fact that if the existence of such a law were widely known and if the law were effectively enforced, the market for such stolen property would dry up almost completely.
- 3 The facts of the case, the specialization of Bunis's attorney, and other litigation in which Bunis was involved (*Bunis v. Conway* 1962) provide reason to believe that Bunis was engaged in the sale of pornographic magazines, a type of publication typically retaining more value for its intended audience after the publication date than, say, *Newsweek* or the *Times Literary Supplement*.
- 4 As several commentators had recognized from the outset (Note 1974; Note 1975).
- 5 Of some interest here is *United States v. Fior D'Italia* (2002). The Supreme Court upheld an aggregation estimate approach to imposing social security (FICA) taxes on the tip income of restaurant waiters, with Justice Breyer, speaking for the majority, noting that there is no reason to believe that "individualized employee assessments will inevitably lead to a more 'reasonable' assessment of employer liability than an aggregate estimate" (*Fior D'Italia*, p. 254).
- 6 Partly for reasons of danger to other divers and partly because it was believed to be an unsportsmanlike method of fishing.
- 7 These instincts generate the persistent resistance to statistical evidence in civil and criminal trials, where the preference for "direct" evidence and skepticism about probabilistic evidence reflected in *Smith v. Rapid Transit* (1945) (the inspiration for the famous "blue bus" hypothetical) remains firm. For the flavor of the debate, compare Cohen (1977) and Tribe (1971) with *Kaminsky v. Hertz Corp.* (1979) and Shaviro (1989).
- 8 Related particularist themes emerge in more popularized commentaries on the deficiencies of law (Howard 1994).
- 9 31 U.S.C. §5316 (2002), with implementing details at 31 C.F.R. §103.23(a) (2004).
- 10 Typical is the Florida law providing that anyone possessing more than 28 grams of cocaine is guilty of *trafficking* in cocaine. Florida Statutes §893.135(1)(b)(1) (Suppl. 2002).
- 11 In establishing offenses based on indicators of wrongful behavior, the law uses an implicit model looking at a range of relevant probabilities for three different groups: the guilty, the knowing-innocent and the ignorant-innocent. The question is then one of determining the likelihood that a random individual falls into each group. Similarly, it must be determined how likely it is that a member of each group will engage in the indicator behavior and how likely is it that they will be able to exonerate themselves on close examination. The payoffs to the authorities, for example, "what implicit cost is incurred if an ignorant-innocent is punished?" are then the second component of the model. Thus, establishing the offense will ideally be the product of a determination that false positives are unlikely as well as inexpensive relative to the likelihood and costs of failing to convict those who are guilty. More sophisticated models would look at how likely it is that the bad behavior itself, and not merely its indicator, is deterred. If prohibiting people from carrying more than \$10,000 in undeclared cash does not discourage traveling drug dealers or drug couriers, but merely forces them to hide their cash more effectively, the regulation will have only modest beneficial effect of raising slightly the cost of dealing in drugs.

- 12 Securities and Exchange Act of 1934, §16(b), 15 U.S.C. §78p(b) (2004).
- 13 Indeed, the Supreme Court continues to invalidate criminal laws resting too overtly on irrebuttable presumptions or even presumptions that have the lesser effect of shifting the burden of proof from prosecution to defense for an essential element of an offense. *Mullaney v. Wilbur* (1975) expressed the basic idea, but it is noteworthy that *Mullaney* is roughly contemporaneous with the irrebuttable presumption cases and thus may embody the same particularist instincts. And although the retreat in *Patterson v. New York* (1977) was less dramatic than was the retreat in the irrebuttable presumption cases, the parallel appears significant. For more recent ebbs and flows, see *Apprendi v. New Jersey* (2000); *Francis v. Franklin* (1985); *Sandstrom v. Montana* (1979). For analysis, see Finkelstein (2000) and King and Klein (2001).
- 14 The traditional criminal law distinction between crimes *malum in se* and crimes *malum prohibitum* (see, for example, *Kinney v. State* (1996) and *State v. Horton* (1905)) is of little assistance here. First of all, the distinction now has virtually no legal consequences except in the treatment of unintended killings (LaFave 2000). In addition, even crimes that were traditionally only *malum prohibitum* still required proof that the individual defendant had actually committed the actually prohibited “malum.” Consequently, it was still problematic, as in *Bunis* and *Delmonico*, for example, when someone was charged with an offense that was considered not even a *malum prohibitum*, but only evidence of a *prohibitum*. It is true that one way of understanding an evidentiary offense is as creating the same relation between the evidentiary offense and a *malum prohibitum* as a *malum prohibitum* bears to a *malum in se*, but this way of analyzing (and thus justifying) evidentiary offenses appears to have been recognized neither in the case law nor in the published work.
- 15 The example is a description of behavior that violates §16(b) of the Securities Exchange Act of 1934, an offense aimed at lessening insider trading but which for sales by corporate officers, directors and significant shareholders (10% or more of any class of stock) within a 6-month period requires no insider knowledge whatsoever. 15 U.S.C. §78p(b) (2004).
- 16 The New York Court of Appeals in 1983 did rely on *Bunis* to strike down a law prohibiting the public possession of an opened alcoholic beverage container (*People v. Lee* 1983). But although *Bunis* has not been overruled, the Court of Appeals has subsequently redescribed it as being largely about the lack of proper notice (*People v. Bright* 1988).
- 17 On the circumstances under which a person is charged with knowing the legal requirements even absent actual knowledge, an instructive example is *United States v. Freed* (1971), in which the Supreme Court concluded, not surprisingly, that a defendant might have been on notice that the law did not treat the civilian possession of hand grenades as “an innocent act.” On the knowledge of illegality generally, see Davies (1998).
- 18 Fla. Stat. Ch. 893.135 (1) (2004).
- 19 The umbrella example is part of the rhetorical arsenal of American trial lawyers, who use it to show to jurors the frequent reliability of so-called “circumstantial” evidence. Cf. *United States v. Andrino* (1974) (“Circumstantial evidence is not less probative than direct evidence, and, in some instances, is even more reliable.”).
- 20 We refer to “intrinsic wrongness” here not to take a position on the soundness (or not) of utilitarianism or any other meta-ethical framework. Rather, the phrase is designed to make clear that the analysis here, which may be self-evident to utilitarians, is equally applicable to regulation under non-utilitarian perspectives.
- 21 Here we borrow for different purposes the example in Wilson and Kelling (1982).
- 22 We assume that it would be possible for a workplace to have a large number of accidents for reasons other than the lack of safety of the workplace itself. It might be an unusual month, for example, or a workplace might have more than its share of clumsy workers. Nevertheless, in most cases a high accident rate will not only be indicative of unsafe workplace conditions, but will also have been caused by those unsafe workplace conditions.
- 23 An important analysis on this point is Wertheimer (1978).
- 24 Among those goals is the goal of punishing the guilty and thus “to insure [that] the probability of convicting the innocent really reaches zero may require the willingness to accept a probability of conviction for the guilty which is considerably less than one” (Thurow 1970).

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