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DISASTER TRADEOFFS: THE DOUBTFUL CASE FOR PUBLIC NECESSITY

SUSAN S. KUO*

Abstract: When government takes private property for a public purpose, the Fifth Amendment of the U.S. Constitution requires just compensation. Courts, however, have long recognized an exception to takings law for the destruction of private property when necessary to prevent a public disaster. In those circumstances, unless the state accepts an obligation to pay damages, individuals must bear their own losses. This Article contends that the public necessity defense should be rejected. First, the tight time frame and limited options typical in a disaster response threaten to obscure the crucial role of government in planning for disasters and mitigating vulnerability. Second, and more fundamentally, the deliberate infliction of harm remains wrongful, even if all available alternatives are worse and the situation could not have been averted or ameliorated through proper advance planning. A just compensation rule—whether instituted via statute or judicial reinterpretation of the Fifth Amendment’s Takings Clause—would preserve the government’s emergency powers while reaffirming the rule of law and advancing the interests of social justice.

INTRODUCTION

Although the Fifth Amendment of the U.S. Constitution provides that “private property” shall not “be taken for public use, without just compensation,”¹ the common law defense of public necessity justifies “the destruction of ‘real and personal property, in cases of actual necessity, to prevent the spreading of a fire’ or to forestall other grave threats to the lives and property of others.”² In such cases, an actor need not

* © 2013, Susan S. Kuo, Associate Professor of Law, University of South Carolina School of Law. I thank Josh Eagle, Lisa A. Eichhorn, Melissa Hamilton, Benjamin Means, and Kenneth Rosen for helpful comments and Justin Dixon, Bob Rees, and Michelle Theret for research assistance.

¹ U.S. CONST. amend. V. Just compensation has been interpreted to mean fair market value. See *United States v. Fifty Acres of Land*, 469 U.S. 24, 25 (1984).

² *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1029 n.16 (1992) (citing *Bowditch v. Boston*, 101 U.S. 16, 18–19 (1879)); see also John Alan Cohan, *Private and Public Necessity and the Violation of Property Rights*, 83 N.D. L. REV. 651, 653–56 (2007) (discussing the common law principle of public necessity and noting that it can justify invasion or destruction of private property).

pay for damage done to private property.³ As one court put it, “the individual must yield to the community and accept his losses philosophically.”⁴ To ameliorate the harsh consequences of a common law rule that forces a few individuals to bear costs for the benefit of society, most states have enacted statutes to compensate victims, at least under some circumstances.⁵ The federal government, however, has steadfastly refused to acknowledge any such obligation.⁶

This Article contends that the public necessity defense should not apply to losses occasioned by disaster response.⁷ First, disaster harm typically reflects prior government choices. With all due regard for the time pressure and constrained choices that make disaster response difficult, it is important to ask whether the government failed to engage in appropriate planning and mitigation efforts that would have reduced disaster vulnerability. If so, the exigencies of a disaster should not absolve the government from responsibility when it invades and destroys private property.⁸ For example, many experts believe that the U.S. Forest Service’s long-standing policy of suppressing fires has upset stable ecological patterns in the Southwest and created the conditions for recent wildfire emergencies.⁹ In one recent case, involving damage to properties from fires intentionally set by the Forest Service to combat a

³ See *Lucas*, 505 U.S. at 1029 & n.16. Although public officials are more likely to be in a position to make such tradeoffs, the defense applies as well to private individuals who act to protect the public. See RESTATEMENT (SECOND) OF TORTS § 262 cmt. b (1965).

⁴ *Dunn v. McCoy*, 113 F.2d 587, 589 (3d Cir. 1940).

⁵ See *infra* notes 47–53 and accompanying text.

⁶ See, e.g., *TrinCo Inv. Co. v. United States*, 106 Fed. Cl. 98, 98, 101–02 (2012) (dismissing a takings claim for damages after the U.S. Forest Service “intentionally lit fires in order to manage a group of wildfires”); *Big Oak Farms, Inc. v. United States*, 105 Fed. Cl. 48, 56 (2012) (dismissing a suit in which the plaintiffs claimed that the release of floodwaters constituted a taking).

⁷ Specifically, the Article’s focus is natural disasters; this Article does not consider additional issues that might be implicated in the context of warfare or other intentional disasters. Nor does this Article address whether the public necessity defense should continue to protect individuals who damage private property while acting as Good Samaritans for the benefit of the community.

⁸ See *infra* notes 64–141 and accompanying text.

⁹ See Christopher Joyce, *How the Smokey Bear Effect Led to Raging Wildfires*, NPR (Aug. 23, 2012 6:30 AM), <http://www.npr.org/2012/08/23/159373691/how-the-smokey-bear-effect-led-to-raging-wildfires?sc=17&f=1001> (quoting Craig Allen, a research ecologist with the U.S. Geological Survey, New Mexico, who compared areas in which fires have been suppressed to “caskets of fuel” and noted that “[g]lumpowder has been building up in these things for a century, and now it’s dangerous to try to defuse”); Christopher Joyce, *Why Forest-Killing Megafires Are the New Normal*, NPR (Aug. 23, 2012 2:30 PM), <http://www.npr.org/2012/08/23/159373770/the-new-normal-for-wildfires-forest-killing-megablazes> (noting that, belatedly, the “Forest Service has changed its longstanding policy of ‘no fires’ [because] [i]t realized that the fuel buildup was dangerous”).

wildfire, a court found that “the government is not liable when it destroys property ‘[t]o prevent the spreading of a fire.’”¹⁰ Although the plaintiffs alleged that the background conditions requiring the controlled burn stemmed from the Forest Service’s misguided approach to forest management, the court failed to consider the possibility that the Forest Service was responsible for the conditions that had made the wildfire so dangerous.¹¹

Second, and more fundamentally, the public necessity defense rests upon a consequentialist view of moral obligation.¹² According to this view, whether an action is wrongful depends upon the anticipated consequences measured in terms of aggregate utility. Yet, tradeoffs that involve the deliberate infliction of harm—sacrificing the few to spare the many—remain wrongful even if the available alternatives are worse. For instance, when the U.S. Army Corps of Engineers (“Army Corps”) opened spillways along the Mississippi River in the spring of 2011, inundating farmland in Mississippi, Missouri, and parts of southeast Louisiana, it was of little consolation to the flooded rural communities that a threat to population centers downriver had thereby been averted.¹³

A just compensation rule—whether instituted through statutory abrogation of the public necessity doctrine or judicial reinterpretation

¹⁰ *TrinCo Inv. Co.*, 106 Fed. Cl. at 101 (citing *Omnia Commercial Co. v. United States*, 261 U.S. 502, 508 (1923)).

¹¹ *See id.* at 101–02.

¹² *See* Gabriella Blum, *The Laws of War and the “Lesser Evil,”* 35 *YALE J. INT’L L.* 1, 44 (2010) (discussing the cost-benefit calculations of the consequentialist approach and its focus on the outcome of any given action); *see also* Frank H. Easterbrook, *The Case of the Speluncean Explorers: Revisited*, 112 *HARV. L. REV.* 1913, 1914 (1999) (arguing that like “all of the lesser-evil justifications, necessity is openly utilitarian”).

¹³ *See* Melanie Eversley & Rick Jervis, *Missouri Farmers Return to “Ocean,”* *USA TODAY*, May 12, 2011, at 3A; *see also* Melanie Eversley, *Mo. Farmers Return to Lands Ruined by Blown Levee*, *USA TODAY* (May 12, 2011, 4:44 PM), http://usatoday30.usatoday.com/news/nation/2011-05-11-farmers-return-to-flooded-fields-missouri_n.htm (quoting a Missouri farmer who said, “I feel we were sacrificial lambs in this They have treated us much more cruelly than Mother Nature has ever done.”).

For example, one pending class action comprised of Louisiana residents seeks to establish that the Army Corps’s destruction of levees was a taking entitling the residents to just compensation for their losses. *See* First Amended Class Action Complaint at 2, *Quebedeaux v. United States*, No. 11-389L (Fed. Cl. Sept. 21, 2011) (alleging “intentional diversion of flood water from the Mississippi River into the Atchafalaya River basin through the Morganza Floodway,” thereby damaging or destroying the plaintiffs’ property); *see also* Second Amended Class Action Complaint at 2, *Big Oak Farms*, 105 Fed. Cl. 48 (No. 1:11-CV-00275-NBF) (seeking just compensation “for the taking of property owned by them when the United States Army Corps of Engineers elected to operate the Birds Point-New Madrid Floodway by destroying with explosives large portions of the frontline levee thereby inundating and destroying crops, property, businesses, buildings, and infrastructure with flood waters and accompanying sand and gravel”).

of the Fifth Amendment's Takings Clause—would preserve the federal government's latitude to respond to disasters in the public interest.¹⁴ Individual property owners, however, would not be forced to subsidize collective benefits enjoyed by others.¹⁵ Indeed, requiring the state to compensate individuals for economic loss would provide some assurance that disaster tradeoffs were meant to maximize aggregate welfare and not to protect powerful constituencies.¹⁶ Moreover, because disaster harms register preexisting conditions of social inequality, disaster law and policy cannot be separated from broader questions of social justice. In sum, compensating harms caused by disaster tradeoffs has practical and moral advantages.

This Article proceeds as follows. Part I explains how the common law defense of public necessity shields the government from liability for actions taken during disaster response that would otherwise constitute a taking of private property for a public purpose.¹⁷ Part II uses the "trolley problem" scenario from moral philosophy to uncover the justificatory framework for public necessity, and contends that the analysis should also encompass a broader understanding of the causal factors underlying

¹⁴ In other words, the rule would mirror current takings law in that the government would have substantial discretion to convert private property as necessary to serve the public interest so long as it was willing to compensate the owners for their loss. See *First English Evangelical Lutheran Church of Glendale v. Cnty. of L.A.*, 482 U.S. 304, 314 (1987) (holding that the Fifth Amendment "does not prohibit the taking of private property, but instead places a condition on the exercise of that power").

¹⁵ In some cases, a property owner's harm may be offset in whole or in part by private insurance, if available, or by federally supported programs such as national flood insurance. See, e.g., NFIP, *About the National Flood Insurance Program*, FLOODSMART.GOV, http://www.floodsmart.gov/floodsmart/pages/about/nfip_overview.jsp (last visited Jan. 7, 2013). Many standard policies exclude damages caused by governmental action, however, including "the destruction, confiscation or seizure of property." INS. SERVS. OFFICE, INC., HOMEOWNERS 3—SPECIAL FORM 12 (1999), available at http://www.insuringflorida.org/assets/docs/pdf/HIO3_sample.pdf; see *Home Insurance Exclusions: What Your Policy Won't Cover*, INSURED.COM, <http://www.insure.com/home-insurance/exclusions.html> (last visited Jan. 7, 2013). Also, some poorer residents of at-risk communities live on fixed incomes and cannot afford insurance premiums even at subsidized rates. Nevertheless, the question of moral hazard arises if a landowner could have insured the property against the type of harm incurred and chose not to do so. One possible solution would be for mortgage lenders to make flood insurance a condition of the loan; a detailed discussion of insurance coverage issues, however, lies beyond the scope of this Article.

¹⁶ This is a matter of Kaldor-Hicks efficiency. Unlike Pareto efficiency, which only sanctions a shift in resources when the change benefits some party and harms no other party, Kaldor-Hicks efficiency includes changes that benefit some at the expense of others, so long as the injured parties could be fully compensated from the winners' surplus while still leaving the winners better off. See RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 13 (7th ed. 2007).

¹⁷ See *infra* notes 21–53 and accompanying text.

ing disaster.¹⁸ Part III argues that, regardless of justification, deliberately harming innocent people is wrongful and creates a moral obligation to compensate the victims.¹⁹ Part IV responds to the objection that public officials need broad police power to protect the public from disaster harm.²⁰ In fact, the availability of compensation would affirm the rule of law without diminishing the government's power to address crises in a timely and effective manner. Furthermore, the disparate consequences of recent flooding underscore the need to situate disaster law and policy within a broader, sustained effort to achieve social justice.

I. A NECESSARY EVIL

Natural disasters cause sudden, widespread, and catastrophic damage.²¹ In some cases, public officials in charge of disaster response may face a choice of evils, in which intervening to protect the public requires the destruction of private property.²² This scenario is particularly likely to arise in cases of flood, fire, and epidemic. For instance, fed by record rainfall in 2011, the Mississippi River threatened to breach the levee system built to contain it and forced a "bitter but necessary trade-off."²³ In order to protect more populated areas, the Army Corps acted pursuant to its statutory authority over the nation's navigable waterways²⁴ and opened floodgates to divert water toward rural communities and farmland.²⁵

¹⁸ See *infra* notes 54–141 and accompanying text.

¹⁹ See *infra* notes 142–232 and accompanying text.

²⁰ See *infra* notes 233–286 and accompanying text.

²¹ See *What Is a Disaster?*, INT'L FED'N RED CROSS AND RED CRESCENT SOC'YS, <http://www.ifrc.org/en/what-we-do/disaster-management/about-disasters/what-is-a-disaster> (last visited Jan. 7, 2013) (describing disaster as "a sudden, calamitous event that seriously disrupts the functioning of a community or society and causes human, material, and economic or environmental losses that exceed the community's or society's ability to cope using its own resources").

²² See Jim Chen, *Modern Disaster Theory: Evaluating Disaster Law as a Portfolio of Legal Rules*, 25 EMORY INT'L L. REV. 1121, 1140 (2011) (describing disaster law as risk management decision making); Cohan, *supra* note 2, at 725–28; see also DANIEL A. FARBER & JIM CHEN, *DISASTERS AND THE LAW: KATRINA AND BEYOND*, at xix (2006) (asserting that disaster law "is about assembling the best portfolio of legal rules to deal with catastrophic risks—a portfolio that includes prevention, emergency response, compensation and insurance, and rebuilding strategies").

²³ See Campbell Robertson, *Areas Will Be Flooded to Protect Louisiana Cities*, N.Y. TIMES, May 14, 2011, at A13; see also JOHN M. BARRY, *RISE AND FALL: THE GREAT MISSISSIPPI FLOOD OF 1927 AND HOW IT CHANGED AMERICA* 78–92 (1997) (providing an overview of flood control efforts along the Mississippi River).

²⁴ See Flood Control Act of 1936, 33 U.S.C. §§ 701a–701b (2006) (assigning the Army Corps primary flood control responsibility for the nation's navigable waterways). Further

Under existing law, the federal government has no obligation to compensate the affected landowners for their loss.²⁶ Section A of this Part explains that the U.S. Supreme Court has long recognized the common law doctrine of public necessity as an exception to the principle of just compensation embedded in constitutional takings law.²⁷ Nonetheless, the common law approach to necessity applies only in the absence of specific legislation, and Section B reviews state statutes that provide redress for damage to private property caused by public disaster response.²⁸

A. *The Public Necessity Exception*

The underlying purpose of the Fifth Amendment's Takings Clause is "to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole."²⁹ According to the common law doctrine of public ne-

legislation has reaffirmed the Army Corps's flood control mission while adding additional responsibilities, including irrigation, navigation, recreation, and other water resource projects. See Water Resources Development Act of 2007, Pub. L. No. 110-114, 121 Stat. 1041 (codified as amended in scattered sections of 16, 33, and 42 U.S.C.); Federal Water Project Recreation Act of 1965, 16 U.S.C. §§ 4601-4602 (2006); Water Supply Act of 1958, 43 U.S.C. § 390b (2006). Other federal legislation also affects the use and management of navigable waters. See, e.g., Endangered Species Act of 1973, Pub. L. No. 93-205, 87 Stat. 884 (codified as amended in scattered sections of 7 and 16 U.S.C.); Federal Water Pollution Control Amendments of 1972 (Clean Water Act), Pub. L. No. 92-500, 86 Stat. 816 (codified as amended in scattered sections of 12, 15, and 33 U.S.C.); Fish and Wildlife Coordination Act of 1958, Pub. L. No. 85-624, 72 Stat. 563 (codified as amended in scattered sections of 16 U.S.C.); National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321-4347 (2006).

²⁵ See Robertson, *supra* note 23. Local officials acquiesced, given that "the choice [was] between bad flooding in one part of Louisiana, or potentially catastrophic flooding in another." See Campbell Robertson, *Louisiana's Dilemma: Bad Flooding, or Worse*, N.Y. TIMES, May 13, 2011, at A14. The flooding impacted approximately 2500 people and "thousands of acres of farmland." *Id.*

²⁶ The Flood Control Act of 1928 specifically states: "No liability of any kind shall attach to or rest upon the United States for any damage from or by floods or flood waters at any place." 33 U.S.C. § 702c. The Act further provides that "the United States shall provide flowage rights for additional destructive flood waters that will pass by reason of diversions from the main channel of the Mississippi River." *Id.* § 702d. The flowage easements to be obtained in advance of any flooding, however, are not equal to the fair value of the property. *Id.* Moreover, the Act states that "in all cases where the execution of the flood control plan herein adopted results in benefits to property such benefits shall be taken into consideration by way of reducing the amount of compensation to be paid." *Id.* In other words, even though the Army Corps might someday open the spillway and flood private land, the advance price for permission to do so is reduced to reflect the interim benefit to the property from its proximity to a national levee system.

²⁷ See *infra* notes 29-45 and accompanying text.

²⁸ See *infra* notes 46-53 and accompanying text.

²⁹ *Armstrong v. United States*, 364 U.S. 40, 49 (1960).

cessity, however, “one has a complete privilege to destroy, damage, or use real or personal property if the actor reasonably believes it to be necessary to avert an imminent public disaster.”³⁰ Broadly defined, public necessity includes war and “emergencies such as fire, pestilence, police activities in apprehending criminal suspects, and other exigencies in which government officials or private individuals take action to avert a public danger.”³¹

In cases of public necessity, “the majority view is that there is no duty to pay compensation.”³² Thus, in the 1879 decision, *Bowditch v. Boston*, the U.S. Supreme Court stated that “[f]or the Commonwealth a man shall suffer damage, as for saving a city or town a house shall be plucked down if the next one be on fire; and a thing for the Commonwealth every man may do without being liable to an action.”³³ For reasons not clearly explained, and apparently contrary to the spirit of the Takings Clause, those unfortunate enough to lose their property to a disaster response must bear the loss alone.³⁴

Recent cases in the U.S. Court of Federal Claims have reaffirmed this principle.³⁵ For instance, in the 2012 case, *TrinCo Investment Co. v. United States*, “the Forest Service lit a number of fires on or adjacent to plaintiffs’ properties” in order to manage wildfires.³⁶ The plaintiffs alleged that the Forest Service’s fires caused the damage and that the

³⁰ RESTATEMENT (SECOND) OF TORTS § 196 (1965); W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 24 (5th ed. 1984). A “public disaster” includes events “such as a conflagration, flood, earthquake, or pestilence.” See RESTATEMENT (SECOND) OF TORTS § 196 cmt. a (1965).

³¹ Cohan, *supra* note 2, at 691; see also *United States v. Caltex*, 344 U.S. 149, 154 (1952) (noting that “the common law had long recognized that in times of imminent peril—such as when fire threatened a whole community—the sovereign could, with immunity, destroy the property of a few that the property of many and the lives of many more could be saved”).

³² Cohan, *supra* note 2, at 691; see also *Ralli v. Troop*, 157 U.S. 386, 405 (1895) (noting that the right of public officers or private individuals to destroy houses to prevent fire from spreading rests on public necessity, and, absent a statute explicitly requiring otherwise, does not bind actors to compensate, or even contribute to, the loss).

³³ 101 U.S. at 18 (citation omitted). In *Bowditch*, the common law had been modified by a state statute that specifically authorized recovery, but its procedural requirements had not been met and the plaintiff was denied recovery pursuant to the background common law principles. See *id.* at 20–21.

³⁴ See *Armstrong*, 364 U.S. at 49. According to Justice Oliver Wendell Holmes, the exception to takings law for public necessity appears to “stand as much upon tradition as upon principle.” *Pa. Coal Co. v. Mahon*, 260 U.S. 393, 415–16 (1922).

³⁵ See *TrinCo Inv. Co.*, 106 Fed. Cl. at 101; *Big Oak Farms*, 105 Fed. Cl. at 59. The Court of Federal Claims has jurisdiction to hear takings claims under the Tucker Act. See 28 U.S.C. § 1491(a) (2006 & Supp. IV 2011).

³⁶ 106 Fed. Cl. at 98–99.

wildfires would not have damaged the plaintiffs' property.³⁷ Assuming the truth of the facts alleged, the court accepted the government's principal argument that disaster response falls outside the Takings Clause.³⁸ Accordingly, allegations that the government intentionally set fires that damaged the plaintiffs' property failed to state a claim.³⁹

Similarly, the plaintiffs failed to state a claim in another 2012 case, *Big Oak Farms, Inc. v. United States*, which involved allegations that the U.S. government took plaintiffs' "property without just compensation in violation of the Fifth Amendment . . . by breaching the levee that protected plaintiffs' property with explosives, unleashing a flood"⁴⁰ The Court of Federal Claims dismissed the claim, despite specific allegations concerning the destruction of homes, crops, and farmland,⁴¹ in part because "[w]here, as here, plaintiffs' claim is based on a single flood that has since receded, plaintiffs have not stated a takings claim."⁴²

Although the Takings Clause does not explicitly overrule the common law defense of public necessity, the defense conflicts at a basic level with a principle that requires the government to pay just compensation when it conscripts private property to a public purpose.⁴³ Indeed, the just compensation principle seems squarely at issue when the state seeks to advance public purposes that benefit the community in aggregate by imposing ruinously high costs on a subset of vulnerable, private individuals. The legitimacy of the public purpose is not at issue; rather, the question is why private landowners should be barred from seeking compensation for their losses. Takings jurisprudence, however, has never been a model of clarity,⁴⁴ and the public necessity exception may be simply another case in point.⁴⁵

³⁷ *Id.*

³⁸ *Id.* at 101–02.

³⁹ *Id.*

⁴⁰ 105 Fed. Cl. at 49.

⁴¹ See Second Amended Class Action Complaint, *supra* note 13, at 11–12.

⁴² *Big Oak Farms*, 105 Fed. Cl. at 56. The harm, in other words, was neither permanent nor regularly recurring. See *Ridge Line, Inc. v. United States*, 346 F.3d 1346, 1357 (Fed. Cir. 2003).

⁴³ See, e.g., *United States v. Jones*, 109 U.S. 513, 521 (1883); *Miss. & Rum River Boom Co. v. Patterson*, 98 U.S. 403, 406 (1878); *Pumpelly v. Green Bay & Miss. Canal Co.*, 80 U.S. (13 Wall.) 166, 181 (1871) (holding that a dam that had caused economic damage was a taking because the land in question was "actually invaded by superinduced additions of water, earth, sand, or other material").

⁴⁴ See, e.g., Frank I. Michelman, *Property, Utility, and Fairness: Comments on the Ethical Foundations of "Just Compensation" Law*, 80 HARV. L. REV. 1165, 1170 (1967) (contending that takings law is "liberally salted with paradox"); Jeremy Paul, *The Hidden Structure of Takings Law*, 64 S. CAL. L. REV. 1393, 1524 (1991) (describing the doctrinal "chaos" of takings jurisprudence); Andrea L. Peterson, *The Taking Clause: In Search of Underlying Principles Part*

B. Statutory Redress

Whether or not the Supreme Court revisits the public necessity exception to the Takings Clause, public responsibility for damage to private landowners need not track the outer boundaries of what the Constitution permits.⁴⁶ Rather than rely upon the common law defense of public necessity, most states have enacted laws to clarify the government's powers in the context of disaster response and to provide some measure of compensation if the government seizes or destroys private property.⁴⁷ Only a handful of states have either passed laws that do not

I—A Critique of Current Takings Clause Doctrine, 77 CALIF. L. REV. 1299, 1303–04 (1989) (stating that takings law is “in far worse shape than has generally been recognized”); Carol M. Rose, Mahon Reconstructed: *Why the Takings Issue Is Still a Muddle*, 57 S. CAL. L. REV. 561, 561 (1984) (finding the law of takings a “muddle”); Joseph L. Sax, *Takings and the Police Power*, 74 YALE L.J. 36, 37 (1964) (cataloguing “a welter of confusing and apparently incompatible results”).

⁴⁵ For an argument that the Takings Clause should include necessity, see Derek T. Muller, Note, “*As Much Upon Tradition as Upon Principle*”: *A Critique of the Privilege of Necessity Destruction Under the Fifth Amendment*, 82 NOTRE DAME L. REV. 481, 482–84 (2006). The author’s analysis is consistent with the approach advocated in this Article, but narrower as it is limited to questions of constitutional interpretation and does not address the substantive content of the public necessity exception or broader questions of moral justification. See *id.*

⁴⁶ Indeed, in particular cases (including the terrorist attacks of September 11, 2001), the government has established a fund for victims, but these payments are purely discretionary. See Julie Goldscheid, *Crime Victim Compensation in a Post-9/11 World*, 79 TUL. L. REV. 167, 196–99 (2004).

⁴⁷ See ALA. CODE § 31-9-8 (2011); ALASKA STAT. ANN. § 26.23.160 (West 2010); ARIZ. REV. STAT. ANN. § 26-303 (2000 & Supp. 2011); ARK. CODE ANN. § 12-75-124 (2003 & Supp. 2011); CAL. GOV’T CODE § 8572 (West 2012); COLO. REV. STAT. § 24-33.5-711.5 (2012); CONN. GEN. STAT. ANN. § 28-11 (West 2009); DEL. CODE ANN. tit. 20, § 3145 (2005); FLA. STAT. ANN. § 252.43 (West 2009 & Supp. 2012); IDAHO CODE ANN. § 46-1012 (2003); 20 ILL. COMP. STAT. ANN. 3305/7 (West 2008); IND. CODE ANN. § 10-14-3-31 (LexisNexis 2003); IOWA CODE ANN. § 29C.6 (West 2010 & Supp. 2011); KAN. STAT. ANN. § 48-933 (2005); KY. REV. STAT. ANN. § 39A.110 (LexisNexis 1998); LA. REV. STAT. ANN. § 29:730 (2007); ME. REV. STAT. ANN. tit. 37-B, § 821 (2001); MD. CODE ANN., PUB. SAFETY § 14-107 (LexisNexis 2006); MICH. COMP. LAWS ANN. § 30.406 (West 2004); MINN. STAT. § 12.34 (2010); MISS. CODE ANN. § 33-15-11 (2010); MO. ANN. STAT. § 44.100 (West Supp. 2011); NEB. REV. STAT. ANN. § 81-829.57 (LexisNexis 2011); NEV. REV. STAT. § 414.070 (2011); N.H. REV. STAT. ANN. § 4:46 (2012); N.J. STAT. ANN. § A:9-51 (West 2006 & Supp. 2012); N.C. GEN. STAT. § 166A-11 (2011); N.D. CENT. CODE § 37-17.1-12 (2004 & Supp. 2011); OR. REV. STAT. § 401.192 (2011); 35 PA. CONS. STAT. ANN. § 7301 (West 1988); R.I. GEN. LAWS ANN. §§ 30-15-9, 30-15-11 (West 1994 & Supp. 2011); TENN. CODE ANN. § 58-2-115 (2002); TEX. GOV’T CODE ANN. § 418.152 (West 2012); VT. STAT. ANN. tit. 20, § 11 (2011); W. VA. CODE ANN. § 15-5-6 (LexisNexis 2009).

include a provision for compensation⁴⁸ or appear not to have any applicable statutory provisions.⁴⁹

Among the majority of states that provide for compensation, the government conduct subject to compensation varies considerably. For instance, a number of states, using substantially identical language, provide as a general matter that “[c]ompensation for property shall be owed . . . if the property was commandeered or otherwise used in coping with an emergency and its use or destruction was ordered by the Governor or a member of the emergency forces of this state.”⁵⁰ Yet, those states’ statutes exclude the most common circumstances in which private property might be seized:

Nothing in this section applies to or authorizes compensation for the destruction or damaging of standing timber or other property in order to provide a firebreak or damage resulting from the release of waters or the breach of impoundments in order to reduce pressure or other danger from actual or threatened flood or applies to or authorizes compensation beyond the extent of funds available for such compensation.⁵¹

By contrast, other states provide for just compensation, regardless of the specific emergency. Connecticut, for example, authorizes the governor to commandeer private property as necessary for disaster response, but provides in all cases that “[t]he owner of any property taken under this section shall receive just compensation.”⁵² Likewise, Mississippi’s governor may “commandeer or utilize any private property if necessary to cope with a disaster or emergency, provided that such private property . . . shall be paid for under terms and conditions agreed upon by the participating parties.”⁵³

⁴⁸ See D.C. CODE § 7-2206 (LexisNexis 2001); GA. CODE ANN. § 38-3-51 (2012); HAW. REV. STAT. ANN. § 128-10.3 (LexisNexis 2009 & Supp. 2011); N.Y. EXEC. LAW § 29 (McKinney 2010 & Supp. 2012); VA. CODE ANN. § 44-146.23 (2002 & Supp. 2012).

⁴⁹ Research did not uncover statutes on point for Massachusetts, New Mexico, Ohio, South Carolina, Washington, Wisconsin, or Wyoming. See *supra* notes 47–48 and accompanying text.

⁵⁰ See FLA. STAT. ANN. § 252.43(3); accord ARK. CODE ANN. § 12-75-124(c) (discussing compensation in very similar language); LA. REV. STAT. ANN. § 29:730(E) (using substantially identical language about compensation).

⁵¹ FLA. STAT. ANN. § 252.43(6); accord ARK. CODE ANN. § 12-75-124(f) (providing exceptions to compensation in very similar language); LA. REV. STAT. ANN. § 29:730(H) (using substantially identical language about exceptions to compensation).

⁵² CONN. GEN. STAT. ANN. § 28-11(d).

⁵³ MISS. CODE ANN. § 33-15-11(c)(3) (2010).

As the varying state approaches make clear, there is nothing ineluctable about public necessity doctrine. Congress has the power to legislate in this area and could supplement existing disaster laws aimed at relief and recovery with a provision to compensate private individuals whose land has been damaged or destroyed in order to protect the public good. Such legislation would supplant the common law and lessen the burden on courts by providing an administrative framework for processing such claims.

II. CONSEQUENTIALIST JUSTIFICATIONS

This Part explores consequentialist justifications of the common law public necessity defense and offers a preliminary critique. In particular, if an assessment and potential justification of disaster response is to turn on consequences, then the scope of the inquiry should capture all choices causally related to those consequences, including decisions that can precipitate or defuse disasters. A narrow focus on what necessity requires in the context of a specific emergency response fails to account for the broader role of the state and its concomitant responsibilities. Unlike private actors, lawmakers and responsible officials must plan in advance for disaster—not only to set priorities for tradeoffs among harms, but also to mitigate vulnerability. Section A of this Part argues that the defense of public necessity, as it is usually conceptualized, bears a strong resemblance to the trolley problem studied in moral philosophy.⁵⁴ In particular, necessity arises under time-constrained circumstances with restricted options and represents the best outcome among imperfect options. Section B contends, however, that such trolley problems are artificial by design and that a public necessity justification for disaster tradeoffs should, at a minimum, encompass a broader understanding of the causal factors underlying disaster.⁵⁵

A. *The Trolley Car Tradeoff*

In their basic structure, disaster tradeoffs that require an actor to cause harm in order to avoid greater harms resemble the well-known trolley problem. In this problem, a trolley's brakes have failed, and the driver can either stay on course, in which case several people will die, or else switch tracks and cause only one death. Here is the classic account of the driver's dilemma:

⁵⁴ See *infra* notes 56–63 and accompanying text.

⁵⁵ See *infra* notes 64–141 and accompanying text.

Suppose you are the driver of a trolley. The trolley rounds a bend, and there come into view ahead five track workmen, who have been repairing the track. The track goes through a bit of a valley at that point, and the sides are steep, so you must stop the trolley if you are to avoid running the five men down. You step on the brakes, but alas they don't work. Now you suddenly see a spur of track leading off to the right. You can turn the trolley onto it, and thus save the five men on the straight track ahead. Unfortunately . . . there is one track workman on that spur of track. He can no more get off the track in time than the five can, so you will kill him if you turn the trolley onto him. Is it morally permissible for you to turn the trolley?⁵⁶

Whether the hazard involves a flood, a fire, or a trolley car, the moral dilemma is substantially the same: remain passive, or intervene, thereby sacrificing bystanders in order to reduce the overall losses. Just as the trolley driver's choice determines who lives and who dies, disaster harms may depend upon the priorities of public officials. Thus, the trolley problem can inform the moral choices that arise during a disaster when public officials must decide whether to cause (or fail to prevent) harm, be it the loss of life, liberty, or property, in order to avoid greater harms.⁵⁷

Most people who evaluate the basic trolley scenario conclude that the driver may turn the car in order to save five helpless track workers,

⁵⁶ Judith Jarvis Thomson, *The Trolley Problem*, 94 YALE L.J. 1395, 1395 (1985) (citing Philippa Foot, *The Problem of Abortion and the Doctrine of the Double Effect*, in VIRTUES AND VICES AND OTHER ESSAYS IN MORAL PHILOSOPHY 19 (1978)). It is not clear why trolley cars are taken to be emblematic of this kind of reasoning, but they do seem to spur the imagination. See, e.g., MIKHAIL BULGAKOV, *THE MASTER AND MARGARITA* 214 (Mirra Ginsburg trans., Grove Press 1995) (1967) (“Outright! I saw it. Would you believe it—one, and his head was off! The right leg—crunch, and in half! The left—crunch, and in half! That’s where those streetcars get you!”).

⁵⁷ In addition to tradeoffs between persons, tradeoffs can also occur between values—for instance, the extent to which we are willing to compromise our collective liberty to secure our collective safety. Benjamin Franklin famously declared, “Those who would give up *essential Liberty*, to purchase a little *temporary Safety*, deserve neither *Liberty* nor *Safety*.” BENJAMIN FRANKLIN, *AN HISTORICAL REVIEW OF PENNSYLVANIA, FROM ITS ORIGIN* 289 (Philadelphia, E. Olmstead & W. Power 1812). Notably, Franklin did not discount safety’s value but only asserted that sacrificing an “essential” value for a “temporary” benefit is unwise. See *id.* We would have to venture beyond the rhetoric of his maxim to assess whether a particular infringement impairs an “essential” liberty interest or whether the benefit will likely endure so as to warrant that infringement.

even though changing tracks will cost the other worker his life.⁵⁸ Despite the moral principle that it is wrong to cause harm to another person, let alone deliberately kill that person,⁵⁹ utilitarian considerations prevail.⁶⁰ Applying the same calculus, it seems that public officials acted properly in responding to recent flood conditions on the Mississippi River by breaching levees to divert water into rural areas in order to save densely populated cities.⁶¹

The justificatory framework is consequentialist, rather than deontological, because it focuses on the sum of the benefits to be achieved by an action and does not set any absolute limits based on fundamental notions of right and wrong. For instance, as one commentator has observed, “If rescue workers must choose between groups of thirty and five equally blameless people trapped in mine shafts, or caught in a burning apartment building, or floundering in the sea, most people think they ought to save the larger group straightaway.”⁶² If the question posed is whether to save more people or fewer people, the answer seems obvious.⁶³

⁵⁸ See, e.g., Thomson, *supra* note 56, at 1395–96; Tim Stelzig, Comment, *Deontology, Governmental Action, and the Distributive Exemption: How the Trolley Problem Shapes the Relationship Between Rights and Policy*, 146 U. PA. L. REV. 901, 932–33 (1998). Opinions vary as to whether this decision is mandatory or merely morally acceptable. See *id.*

⁵⁹ See Eyal Zamir & Barak Medina, *Law, Morality, and Economics: Integrating Moral Constraints with Economic Analysis of Law*, 96 CALIF. L. REV. 325, 325–26 (2008) (citing JOHN RAWLS, *A THEORY OF JUSTICE* 26 (rev. ed. 1999) (1971)) (“Deontological moral theories hold that whereas the goodness of outcomes counts, it is not the only morally relevant factor. . . . Certain acts are inherently wrong and are therefore impermissible even as a means to furthering the overall good.”).

⁶⁰ See Alan Brudner, *A Theory of Necessity*, 7 OXFORD J. LEGAL STUD. 339, 341 (1987) (noting that the “theory of necessity as justification has traditionally been formulated in utilitarian terms”); see also Joe Mintoff, *Can Utilitarianism Justify Legal Rights with Moral Force?*, 151 U. PA. L. REV. 887, 909 (2003) (“[U]tilitarianism claims that the final moral end is the promotion of human welfare.”). Utilitarianism is a form of consequentialist reasoning. See Zamir & Medina, *supra* note 59, at 329 (defining “consequentialism” as “a normative theory that ultimately determines the morality of an act or a rule (or anything else) only through its consequences, and which rests on a theory of the good that takes into account the well-being of every person”).

⁶¹ See Eric Rakowski, *Taking and Saving Lives*, 93 COLUM. L. REV. 1063, 1063–67 (1993) (discussing the utilitarian approach and applying it to hypotheticals). One potential weakness in the analogy is that the trolley hypothetical stipulates the relevant facts, whereas the outcome of different decisions in the context of disaster may be uncertain. Cf. David Luban, *Liberalism, Torture, and the Ticking Bomb*, 91 VA. L. REV. 1425, 1426–28 (2005) (con- testing the use of “ticking bomb” hypotheticals to justify torture).

⁶² Rakowski, *supra* note 61, at 1063.

⁶³ But see *infra* notes 142–232 and accompanying text (posing scenarios that challenge this moral intuition).

At this point, though, it may be useful to distinguish the decision set available to an actor in the midst of an emergency and the full panoply of planning, mitigation, and response decisions that a state actor will make (or fail to make) over time. To the extent that public necessity is measured at the time of emergency, the trolley problem provides a helpful account of the salient issues that must be evaluated. As the next Section illustrates, however, a complete necessity defense requires an actor to have been without fault. Accordingly, application of the public necessity defense should include consideration of the state's broader responsibility for conditions that may have contributed to the crisis.

B. A Broader Perspective

The radical simplicity of the trolley problem, if taken as representative of moral decision making, threatens to obscure the doctrinal difficulties inherent in applying the concept of necessity to public choices. Specifically, the decisionmaker in a trolley problem cannot address the factors that led to the emergency or devise alternate solutions; the purpose of the thought experiment is to pose terrible alternatives under compressed time circumstances.⁶⁴ All other considerations are stipulated away.⁶⁵

Public disaster decision making illustrates the difference. Government deliberations can be perceived in terms of the immediacy of a trolley problem if courts, in considering claims of public necessity, evaluate only the decisions made during a disaster emergency.⁶⁶ Yet, notwithstanding this myopic view of disaster tradeoffs, public officials can act to mitigate disaster vulnerability through careful planning, thereby reducing the likelihood that tradeoffs will become necessary.⁶⁷ Or, as with the flawed plan to suppress all forest fires, government error can exacerbate

⁶⁴ See MICHAEL J. SANDEL, *JUSTICE: WHAT'S THE RIGHT THING TO DO?* 24 (2009).

⁶⁵ See *id.*

⁶⁶ See, e.g., *TrinCo Inv. Co. v. United States*, 106 Fed. Cl. 98, 101 (2012) (dismissing a takings claim for damage caused by a fire set by the U.S. Forest Service to manage a wildfire, despite the plaintiffs' argument that wildfires had become much more severe as a result of prior, misguided Forest Service fire suppression efforts); *Big Oak Farms, Inc. v. United States*, 105 Fed. Cl. 48, 57–58 (2012) (dismissing a takings claim premised on the government's release of floodwaters).

⁶⁷ For instance, the Federal Emergency Management Agency (FEMA) promulgated the National Disaster Recovery Framework in an effort to coordinate disaster recovery plans at the federal, state, and local levels. See generally FEMA, *NATIONAL DISASTER RECOVERY FRAMEWORK* (2011), available at <http://www.fema.gov/pdf/recoveryframework/ndrf.pdf> (describing the concepts and principles that promote effective recovery assistance).

natural hazards and make it necessary for government to intervene in ways that cause harm.⁶⁸

The state's comprehensive responsibility for disaster response extends beyond the immediate crisis encapsulated by the trolley car dilemma. Accordingly, an evaluation of the defense of public necessity should include the state's responsibility, if any, for the factors that led to the crisis and the adequacy of its plans concerning tradeoffs that might become necessary. Two examples of disaster tradeoffs involving Mississippi River flooding will suffice to illustrate the importance of a broader perspective.

1. Drowning St. Bernard and Plaquemines

The first modern flood control laws were enacted only after the Great Mississippi Flood of 1927 made it painfully clear that the existing patchwork of state oversight was grossly inadequate for the task.⁶⁹ As a matter of constitutional law, it had by no means been evident that the federal government should have a substantial role. In 1824, in *Gibbons v. Ogden*, the U.S. Supreme Court held that the Commerce Clause gives the federal government authority to maintain navigable waters and to prohibit restrictions on transportation among the states.⁷⁰ The extension of that authority to matters such as flood prevention, however, was not clarified, and the overall extent of federal power under the Constitution was interpreted narrowly. Perhaps as a consequence, flood control efforts focused on levee construction on the theory that levees would increase the river's flow, deepening the channels and improving navigability, an idea adopted despite the fact that it had been rejected decisively by engineering experts.⁷¹

⁶⁸ For example, in the 2012 case, *TrinCo Investment Co. v. United States*, the U.S. Court of Federal Claims noted that "one of the [alleged] objectives of this management was 'the reduction of fuel buildup on national forest lands which had accumulated under the Forest Service's historical fire abatement policy.'" 106 Fed. Cl. at 99 (citing the plaintiffs' complaint).

⁶⁹ See JAMES M. WRIGHT, ASS'N OF STATE FLOODPLAIN MANAGERS, *THE NATION'S RESPONSES TO FLOOD DISASTERS: A HISTORICAL ACCOUNT* 9 (2000), available at http://www.floods.org/PDF/hist_fpm.pdf. A flood happens when "water runoff from the land exceeds the capacity of the stream channel." *Id.* at 3 (noting that floodwaters bring many benefits as they replenish earth and refresh underground springs). Like other natural disasters, floods are problematic "only when humans occupy space that streams require for their own natural flood patterns." *See id.*

⁷⁰ 22 U.S. (9 Wheat.) 1, 22 (1824) ("The United States possess[es] the general power over navigation, and, of course, ought to control, in general, the use of navigable waters.").

⁷¹ See JOSEPH L. ARNOLD, *THE EVOLUTION OF THE 1936 FLOOD CONTROL ACT* 5 (1988) ("[L]egislation relating to navigation improvements . . . was promptly passed, while flood

In the spring of 1927, unusual amounts of rainwater saturated the soil and fed the Mississippi River, causing severe flooding that displaced hundreds of thousands of people.⁷² At its peak, the flood affected seven states and engulfed 26,000 square miles.⁷³ The flooding was exacerbated by the Army Corps's exclusive reliance on levees, which ignored scientific evidence that blocking the river would only escalate its flow and raise its level.⁷⁴ In New Orleans, residents watched the rising water warily and read about flooding upriver with growing concern.⁷⁵ An independent hydraulics engineer monitoring the situation issued a report to a prominent newspaper publisher identifying serious weaknesses in the city's defenses, yet also noted that, "paradoxically, a great flood would not threaten the city because it was certain to overwhelm levees upriver."⁷⁶ In that case, the waters would "spread over the land, lower the flood height at New Orleans, and eliminate any danger for the city."⁷⁷ The principal threat was a flood high enough to breach New Orleans' defenses but not so powerful as to breach levees further upstream.⁷⁸ In the ensuing weeks, the flooding worsened, and it became increasingly likely that the upstream levees would indeed wash away.⁷⁹

control legislation received indirect and limited attention."). Constitutional concerns aside, Congress was reluctant to assume financial responsibility for national flood control. *See id.* at 3–4. Also, a "levees only" policy reflected the vision of Andrew Humphreys, who became chief of the Army Corps in 1866. *Id.* at 7. Humphreys "labored constantly to quash opposition to the 'levees only' policy, and it became the gospel for the Corps of Engineers for over 60 years, until the 1927 Mississippi River flood decisively showed its limitations." *Id.*; see Christine A. Klein & Sandra B. Zellmer, *Mississippi River Stories: Lessons from a Century of Unnatural Disasters*, 60 SMU L. REV. 1471, 1476–78 (2007) (providing a detailed history of federal flood control efforts and their failings).

⁷² ARNOLD, *supra* note 71, at 18 (reporting that "[m]ore than 700,000 people were driven from their homes"); see also A.J. Henry, *The Floods of 1927 in the Mississippi Basin*, 67 SCI., Jan. 6, 1928, at 15, 15 (describing the various floods occurring late in 1926 and early in 1927 that contributed to soil saturation and rising water levels).

⁷³ ARNOLD, *supra* note 71, at 18.

⁷⁴ See Patrick O'Hara, *Delta Justice: The Trappers War and the Caernarvon Crevasse*, LITIG., Fall 2008, at 57, 58 (noting that "levees prevented flooding into natural spillways" and caused the increasingly channelized river to bear down harder on the levees).

⁷⁵ *See id.* at 59 ("Extensive news coverage caused consternation in New Orleans, even as local newspapers played down the threat.").

⁷⁶ BARRY, *supra* note 23, at 224; see also O'Hara, *supra* note 74, at 59–60 (noting that "[t]here was no consensus among experts that breaking the levee was necessary," and reporting that the chief of the regional office of the U.S. Weather Bureau thought it was unlikely that New Orleans would flood, as failing levees in other areas reduced the threat to the city).

⁷⁷ BARRY *supra* note 23, at 224.

⁷⁸ *See id.*

⁷⁹ *See id.* at 228–33; see also KEVIN R. KOSAR, CONG. RESEARCH SERV., RL 33126, DISASTER RESPONSE AND APPOINTMENT OF A RECOVERY CZAR: THE EXECUTIVE BRANCH'S RE-

As river waters continued to rise, public life in New Orleans ground to a halt; most people who had the means to evacuate availed themselves of the opportunity, notwithstanding the fact that the New Orleans papers censored the news in an effort to maintain calm and hide the worst.⁸⁰ On April 15, a rainstorm caused extensive flooding in the city, exacerbating an already tense situation, and a group of the city's elite bankers met to discuss possible next steps.⁸¹ None had any formal authority, but "[b]ankers had a history of taking charge in city crises."⁸² Further, the bankers' own business interests were threatened by the uncertainty.⁸³ Public spirit and self-interest were deeply intertwined.

The central question discussed at the meeting, held at a local bank, was whether to dynamite the levees so as to divert the Mississippi River away from New Orleans and into neighboring St. Bernard and Plaquemines Parishes.⁸⁴ Although the group was aware that the levees above New Orleans were unlikely to hold given the intensity of the flood, the levee engineer also advised them that some of the escaping water could rejoin the river and continue to threaten the city.⁸⁵ Of course, another powerful consideration for the assembled bankers was the ongoing threat to the financial health of the city because the flood could destroy the economic life of New Orleans, even if the city stayed dry.⁸⁶

Business in the city had all but shut down, and many feared that bank runs were possible. Further, the city faced competition from new ports in Gulfport, Mississippi and Mobile, Alabama, and a loss of confidence had the potential to aid those ports at New Orleans's expense.⁸⁷ One banker reported panic among New Orleans residents and argued

SPONSE TO THE FLOOD OF 1927, at 3 (2005) (reporting that in April 1927, the Mississippi River breached multiple levees in Arkansas, Louisiana, Mississippi, and Missouri).

⁸⁰ BARRY, *supra* note 23, at 226 (noting that New Orleans was in an agitated state, since "[n]o headline, or lack of one, could hide the Mississippi River").

⁸¹ See Lawrence M. Friedman & Joseph Thompson, *Total Disaster and Total Justice: Responses to Man-Made Tragedy*, 53 DEPAUL L. REV. 251, 270–71 (2003); O'Hara, *supra* note 74, at 59.

⁸² See BARRY, *supra* note 23, at 229.

⁸³ See *id.* (noting that "[i]mplicit in the inquiry was the question of investment risk, a life-and-death question to" the correspondent banks that had sought assurances).

⁸⁴ See *Louisiana Levee to Be Cut to Make New Orleans Safe; Wide Area to Be Evacuated*, N.Y. TIMES, Apr. 27, 1927, at 1; see also Friedman & Thompson, *supra* note 81, at 270–71 ("[A] group of government and business leaders decided to dynamite downstream levees in order to save [New Orleans].").

⁸⁵ See BARRY, *supra* note 23, at 228, 231.

⁸⁶ See *id.*

⁸⁷ See *id.*

that “[o]nly dynamite will restore confidence.”⁸⁸ In other words, the group was discussing “purposefully loosing the Mississippi River on their neighbors . . . a horrible thing.”⁸⁹

Having concluded that dynamite might well be the answer, the bankers sent members of their informal committee to attend an open hearing of the Mississippi River Commission (the “Commission”) on April 18, and in executive session presented their proposal to blow up the levee, directing water away from New Orleans, and to build an emergency spillway near Poydras, the place of the river break in 1922.⁹⁰ The Commission president posed three conditions for approving the request: (1) that the War Department (now known as the U.S. Department of Defense) approve the plan; (2) that the request come from the State of Louisiana; and (3) that “the city would have to absolve the commission of any liability for damages and arrange to compensate victims of the crevasse fully for any and all losses.”⁹¹ Although the plan involved the flooding of St. Bernard and Plaquemines Parishes, representatives from the parishes were not invited to the hearing.⁹²

As a practical matter, the possible dynamiting of the levee seemed to consider only the interests of powerful New Orleans, a fact evident to everyone involved, notwithstanding the talk of compensating those in adjoining parishes for their losses.⁹³ Indeed the Army Corps had previously made its position clear:

After the 1922 Flood the chief of the Army Corps of Engineers had advised the New Orleans financial community that, if the river ever seriously threatened the city, they should blow

⁸⁸ *Id.*

⁸⁹ *Id.* at 232 (questioning the group’s motives: “How real was the threat to New Orleans? The threat to its business was real enough, but how real was the threat of the river?”).

⁹⁰ *See id.* at 238. The Commission had been established by Congress in 1879 to manage federal levee development and flood control efforts. *See Mississippi River Commission*, U.S. ARMY CORPS ENGINEERS, <http://www.mvd.usace.army.mil/About/MississippiRiverCommissionMRC.aspx> (last visited Jan. 7, 2013); *The Mississippi River and Tributaries Project*, U.S. ARMY CORPS ENGINEERS, <http://www.mvn.usace.army.mil/pao/bro/misstrib.htm> (last updated May 19, 2004).

⁹¹ BARRY, *supra* note 23, at 238; *see also* Friedman & Thompson, *supra* note 81, at 271 (noting that New Orleans “promised to provide reparations to those in the rural region and to create a \$150,000 fund to care for the refugees”).

⁹² *See* BARRY, *supra* note 23, at 239; *see also* O’Hara, *supra* note 74, at 60 (noting that “[n]ot one public official from [the parishes of] Plaquemines or St. Bernard was present when the decision to flood these parishes was made, nor was any involved in the negotiations leading up to that decision”).

⁹³ *See* O’Hara, *supra* note 74, at 59 (emphasizing that the governor of Louisiana was hesitant to dynamite the levee because doing so in order to save New Orleans “would be unpopular in rural areas”).

a hole in the levee. In the years since, those words had never left the consciousness of either the people in St. Bernard and Plaquemines Parishes, who would be sacrificed, or those who dealt with the river in New Orleans.⁹⁴

In other words, the availability of the tradeoff constituted an important part of disaster planning, such as it was. So long as neighboring parishes could be flooded, if the need presented itself, New Orleans could satisfy itself with existing bulwarks.⁹⁵ The chief of the Army Corps was effectively recommending that necessity, judged at the moment of emergency, should guide the decision, and that private individuals might even take matters into their own hands.⁹⁶

Yet, the neighboring parishes were far from uninhabited. Detonating the levee would force 10,000 people to evacuate and would potentially obliterate two of the nearby parishes.⁹⁷ These parishes, meanwhile, had several notable industries, including fur trapping, sugar refinery, stockyards, and casinos.⁹⁸ Nor were the levees left undefended by the citizens of those parishes; St. Bernard's Parish, for instance, had hundreds of armed guards in place around the clock to prevent possible sabotage of the levee.⁹⁹

On April 22, a New Orleans delegation met in Washington, D.C. with the U.S. Secretary of War and the chief of the Army Corps concerning the plan.¹⁰⁰ The chief pointed out that destroying the levee did not

⁹⁴ BARRY, *supra* note 23, at 222.

⁹⁵ See *id.* From its founding, New Orleans has been vulnerable to flooding. See WRIGHT, *supra* note 69, at 4.

The modern flood problem began when the French Crown built a fortified shipping center near the mouth of the Mississippi River. They chose this location because the waterway offered a superb avenue of transportation to the Gulf of Mexico. By 1727, Nouvelle Orleans, the first permanent European settlement on the Mississippi, existed in a saucer of land that actually was lower than the mighty river and was guarded from periodic inundation by an embankment only 4 feet high.

Id.

⁹⁶ See WRIGHT, *supra* note 69, at 4.

⁹⁷ See BARRY, *supra* note 23, at 234. New Orleans' leaders thought that sacrificing St. Bernard and Plaquemines Parishes was for "a greater good," a better alternative than permitting a levee breach and the flooding of New Orleans itself. See RISK MGMT. SOLUTIONS, THE 1927 GREAT MISSISSIPPI FLOOD: 80-YEAR RETROSPECTIVE 6 (2007), available at http://www.rms.com/publications/1927_MississippiFlood.pdf.

⁹⁸ See BARRY, *supra* note 23, at 234.

⁹⁹ See *id.* at 241.

¹⁰⁰ See Friedman & Thompson, *supra* note 81, at 271. By this time, the sheer number of refugees and the scope of the disaster had made it impossible for the federal government

appear to be necessary because levees upriver from New Orleans could not hold and the city flood level would remain at manageable levels.¹⁰¹ One of the New Orleans representatives (a newspaper publisher with Washington connections) responded by emphasizing the panic caused by the flood's threat and the Army Corps's assurances concerning the levee option.¹⁰² Ultimately, the Secretary of War agreed, subject to a formal request from the governor of Louisiana, and provided full indemnification of the federal government from any responsibility.¹⁰³

Persuading the governor was not a simple matter. With an election impending, "[f]looding country people to save the city did not play well politically in rural Louisiana."¹⁰⁴ Politics aside, the governor felt that "there was something . . . foul about the idea of the government, which should be trying to protect people, destroying people's livelihoods."¹⁰⁵ As the governor contemplated the decision, he read a prediction made by the local U.S. Weather Bureau chief, Isaac Cline, that levees above the city were unlikely to hold and that this would spare New Orleans.¹⁰⁶ The governor received further reports of levee breaches in Arkansas and near Baton Rouge, suggesting New Orleans was likely to be spared.¹⁰⁷

Yet, even if the levee breach was no longer called for as a matter of flood management, the New Orleans elite deemed it essential as proof of a total commitment to protect New Orleans from danger.¹⁰⁸ Faced with unrelenting pressure, Cline agreed that he could not be sure how the flood would affect the levees and consented to the conveyance of a message to the governor that with another rise in the river, "if the levee is going to be opened to relieve the situation it should be opened at

to ignore. See BARRY, *supra* note 23, at 240 (stating that President Calvin Coolidge appointed U.S. Secretary of Commerce Herbert Hoover chairman of a special committee to coordinate rescue and relief efforts).

¹⁰¹ See BARRY, *supra* note 23, at 240.

¹⁰² See *id.* at 241. The New Orleans publisher further stated, "what was the cost of blowing the levee? It would flow only marsh." *Id.* He also quoted the chief's predecessor, who earlier had proposed blowing a "hole in a levee." *Id.*

¹⁰³ See *id.*

¹⁰⁴ *Id.* at 242; see also O'Hara, *supra* note 74, at 59 ("Governor Oramel Simpson found himself in a difficult position because cutting the levee to save New Orleans would be unpopular in rural areas").

¹⁰⁵ BARRY, *supra* note 23, at 242.

¹⁰⁶ See *id.*

¹⁰⁷ See *id.* at 243 (noting that "the failures of those levees also strongly suggested more crevasses would follow").

¹⁰⁸ See O'Hara, *supra* note 74, at 59–60. Cline did not believe that New Orleans would flood, as failing levees upstream would reduce the threat of flooding. See *id.* The city's leaders, however, exerted extensive pressure on Cline until he "eventually relented." See *id.*

once.”¹⁰⁹ Based on this statement, the governor agreed to order the levee’s destruction upon receipt of confirmation from engineers that detonating the levee was “absolutely necessary” and “written promises from the city of New Orleans to compensate victims for all losses.”¹¹⁰

The New Orleans establishment provided the governor what he required, and the order to dynamite the levee followed. The citizens of New Orleans were satisfied, but those in St. Bernard and Plaquemines Parishes were “angry and frightened.”¹¹¹ The sheriff in St. Bernard stated, “We’re letting ’em do it because we can’t stop ’em . . . You can’t fight the Government.”¹¹² In New Orleans, the “fine families, as if on a picnic, traveled down to see the great explosion that would send dirt hundreds of feet high and create a sudden Niagara Falls.”¹¹³ Meanwhile, “[a]s the explosion sounded, [the St. Bernard sheriff] flinched, then turned around and said, ‘Gentlemen, you have seen today the public execution of this parish.’”¹¹⁴ The next day, levees upstream gave way, easing the threat—the destruction of St. Bernard and Plaquemines had been totally unnecessary.¹¹⁵ The promised compensation from New Orleans was never paid.¹¹⁶

The political machinations surrounding the destruction of St. Bernard and Plaquemines Parishes exemplify a case in which public necessity based upon immediate peril should be no defense to liability. First, given the weight of expert opinion that the levees upriver would

¹⁰⁹ BARRY *supra* note 23, at 243–44.

¹¹⁰ *Id.* at 244. Governor Oramel Simpson required these safeguards because he only “reluctantly agreed to authorize the artificial crevasse.” See O’Hara, *supra* note 74, at 60.

¹¹¹ See BARRY, *supra* note 23, at 255.

¹¹² *Id.* at 257. Additionally, leading officials in Plaquemines and St. Bernard “recognized that nothing could be done to stop the levee break,” and proceeded to “persuade[] the infuriated citizens that resistance would only add bloodshed to the tragedy.” O’Hara, *supra* note 74, at 60.

¹¹³ BARRY, *supra* note 23, at 256.

¹¹⁴ *Id.* at 257.

¹¹⁵ See *id.* at 257–58. In fact, it took ten days and 78,000 pounds of dynamite to create the artificial crevasse. See O’Hara, *supra* note 74, at 60. Upstream levees began to fail after the first day of dynamiting at Caernarvon. See *id.* In an interesting parallel, conspiracy theorists in the Lower Ninth Ward during Hurricane Katrina in 2005 believed that the levees were dynamited “with the intention of saving the wealthier and whiter sections of the city.” RISK MGMT. SOLUTIONS, *supra* note 97, at 6.

¹¹⁶ See BARRY, *supra* note 23, at 360 (“No bank, business, or government agency ever made a voluntary payment to the victims to fulfill the self-proclaimed moral obligation.”). The promised compensation was contained in what was known as the “Citizens Resolution.” See O’Hara, *supra* note 74, at 60. None of the sixty-four signers committed public or private funds, but rather “pledge[d] to do their best . . . to see that victims were reimbursed.” *Id.* A year later, the Louisiana Constitution was amended to provide for reparations to victims of the 1927 decision, but compensation payments were minimal. See *id.*

give way naturally, there is a strong argument that there was no reasonable belief that the breach was necessary.¹¹⁷ If so, a basic element of the necessity defense was missing. Second, even if the levee breach might have been a reasonable exercise of discretion in dealing with a disaster emergency, a broader perspective would encompass actions taken before the immediate crisis.

It was also negligent, if not reckless, for the Army Corps to tell New Orleans to plan to flood its neighbor and to substitute this advice for proper planning.¹¹⁸ Although the Army Corps's advice was given years before the 1927 flood, the irresponsibility of the advice should also have exposed the United States to liability for the disaster. Moreover, the levees-only policy adopted by the Army Corps was contrary to all expert advice and designed only to make floods more severe. Indeed, previous flooding had already made plain that there was a problem. As exemplified by the woeful performance of the Army Corps in the years leading up to the 1927 flood, inadequate disaster planning should be relevant to a necessity defense, even if the case can be made that a particular disaster tradeoff was reasonably necessary in the midst of an actual emergency.¹¹⁹

2. "Project Flood"

The disastrous 1927 flooding provided the needed impetus for the development of modern flood control laws.¹²⁰ The Flood Control Act of 1928 for the first time committed the federal government to flood management, and created the Mississippi Rivers and Tributaries Project

¹¹⁷ See BARRY, *supra* note 23, at 257–58; see also O'Hara, *supra* note 74, at 60 (noting that Cline and other experts correctly predicted that natural levee breaches upriver would have ensured that New Orleans would escape flooding). In fact, it seems to have been an almost foregone conclusion that those with political and economic power would be protected and that the areas outside New Orleans were expendable; this conclusion was evidenced by the fact that the decision was made through the lobbying efforts of New Orleans politicians in a process that excluded the voices of those who would be affected and who might have advanced other alternatives. See BARRY, *supra* note 23, at 231, 239.

¹¹⁸ This wrongful act, however, may not have been actionable in 1927. Although the Tucker Act of 1887 was available to redress claims for damages arising from the U.S. Constitution, Congress did not enact the Federal Tort Claims Act (FTCA) until 1946. See Federal Tort Claims Act, 28 U.S.C. § 1346 (2006 & Supp. IV 2011); Tucker Act of 1887, 28 U.S.C. § 1491(a); Paul F. Figley, *Understanding the Federal Torts Claims Act: A Different Metaphor*, 44 TORT TRIAL & INS. PRAC. L.J. 1105, 1106–09 (2009) (describing the FTCA as the "exclusive vehicle" for bringing tort lawsuits against the federal government).

¹¹⁹ See Klein & Zellmer, *supra* note 71, at 1476–78 (detailing the history and failings of federal flood control efforts).

¹²⁰ See WRIGHT, *supra* note 69, at 9.

(the “Project”), a board which is administered by the Mississippi River Commission (the “Commission”) and is supervised by the Office of Chief Engineers of the Army Corps.¹²¹ Although the modern regulatory structure is a marked improvement over the ad hoc approach followed in 1927, a number of fundamental problems remain.

The Project’s task is to handle the “project flood”—any flood larger than the 1927 flood.¹²² The project flood represents a worst-case scenario, developed in detail through a cooperative effort involving the Weather Bureau, the Army Corps, and the Commission, and draws from data about the “sequence, severity, and distribution of past major storms.”¹²³ The most recent version was developed in the mid-1950s.¹²⁴ The project flood plan involves several components: (1) levees for containment, (2) spillways to divert excess flow, (3) channel improvements, and (4) dams and reservoirs.¹²⁵ These basic components remain in place today.¹²⁶ Notably, the Project represents a significant departure from the Army Corps’s “levees only” policy, which failed so dramatically in 1927,¹²⁷ because it supplements the use of levees with spillways and reservoirs to contain excess water.¹²⁸

¹²¹ See Flood Control Act of 1928, 33 U.S.C. §§ 702b–702c (2006); see also *supra* note 90 (describing the Commission). Not until the Flood Control Act of 1936 did Congress authorize the creation of a truly national approach to flood control. See ARNOLD, *supra* note 71, at 1.

¹²² See *The Mississippi River and Tributaries Project*, *supra* note 90.

¹²³ MISS. RIVER COMM’N, THE MISSISSIPPI RIVER AND TRIBUTARIES PROJECT: CONTROLLING THE PROJECT FLOOD 2 (2007), available at <http://biotech.law.lsu.edu/climate/docs/MR-T-info.pdf>.

¹²⁴ See *id.*

¹²⁵ See *The Mississippi River and Tributaries Project*, *supra* note 90.

¹²⁶ See MISS. RIVER COMM’N, *supra* note 123, at 2.

¹²⁷ Under this policy, levees were relied on as “the only mechanism for flood prevention” because the levee system was thought to be a “sufficient flood prevention device by ‘scouring and enlarging’ the river beds and channel, allowing for more water to flow without escaping the river banks.” Mark C. Niles, *Punctuated Equilibrium: A Model for Administrative Evolution*, 44 J. MARSHALL L. REV. 353, 393 (2011). A major component in the acceptance of the “levees only” policy was likely the fact that no resources were available to fund alternative flood prevention mechanisms. See *id.* at 393–94.

¹²⁸ See MISS. RIVER COMM’N, *supra* note 123, at 2. Flood protection measures provided for in the plan divide the Mississippi River into northern, middle, and southern sections. BARRY, *supra* note 23, at 423–25. In the northern section, the main “flood control feature is a ‘floodway,’ essentially a parallel river 5 miles wide and 65 miles long, running from Birds Point, Missouri, south to New Madrid, Missouri.” *Id.* at 423. The middle section contains a long stretch of levees, and, near the mouth of the Atchafalaya River, the “Old River Control Structure and . . . the Morganza floodway, immense masses of concrete and steel designed to divert” floodwaters into the Atchafalaya. *Id.* at 424. Finally, in the southern section, there “is a concrete spillway at Bonnet Carre, 30 miles above New Orleans, designed to [send outflow] . . . into Lake Pontchartrain.” *Id.* at 425.

Unlike in 1927, when it was unclear who had the authority to order the diversion of floodwaters, the operation of the floodways is today assigned to the Army Corps and is not left to the discretion of local public officials, let alone community leaders in areas potentially affected by flooding.¹²⁹ Project flood provides detailed guidance; the river conditions that would warrant use of the spillways can be anticipated and have been planned for in advance.¹³⁰ Further, each aspect of project flood is regulated by operational plans created pursuant to statutory authority.¹³¹ For instance, the operational plan for the Birds Point-New Madrid Floodway includes detailed protocol for ordering a levee breach, executing the order, and evacuating residents.¹³² Consequently, flood-management decisions can be made without the unseemly and chaotic spectacle of various potential decisionmakers demanding legal opinions absolving themselves of responsibility.

The procedural improvements wrought by project flood are plain; in addition to streamlining the decision-making process for addressing flood conditions, the operational plans effectively codify the elements

¹²⁹ See *The Mississippi River and Tributaries Project*, *supra* note 90. In 1983, for example, rising floodwaters in the Mississippi Valley caused the Commission to make contingency plans for the operation of the Birds Point-New Madrid Floodway. See MISS. RIVER COMM'N, THE MISSISSIPPI RIVER AND TRIBUTARIES PROJECT: BIRDS POINT-NEW MADRID FLOODWAY 12 (2011), available at <http://www.mvd.usace.army.mil/mrc/mrt/Docs/Birds%20Point-New%20Madrid%20info%20paper%20FINAL%200426.pdf>. When the federal government instituted eminent domain proceedings, private plaintiffs who owned land that would be flooded filed a lawsuit seeking to enjoin the Army Corps from breaching the levees and flooding the Birds Point-New Madrid Floodway. *Story v. Marsh*, 574 F. Supp. 505, 508 (E.D. Mo. 1983), *rev'd*, 732 F.2d 1375 (8th Cir. 1984). The U.S. District Court for the Eastern District of Missouri granted a temporary injunction, declaring that breaching the levee would violate the National Environmental Protection Act, the Clean Water Act, and the Fifth Amendment. See *id.* at 517. The U.S. Court of Appeals for the Eighth Circuit reversed, holding that the Flood Control Act of 1928 committed the decision of whether to breach the levee to the Army Corps, a federal agency, and that the Army Corps's discretionary decision was not subject to judicial review. See *Story v. Marsh*, 732 F.2d 1375, 1379–82 (8th Cir. 1984). Although the government had not obtained flowage easements for the entire floodway, as required by section 4 of the Flood Control Act of 1928, the proper remedy for obtaining a flowage easement was not an injunction, but rather proceedings under the Tucker Act to receive compensation for the easement. *Id.* at 1384–85; see 33 U.S.C. § 702(d) (2006).

¹³⁰ See U.S. ARMY CORPS OF ENG'RS, BIRDS POINT-NEW MADRID FLOODWAY OPERATIONS PLAN, at B-1 (1986) (on file with author) (outlining the conditions which would prompt the use of the spillway and the timetable pursuant to which the Army Corps would operate, should use of the spillway become necessary).

¹³¹ See *id.* at 1 (noting that the statutory authority for creating the plan derives from the Flood Control Act of 1928 and the Flood Control Act of 1965).

¹³² See BARRY, *supra* note 23, at 425.

of necessity for activating a floodway.¹³³ For instance, the decision to open all three floodways in response to flood conditions in 2011 was made pursuant to particular factors that had been identified and codified in accordance with ordinary agency rulemaking procedures.¹³⁴

Nonetheless, for all the helpful guidance they provide, the operations plans only address the immediate tradeoffs involved in managing flood conditions. A broader view of the problem, however, must take into account the factors that can make flooding more or less likely. Despite the stated goal of managing the worst-case flood, the Army Corps's mission has grown ever more complex, including potentially competing goals such as irrigation, recreation, navigation, reservoir maintenance, and environmental protection.¹³⁵

Also, just as the Army Corps once advised New Orleans that it could drown its neighbors should the need arise, the Army Corps now handles that unpleasant task directly, advising floodway residents that, in the event of flood conditions, it could become necessary to open the spillway.¹³⁶ Admittedly, the notifications are an improvement in that, returning to the trolley problem analogy, those in the path of the trolley have notice that the track will be switched if necessary to avoid greater harm, thus allowing them to take appropriate precautions.¹³⁷

¹³³ See *The Mississippi River and Tributaries Project*, *supra* note 90. The broader effectiveness of the flood control plans, however, may be questioned. See Klein & Zellmer, *supra* note 71, at 1473 (arguing that the flood control system in the United States is defective and is “incapable of controlling flood waters or preventing loss of life and property”).

¹³⁴ See *Morganza Floodway*, U.S. ARMY CORPS ENGINEERS, <http://www.mvn.usace.army.mil/bcarre/morganza.asp> (last updated Jan. 3, 2012); Paul Rioux, *Morganza Floodway Opens to Divert Mississippi River Away from Baton Rouge, New Orleans*, TIMES-PICAYUNE (New Orleans) (May 14, 2011, 3:00 PM), http://www.nola.com/environment/index.ssf/2011/05/morganza_floodway_opens_to_div.html. Relevant factors include the following:

The decision to open the Morganza Floodway relies on current and projected river flows and levee conditions, river currents and potential effects on navigation and revetments, extended rain and stage forecasts, and the duration of high river stages. When river flows at the Red River Landing are predicted to reach 1.5 million [cubic feet per second] and rising, the Corps considers opening the Morganza Floodway.

Morganza Floodway, *supra*.

¹³⁵ See *supra* note 24 (discussing the Flood Control Act of 1936, which assigned primary flood control responsibility for the nation's navigable waterways to the Army Corps, and subsequent legislation that expanded the Army Corps's responsibilities).

¹³⁶ See *Morganza Floodway*, *supra* note 134.

¹³⁷ Legal challenges to the floodway have been unavailing. In *Kirk v. Good*, a 1929 case from the U.S. District Court for the Eastern District of Missouri, a farmer who owned property within the floodway area sued to enjoin the construction contracts to build the setback levee. 13 F. Supp. 1020, 1021 (E.D. Mo. 1929). Kirk claimed he would be unable to sell his property or use it as security for loans because it had the possibility of being

Yet, because of the notice (and nominal easement payments in many cases), those private individuals must take on the full risk of loss for the community. In effect, the government has paid a modest premium to shift the collective responsibility of insuring against loss from its own shoulders, which are as broad as the federal government's tax base, and onto individuals who lack significant economic resources, and, as a practical matter, may not be able to obtain insurance coverage.¹³⁸

The Army Corps operations plan also fails to consider background conditions of social inequality that relegate some people to areas subject to flooding.¹³⁹ For instance, as observed in one news report covering the 2011 floods, "nine of the 11 counties that touch the Mississippi River in Mississippi have poverty rates at least double the national average of 13.5 percent."¹⁴⁰ Although the levees protected urban areas, they provided no defense to smaller, poorer communities in the Mississippi River delta and in counties abutting the river south of the delta and into Louisi-

flooded in the future. *See id.*; Brian Lee & Alice M. Noble-Allgire, *High Water in the Nation's Breadbasket: A Takings Analysis of the Government's Response to the Mississippi River's Great Flood of 2011*, 26 *PROB. & PROP.* 28, 32 (2012). The court denied the application for an injunction, holding that Kirk's damages were "mere consequential damages such as the prospective construction of any great public work is likely to entail, and for which relief is not afforded." *Kirk*, 13 F. Supp. at 1021. Additionally, the court held that an injunction was an inappropriate remedy, as the Flood Control Act of 1928 provided for adequate remedies in the form of flowage easements. *See id.*; *see also supra* note 129 (discussing *Story v. Marsh* and a failed challenge to the Army Corps's use of the Birds Point-New Madrid Floodway).

¹³⁸ *See* Nate Monroe, *Future Uncertain for Those Without Flood Uninsurance*, DAILY COMET.COM (May 21, 2011, 6:01 AM) <http://www.dailycomet.com/article/20110521/ARTICLES/110529947?template> (interviewing a homeowner who "has understood the urging of local, state and federal officials over the years that home owners like herself in flood-prone communities purchase flood insurance"). One homeowner explained that she would buy the insurance if she could afford it, but she lives on a fixed income. *See id.* Otherwise, she reported, "I would be as insured out as I am licensed up if I could." *See id.*

¹³⁹ Similar problems arise from local decision making "when the obstacles to exit are insuperable for some yet easily overcome by others." IAN SHAPIRO, *DEMOCRATIC JUSTICE* 36 (2001) (citing white flight from inner-city school districts as an example of an exit option negatively impacting the effectiveness of localism). In light of "the reality that different players are differently bound by collective decisions," one scholar has suggested that "constraints other than choosing one local decision rule over another should come into play." *Id.* For similar reasons, the Army Corps ensures that important tradeoffs will not be determined by local political power. Nonetheless, because the choices made by the Army Corps pursuant to the Flood Control Act do not take into account preexisting inequities, this Article endorses official planning that addresses and mitigates disaster vulnerability.

¹⁴⁰ *Poor Taking Brunt of Mississippi's Bulge*, MSNBC.COM (May 11, 2011, 8:32 PM), <http://www.msnbc.msn.com/id/42985277/ns/weather#.UKMwEIf4LNg> (citing figures from the U.S. Census Bureau). Exercising his presidential discretion, President Barack Obama signed a disaster declaration for fourteen Mississippi counties affected by the flooding, making low-interest loans available to cover uninsured damage. *See id.*

ana.¹⁴¹ Consequently, the floodwaters overflowing the banks of the river and its tributaries left their mark on those least able to bear it.

Rather than seek to account for social inequality, the cost-benefit calculus called for in the Army Corps operations plan takes existing distributions of property, population, and other relevant factors as givens, as noted above. Once we move past the limiting assumptions of the trolley problem framework, however, background conditions of inequality should give us pause, especially when the government's approach to disaster tradeoffs does nothing to resolve the substantive unfairness of taking from those least able to afford the loss.

III. THE LIMITS OF CONSEQUENTIALISM

Moral choices involve the character as well as the consequences of our actions. To claim otherwise is to accept that the ends can always justify the means.¹⁴² Variations of the basic trolley problem help to focus attention on categorical moral constraints as well as contingent cost-benefit analysis. For instance, if we conclude that we would save the five helpless workers by switching tracks, we may then be presented with a related scenario in which the only way to save the five workers is to shove an obese man onto the tracks in front of them.¹⁴³ Or we may be asked to imagine that we are a physician who can save five of her patients only by sacrificing one healthy patient and harvesting his organs.¹⁴⁴ In each case, the raw numbers are the same—one life for five—and yet the choices are not morally identical.¹⁴⁵

¹⁴¹ See *id.*

¹⁴² According to some scholars, the ends *never* justify the means; for instance, deontological constraints do not bend to utilitarian considerations even when torturing a terrorist could reveal the location of a hidden nuclear weapon. See JEREMY WALDRON, *TORTURE, TERROR AND TRADE-OFFS: PHILOSOPHY FOR THE WHITE HOUSE* 1–20, 186–91 (2010); Jeremy Waldron, *Torture and Positive Law: Jurisprudence for the White House*, 105 COLUM. L. REV. 1681, 1709–17 (2005). Others recognize the existence of moral constraints but contend that morality does not preclude the torture of other human beings if the benefits of doing so are sufficiently large. See ALAN M. DERSHOWITZ, *WHY TERRORISM WORKS: UNDERSTANDING THE THREAT, RESPONDING TO THE CHALLENGE* 141 (2002) (advocating for the institution of judicial “torture warrants”).

¹⁴³ See, e.g., F.M. KAMM, *MORALITY, MORTALITY: VOLUME II: RIGHTS, DUTIES, AND STATUS* 143–72 (2001) (discussing the trolley problem and defending the distinction between killing and redirecting harm); SANDEL, *supra* note 64, at 22–23 (discussing this version of the trolley problem).

¹⁴⁴ See Kimberly Kessler Fezcan, *Torture, Necessity, and the Union of Law & Philosophy*, 36 RUTGERS L.J. 183, 188 (2004). One might resist the force of the hypothetical by positing a further deterrent effect on healthy patients going to doctors and a longer-term deterioration of the health of society (i.e., that the overall utility calculus might be improved by allowing

Accordingly, this Part contends that even if disaster tradeoffs were judged without regard for precipitating factors that may have exacerbated social vulnerability, the state's moral responsibility extends beyond the simple maximization of aggregate benefits. Section A revisits the trolley problem and argues that disaster tradeoffs involve moral dilemmas because all available choices involve the violation of a moral maxim.¹⁴⁶ Section B contends that public necessity doctrine relies upon a thin version of moral consequentialism and fails to engage with the full weight of the moral dilemmas that arise during disasters.¹⁴⁷ Section C argues that a decision to inflict harm on innocent people is always tragic and deserving of recompense.¹⁴⁸

A. Moral Dilemmas

A moral dilemma involves a situation in which one both "ought to do something and ought not to do that thing."¹⁴⁹ Or, to put the point slightly differently, a dilemma can arise if "it seems that I ought to do each of two things, but I cannot do both."¹⁵⁰ Whether the relevant choice involves action versus inaction, or a choice between two different actions, moral dilemmas concern "cases in which there is a conflict between two moral judgments . . . relevant to deciding what to do."¹⁵¹ In these cases, deliberation offers no decisive reason to prefer one or the other alternative.¹⁵²

the four patients to die). But this avoids the point and could be resolved through further stated assumptions (i.e., that the healthy patient's disappearance can be concealed).

¹⁴⁵ To be clear, I do not aim to offer a comprehensive moral theory that could successfully join utilitarian and deontological concerns. Rather, I simply take it as a given that ordinary moral judgments include the nature of an action as well as its outcome, such that killing a healthy patient to harvest his organs is qualitatively different than redirecting the path of a runaway trolley car.

¹⁴⁶ See *infra* notes 149–180 and accompanying text.

¹⁴⁷ See *infra* notes 181–217 and accompanying text.

¹⁴⁸ See *infra* notes 218–232 and accompanying text.

¹⁴⁹ See E.J. Lemmon, *Moral Dilemmas*, in *MORAL DILEMMAS* 101, 105 (Christopher W. Gowans ed., 1987). One philosopher has contended that, because an individual remains free to choose one of the alternatives, there is no formal contradiction. See *id.* at 107. "It is a nasty fact about human life that we sometimes both ought and ought not to do things; but it is not a logical contradiction." See *id.*

¹⁵⁰ See Bernard Williams, *Ethical Consistency*, in *MORAL DILEMMAS*, *supra* note 149, at 115, 121 ("The two situations, then, come to this: in the first, it seems that I ought to do *a* and that I ought to do *b*, but I cannot do both *a* and *b*; in the second, it seems that I ought to do *c* and that I ought not to do *c*.").

¹⁵¹ See *id.* at 120.

¹⁵² See Philippa Foot, *Moral Realism and Moral Dilemma*, in *MORAL DILEMMAS*, *supra* note 149, at 250, 260–61 ("[A]n obligation is not annulled by being overridden, and . . . it is

Moral dilemmas may stem from a common obligation owed to more than one person or may reflect differing sources of moral obligation.¹⁵³ For instance, we incur “specific obligations . . . either by a deliberate undertaking or by some special relation to the person or institution in question.”¹⁵⁴ Simply by making a promise, one incurs some obligation to perform according to the promise.¹⁵⁵ Such obligations will often have legal force. For example, in criminal law, the “creation of peril” doctrine and the doctrine of voluntary assumption of care and seclusion both impose a duty to act on an individual and provide for criminal sanctions for those who fail to act.¹⁵⁶ In corporate law, managers owe fiduciary obligations to the corporation and its shareholders.¹⁵⁷

In addition to particularized contractual or fiduciary obligations, there are also “constraints on action deriving from general rights that everyone has, either to do certain things or not to be treated in certain ways.”¹⁵⁸ The derivation and precise content of these rights are, of course, debatable.¹⁵⁹ On even the most limited view of our obligation to others, for instance, the use and exercise of our own rights cannot preclude others from enjoyment of similar basic rights.¹⁶⁰

possible to say that a subject ought to do something even when a more pressing claim makes it impossible for him to do that thing.”).

¹⁵³ See Thomas Nagel, *The Fragmentation of Value*, in *MORAL DILEMMAS*, *supra* note 149, at 174, 175 (contending that “[t]here are five fundamental types of value that give rise to basic conflict”).

¹⁵⁴ *Id.*

¹⁵⁵ See CHARLES FRIED, *CONTRACT AS PROMISE: A THEORY OF CONTRACTUAL OBLIGATION* 7–17 (1981) (arguing that such moral obligation provides an explanatory structure for the law of contract).

¹⁵⁶ See Alice Ristroph & Melissa Murray, *Disestablishing the Family*, 119 *YALE L.J.* 1236, 1274 (2010) (“Once persons have voluntarily assumed responsibility to care for designated dependents, any failure to provide appropriate care should subject the registrant to criminal liability.”); John A. Robertson, *Involuntary Euthanasia of Defective Neonorns: A Legal Analysis*, 27 *STAN. L. REV.* 213, 229–30 (1975) (describing the “creation of peril” doctrine’s applicability to infants delivered alive).

¹⁵⁷ See Jeffrey N. Gordon, *The Mandatory Structure of Corporate Law*, 89 *COLUM. L. REV.* 1549, 1593–97 (1989).

¹⁵⁸ Nagel, *supra* note 153, at 175.

¹⁵⁹ See, e.g., AMITAI ETZIONI, *THE SPIRIT OF COMMUNITY: RIGHTS, RESPONSIBILITIES AND THE COMMUNITARIAN AGENDA* 4–11 (1993) (noting that “incessant issuance of new rights . . . causes a massive inflation of rights that devalues their moral claims”); MARY ANN GLENDON, *RIGHTS TALK: THE IMPOVERISHMENT OF POLITICAL DISCOURSE* 7–17 (1991) (discussing the unique nature of the American view on what constitutes the scope of a general right, and arguing that the current absolute deference to such rights “promotes unrealistic expectations, heightens social conflict, and inhibits dialogue”).

¹⁶⁰ See ROBERT NOZICK, *ANARCHY, STATE, AND UTOPIA* 33 (1974) (arguing that there is no “justified sacrifice of some of us for others”).

Another category of moral obligation relies on consequentialism: “the consideration that takes into account the effects of what one does on everyone’s welfare—whether or not the components of that welfare are connected to special obligations or general rights.”¹⁶¹ For example, if one has made a promise and it now appears that performing the promise would damage the community, the effect on public welfare is a moral consideration that the promisor would have reason to take into account.¹⁶²

When the values on each side of a moral equation are weighty, the conflict can appear insoluble. Every choice appears to be foreclosed in advance, and yet we must somehow choose. Inaction is, after all, also a choice. The most difficult dilemmas of this kind involve the loss of human life—when our ability to save the greatest number of lives turns on our willingness to sacrifice other lives. The conflict pits the obligation to account for everyone’s welfare by saving as many people as possible against the obligation to refrain from causing injury to another person.¹⁶³

To dramatize this predicament, we might again consider a scenario in which “a runaway trolley will kill five workers unless a bystander shunts it onto a side track, where it will kill one.”¹⁶⁴ Unless the bystander acts, more people will be killed; yet, if she acts, she will cause the death of an innocent person who otherwise would not have been harmed. In order to protect the five workers, most of us conclude that “the right course—certainly in most cases an irreproachable course—is to divert the train.”¹⁶⁵ The analysis is utilitarian, because it justifies the action by its overall consequences—preserving the lives of five people, rather than only one.¹⁶⁶

By contrast, it is generally accepted that a surgeon should not carve up one healthy patient and harvest his organs in order to save five criti-

¹⁶¹ Nagel, *supra* note 153, at 175 (identifying this category as “utility”). Professor Thomas Nagel also identifies “perfectionist ends or values” and a “commitment to one’s own projects or undertakings” as additional grounds for moral choice. *Id.* at 176.

¹⁶² See Christopher D. Stone, *Should Trees Have Standing? Revisited: How Far Will Law and Morals Reach? A Pluralist Perspective*, 59 S. CAL. L. REV. 1, 17, 42–48 (1985). Assuming that the potential damage to the community was significant, the choice between the promise and the community’s welfare would hardly count as a moral dilemma.

¹⁶³ See Nagel, *supra* note 153, at 175.

¹⁶⁴ Rakowski, *supra* note 61, at 1063. In other versions of the hypothetical, the decisionmaker is the trolley driver rather than a bystander. For our purposes, nothing turns on this distinction.

¹⁶⁵ *Id.* at 1063–64.

¹⁶⁶ See Zamir & Medina, *supra* note 59, at 329.

cally ill patients.¹⁶⁷ Although we may assume that this is the only way to help the five, killing an innocent patient is categorically wrong, regardless of the number of lives saved.¹⁶⁸ It would be better, most people conclude, to allow the five patients to die, even though the surgeon had the power to save them. Logically, the contrast seems puzzling; although utilitarian considerations prevailed in addressing the trolley problem, here the best outcome appears to be prohibited by deontological constraints.¹⁶⁹ The task, then, is either to account for the divergence in our strong moral intuitions, despite the fact that the same number of lives is at stake, or else to argue that one or both of the moral principles that seem to guide our intuitions are mistaken or misconstrued.¹⁷⁰

The difficulties explored in the trolley problem are relevant to disaster response because natural disasters create real-life situations involving similar considerations. For example, public officials in recent disasters have had to decide whether to flood farmland and small towns to protect cities,¹⁷¹ whether to expose plant workers to potentially fatal levels of radiation to stabilize damaged nuclear reactors,¹⁷² and whether to order looters shot on sight to maintain public order.¹⁷³ In each case, the choice was whether to harm some people in order to protect many more.¹⁷⁴

¹⁶⁷ See Ferzan, *supra* note 144, at 188 (“[W]hile most people believe it is permissible to turn the infamous runaway trolley so that it kills one lone worker instead of five, we reject that a surgeon can kill one person and use his organs to save five others.”).

¹⁶⁸ See SANDEL, *supra* note 64, at 23.

¹⁶⁹ See *id.* at 23 (noting the existence of “conflicting moral principles” in that “one principle that comes into play in the trolley story says we should save as many lives as possible, but another says it is wrong to kill an innocent person, even for a good cause”).

¹⁷⁰ See John Martin Fischer, *The Trolley and the Sorites*, 4 YALE J.L. & HUMAN. 105, 105–09 (1992) (rejecting the distinction between the trolley and transplant examples).

¹⁷¹ See Robertson, *supra* note 25.

¹⁷² See Martin Fackler, *Japan Weighed Evacuating Tokyo in Nuclear Crisis*, N.Y. TIMES, Feb. 27, 2012, at A1 (describing the conclusion of an investigative report issued by the Rebuild Japan Initiative Foundation as follows: “Prime Minister Kan had his minuses and he had his lapses,” Mr. Funabashi said, “but his decision to storm into Tepco [the company that operated the nuclear power plant] and demand that it not give up saved Japan.”). To accomplish the goal, Japanese officials increased the legal levels of radiation exposure so that TEPCO workers could be sent in to stabilize damaged nuclear reactors. See *id.* Of course, unlike the victims of a runaway trolley, the workers had the ability to refuse to work and may (or may not) have been provided with accurate information about the radiation risks involved.

¹⁷³ See *Troops Told “Shoot to Kill” in New Orleans*, ABC NEWS (Sept. 2, 2005, 4:25 PM), <http://www.abc.net.au/news/2005-09-02/troops-told-shoot-to-kill-in-new-orleans/2094678> (reporting Louisiana Governor Kathleen Blanco’s statement that the National Guard had orders “to shoot and kill ‘hoodlums’”).

¹⁷⁴ Even more difficult choices are not hard to envision. If a fatal, incurable, and highly contagious disease were detected in an urban center, for instance, might the gov-

Moreover, the trolley problem analogy applies even when officials do not cause harm but fail to prevent it, because neglect can be as fatal as deliberate injury¹⁷⁵—when not everyone can be rescued, triage prioritization will determine who lives and who dies.¹⁷⁶ To see the analogy, imagine that disaster officials are operating a trolley car that rescues the people in its path instead of killing them; when those who are abandoned by the trolley will die, the choice of tracks is no less important than in the original scenario.¹⁷⁷ Thus, as a matter of formal structure, the trolley hypothetical applies to decisions that involve causing harm and to decisions that involve rescue.

Described more formally, the moral dilemma in triage situations is whether to rescue Group A or Group B when both cannot be rescued. For instance, when evacuating patients during Hurricane Katrina, were hospital officials right to leave the sickest patients for last?¹⁷⁸ Although we might have assumed that officials would prioritize those who were most vulnerable, in fact they concentrated their initial efforts on the healthiest patients in the hospital: “Those who were in fairly good

ernment establish a quarantine, condemning even uninfected people within the cordon to a certain and painful death? For fictional accounts of this scenario, see ALBERT CAMUS, *THE PLAGUE* (1947) (outbreak of bubonic plague); *28 WEEKS LATER* (Twentieth Century Fox 2007) (spread of deadly “Rage Virus”).

¹⁷⁵ See Susan S. Kuo, *Bringing in the State: Toward a Constitutional Duty to Protect from Mob Violence*, 79 IND. L.J. 177, 222–26 (2004) (arguing that official failure to act can compound riot harm or even spark a riot).

¹⁷⁶ See Rakowski, *supra* note 61, at 1081 n.43, 1154–55. If people are lying helpless on the track, do we rescue them in the order that we find them, or focus on moving the greatest number (perhaps by focusing on the lightest weight), or look for the mayor and important officials, or start with women and children? Long-established maritime practice, for example, prioritizes women and children during emergency evacuations. See Brian Palmer, *Abandoning Ship: An Etiquette Guide*, SLATE (Jan. 17, 2012, 4:55 PM), http://www.slate.com/articles/news_and_politics/explainer/2012/01/costa_concordia_sinking_what_s_the_etiquette_for_abandoning_ship_.html.

¹⁷⁷ See Rakowski, *supra* note 61, at 1063–64. More specifically, rescuing anyone other than the first person encountered in a disaster area corresponds to a choice to switch tracks. There may be good reason to find the mayor and other key officials first, or to identify schools and hospitals as initial priorities, and a wholly arbitrary approach is probably both impractical and nonsensical. Nevertheless, however rational it may be to prioritize, the task carries with it heavy moral implications. See *id.*

Why may, or must, the number of survivors be maximized in some instances but not others? The answer, I suggest, is fundamentally the same for cases in which one or more people must be killed so that others may live and cases in which only some of those imperiled can be saved . . . as when a rescue ship can save the passengers of only one of two capsized boats.

Id.

¹⁷⁸ See Sheri Fink, *The Deadly Choices at Memorial*, N.Y. TIMES MAG., Aug. 30, 2009, at 30–31, 34.

health . . . [were] categorized ‘1’s’ and prioritized first for evacuation. Those who were sicker and would need more assistance were ‘2’s.’ A final group of patients were assigned ‘3’s’ and were slated to be evacuated last.”¹⁷⁹ Even if the triage appears counterintuitive, the prioritization is not obviously wrong if we accept that the officials did not expect to be able to evacuate everyone and believed that those in the hospital would drown regardless of their health.¹⁸⁰ In sum, plausible reasons could be given for choosing different evacuation protocols.

B. *Varying Approaches*

In each disaster response scenario, some people’s lives, health, or property are sacrificed for the sake of others.¹⁸¹ Although real-world scenarios are far more complex, in part because they have a “before” in which choices can help to create or forestall future crises, the choices officials confront in the midst of a disaster do resemble those hypothesized in the trolley problem.¹⁸² Notably, the moral foundations for public necessity are partial and uncertain. As a quick canvas of philosophical approaches to moral dilemmas reveals, any plausible solution must attain more than a reduction in overall harm. To be clear, the goal is not to endorse a solution to the trolley problem, but to highlight the inadequacy of the justification for insulating the state from legal responsibility for the harms caused by disaster tradeoffs.

1. Simplifying Assumptions

Trolley problems differ from actual disaster tradeoffs in that they exclude all but the most salient facts. Consequently, the dramatization of the moral dilemmas is thin; the runaway trolley, the transplant surgeon, and their variants are akin to the word problems in a math text-

¹⁷⁹ See *id.* at 34.

¹⁸⁰ In making this observation, I am not suggesting whether the hospital officials in New Orleans were, in fact, motivated by these considerations.

¹⁸¹ We will assume that tradeoffs are one-to-one—property for property, life for life—and that, apart from very extreme examples, no serious argument would sacrifice human life to preserve other people’s property.

¹⁸² Cf. NAOMI ZACK, *ETHICS FOR DISASTER* 34 (2009) (“[D]isaster itself, in involving human life and well-being, is a full-blown and real moral matter—[although] it should be noted that thinking morally about disaster is greatly assisted by the uses to which philosophers have already put lifeboat ethics scenarios.”).

book. Each situation has a patina of realism but lacks the nuances and complexities of real life.¹⁸³

In the standard version of the trolley problem, we know nothing about the people involved, and we are not permitted to speculate about factual alternatives—for instance, whether the track workers might escape from the trolley’s path.¹⁸⁴ Unless a particular hypothetical has been designed to test probabilistic reasoning, the consequences of different choices are given as certainties. Also, each trolley problem exists in a hermetically sealed world with no “before” and no “after” such that questions of costs and benefits over time cannot be used to evade the central dilemma.¹⁸⁵ Indeed, simplification is the whole point of such hypothetical examples.¹⁸⁶

Thus, although trolley problems are stories, we are not in the realm of narrative as argument.¹⁸⁷ Trolley problems engage the imagi-

¹⁸³ See Rakowski, *supra* note 61, at 1068 (beginning with simplified assumptions, including that the “people considered—victims and beneficiaries alike—are the same age, are in identical health, enjoy equal rights as members of the rescuer’s community, and are equally blameless or blameworthy”).

¹⁸⁴ This is a possibility that my law students often suggest in an understandable effort to sidestep the dilemma.

¹⁸⁵ See SANDEL, *supra* note 64, at 24. For instance, it may be hard to ascertain the likely effect on social welfare of a collective decision that involves a gain in welfare for some individuals and a loss for others. See MICHAEL J. TREBILCOCK, *THE LIMITS OF FREEDOM OF CONTRACT* 8 (1993) (“Suppose that it were proposed that a major new multi-lane highway be constructed through an urban area, generating gains in utility for commuters . . . but losses in utility to inner-city residents How can decisionmakers be confident that the net effect on social welfare . . . will be positive?”). For one answer to this particular question, see JANE JACOBS, *THE DEATH AND LIFE OF GREAT AMERICAN CITIES* 14–15 (1961) (arguing that rational urban planning that ignores the needs of real human beings living in communities will produce perverse consequences). The difficulty in assessing costs and benefits will be particularly nettlesome if the likelihood and severity of the anticipated harm also involve probabilistic judgments. See BARRY, *supra* note 23, at 257–58 (describing measures taken in 1927 to save New Orleans from flooding at the expense of neighboring parishes, and arguing that “the destruction of St. Bernard and Plaquemines was unnecessary [and that] [o]ne day’s wait would have shown it to be so.”).

¹⁸⁶ See SANDEL, *supra* note 64, at 24. According to Professor Michael Sandel:

Hypothetical examples such as the trolley story remove the uncertainty that hangs over the choices we confront in real life. They assume we know for sure how many will die if we don’t turn—or don’t push. This makes such stories imperfect guides to action. But it also makes them useful devices for moral analysis. By setting aside contingencies—“What if the workers noticed the trolley and jumped aside in time?”—hypothetical examples help us to isolate the moral principles at stake and examine their force.

Id.

¹⁸⁷ Cf. Richard Delgado & Jean Stefancic, *Derrick Bell’s Chronicle of the Space Traders: Would the U.S. Sacrifice People of Color If the Price Were Right?*, 62 U. COLO. L. REV. 321, 328

nation and are intended to trigger and to test moral intuitions, but they are highly stylized representations of reality and not themselves rich enough to embody any particular argument about morality. Rather, they help us to develop analytic tools for thinking logically about moral dilemmas in the real world—such as those implicated in disaster response—by highlighting particular factors while removing other variables from consideration. Carefully controlling the variables facilitates analysis of their individual relevance as well as their potential interactions.¹⁸⁸ Ultimately, the goal is to identify factors that can be applied to moral dilemmas whether the factual circumstances involve trolley cars, surgeons, or any other threat to life, health, or property.

2. Unmixed Moral Theories

One lesson that emerges from the study of trolley problems is that absolutist moral theories fail to provide consistent guidance toward the resolution of moral dilemmas. In some versions of the trolley problem, an acceptable moral outcome will follow if we focus solely on consequences. In other versions, it appears that the nature of an action determines its morality, regardless of its likely or actual outcome. Thus, if we attempt to resolve a particular moral conflict by adhering to either a consequential or a categorical moral theory, different trolley problems can be constructed to confront that moral theory with potentially monstrous outcomes that could follow from strict adherence to its precepts.¹⁸⁹

(1991) (“Legal storytelling is a means by which representatives of new communities may introduce their views into the dialogue about the way society should be governed. Stories are in many ways more powerful than litigation or brief-writing and may be necessary precursors to law reform.”).

¹⁸⁸ See Rakowski, *supra* note 61, at 1068 (discussing simplified assumptions). For instance, we might vary the anonymity of the workers by stipulating that the lone worker is the trolley driver’s cousin. Now we have added an issue of family obligation that might, or might not, alter our view of what the driver ought to do. If we had access to the information, we might also want to know the age of the workers, their relative health, and, for that matter, whether someone was going to invent a cure for cancer should her life be spared. In the real world, as in the trolley world, we proceed with imperfect, limited data. See Jacob Heller, *Abominable Acts*, 34 *Vt. L. Rev.* 311, 343 (2009) (arguing that in “trolley” moral dilemmas, the judgment made is intuitive since there is little time to evaluate available facts).

¹⁸⁹ One commentator has proposed that a third approach, virtue ethics, might help in extreme cases in which advance planning cannot prevent the need for a tradeoff among important interests. See Zack, *supra* note 182, at 34 (“In those cases, the right decisions will depend on the degree of confidence we can place in the characters of participants and leaders.”).

For instance, categorical constraints against causing harm buckle as the consequences of inaction escalate. For most people, it is enough to ask whether to turn the trolley to kill one person or allow five people to die. If you are made of sterner stuff, we can change the stakes: turn the trolley toward one person to save fifty people; shoot an innocent person or an entire village will be slaughtered; torture the terrorist or the nuclear device will detonate in a large city. By stipulating that the feared result will come to pass unless you act, trolley problems test the resolve of nonconsequential moral commitments. At the furthest extreme of the moral imagination, we must be prepared to accept either the destruction of the species or the obligation to cause harm, even if only to a single person, to prevent it.¹⁹⁰

Likewise, trolley problems can expose the potential inhumanity of consequential reasoning. Notwithstanding the doctrine of public necessity, we cannot judge actions solely by their consequences any more than we can ignore those consequences. Though it may be that a trolley driver should aim the trolley toward one person rather than allowing it to strike five, it seems less apparent that a bystander should be prepared to shove an obese person onto the track in front of the trolley if that would also save the five.¹⁹¹ Nor is it clear that a doctor should kill her unsuspecting patient and harvest his organs to save five other patients. Likewise, regardless of the overall benefits, few would countenance the torture of a terrorist's innocent children in horrible ways to extract useful information as quickly as possible to prevent the planned murder of five people.¹⁹² Again, the deliberate artificiality of these scenarios precludes objections concerning the efficacy of the methods at issue or any side consequences that might alter the cost-benefit analysis. In sum, either consequential or categorical reasoning may appear to produce better results in particular cases, but the fit is only contingent. Any plausible approach to trolley problems must produce acceptable results across a range of possible cases.

¹⁹⁰ See CHARLES FRIED, *RIGHT AND WRONG* 10 (1978) (rejecting consequential moral reasoning but admitting that it would be "fanatical to maintain the absoluteness of the judgment, to do right even if the heavens will in fact fall").

¹⁹¹ See, e.g., SANDEL, *supra* note 64, at 22–23 (discussing this version of the trolley problem); see also KAMM, *supra* note 143, at 143–72 (defending the distinction between killing and redirecting harm).

¹⁹² Versions of this problem that state an alternative in which a nuclear device goes off in a large city may overcome our horror at the prospect of torturing innocent people, but also reflect the categorical nature of the constraint. It is not enough to offer a modest improvement in overall consequences.

3. Mixed Solutions

Although this is not the place to attempt a comprehensive survey of philosophical approaches to trolley problems, the “redirected harm”¹⁹³ and “hypothetical consent”¹⁹⁴ approaches are representative, and offer different sets of analytic tools to grapple with disaster tradeoffs. Both approaches attempt to account for the divergence of our moral intuitions in cases in which achieving the best overall outcome may involve the deliberate infliction of harm on innocent people.¹⁹⁵

a. *Redirected Harm*

Some scholars contend that we should distinguish between cases in which the source of harm is external to the actor and cases in which the harm originates with the actor.¹⁹⁶ According to this view, it is morally permissible to redirect an existing threat in order to protect as many people as possible, but it is not permissible to cause a different sort of harm, even if the goal is the same.¹⁹⁷ Thus, it is proper to switch trolley tracks to save five track workers, because the same harm will befall one of two groups and the actor did not originate the harm. A surgeon may not operate on a healthy patient to save five other patients who need transplanted organs, however, because the decision to operate causes harm distinct from the diseases that will otherwise claim the lives of the five patients in need of the transplants.

To put the redirected harm principle into the context of disaster response, consider two scenarios. In the first scenario, a flood threatens waterfront property, and a levee system gives public officials the ability to channel the water toward Lot A or Lot B. If Lot A contains expensive condominiums and is of much greater economic value, public officials might choose to divert the water toward the more modest residential

¹⁹³ See *infra* notes 196–207 and accompanying text.

¹⁹⁴ See *infra* notes 208–217 and accompanying text.

¹⁹⁵ Again, my goal in reviewing these proposed solutions to trolley problems is to derive tools for thinking about disaster tradeoffs, not to resolve the philosophical dispute.

¹⁹⁶ See James A. Montmarquet, *On Doing Good: The Right and the Wrong Way*, 79 J. PHIL. 439, 446–49 (1982) (distinguishing between a scenario in which actors already face death and only some can be saved and a scenario in which a new threat is created by the actor’s decision); Thomson, *supra* note 56, at 1403–04 (distinguishing various scenarios on the basis of whether an actor, trying to maximize the utility, infringed on the rights of others).

¹⁹⁷ See Thomson, *supra* note 56, at 1403. Professor Judith Jarvis Thomson has further conditioned a tradeoff based on redirected harm by stipulating that the redirection cannot be accomplished by “means [that] themselves constitute an infringement of any right” of those who would find themselves in the path of the redirected harm. See *id.*

properties located on Lot B.¹⁹⁸ In a second scenario, the floodwaters threaten to engulf Lot A alone, and officials bulldoze the Lot B structures and use their ruins as a bulwark to protect Lot A. In this version, as with the surgeon hypothetical, deliberate harm is inflicted to provide the means of protecting others. Accordingly, the second scenario would fail the redirected harm test.

The principle that officials should not originate harm is also supported by its broader applicability.¹⁹⁹ To see how this intuition might operate outside the context of disaster, imagine a different scenario: public officials exercise the power of eminent domain to seize waterfront property identical to Lot B in the first scenario described above and give it to a developer who creates expensive condominiums identical to Lot A.²⁰⁰ In this example, loosely borrowed from the 2005 U.S. Supreme Court case, *Kelo v. City of New London*,²⁰¹ Lot A is created, and Lot B is destroyed; without Lot B's destruction, Lot A would not exist. Yet, even assuming that the officials have acted in good faith to benefit the community, the *Kelo* scenario seems open to moral objection, because the officials originated the harm that befell Lot B.²⁰²

At a deeper level, the redirected harm approach relies in part on the moral principle, articulated by Immanuel Kant, that it is improper to use a person as a "means" rather than as an "end."²⁰³ Human beings

¹⁹⁸ This scenario involves the assumption that no lives are at stake, that the same number of residents would be affected in either case, and that the only issue is the protection of property. One could argue that economic value should be irrelevant; for purposes of the example, I mean to assume only that Lot A has greater social value such that a neutral third party would prefer that Lot A survive the disaster.

¹⁹⁹ See JON ELSTER, EXPLAINING SOCIAL BEHAVIOR: MORE NUTS AND BOLTS FOR THE SOCIAL SCIENCES 20 (2007) (stating that a principle is strengthened by its application to a new context, novel facts, or counterintuitive explanations).

²⁰⁰ Assume that the compensation offered to the owners of Lot B is insufficient to compensate them for the harm they suffer in being forcibly ejected from their land.

²⁰¹ See 545 U.S. 469, 472–75 (2005).

²⁰² Although it may always be true that officials originate harm when they exercise the power of eminent domain, the choice to build a road, hospital, or sports stadium can exist independently of a decision concerning which current property owners to burden via the takings power. By contrast, in *Kelo* the officials decided to take land from current homeowners in order to give it to a private developer—the economic development of the particular property was the alleged public purpose. See *id.* at 491–92. Numerous observers criticized the *Kelo* decision. See Abraham Bell & Gideon Parchomovsky, Essay, *The Uselessness of Public Use*, 106 COLUM. L. REV. 1412, 1423 (2006); see also Richard A. Epstein, *Kelo: An American Original*, 8 GREEN BAG 355, 357 (2005) ("Few takings cases sparked as harsh a reaction as did *Kelo*.").

²⁰³ See IMMANUEL KANT, GROUNDWORK OF THE METAPHYSICS OF MORALS 38 (Mary Gregor ed. & trans., Cambridge Univ. Press 1998) (1785). Notably, one could develop an approach based on the "ends" versus "means" distinction that does not also rely on redi-

are not mere instruments to be used to achieve a particular result.²⁰⁴ Thus, we can distinguish cases in which the death of an innocent bystander is an incidental consequence of an action and when it is the direct means for achieving the end of saving more lives.²⁰⁵ It could be appropriate, therefore, to cause a trolley car to switch tracks, even knowing that a helpless person is on the alternate track, because the intention is not to use that person's life to save the others. Rather, the death is an unintended, though foreseeable, by-product of an action taken to save the five on the other track. Conversely, a surgeon acts immorally if she kills one healthy patient in order to harvest his organs for the benefit of several other patients—here, the healthy patient is made the means to the salvation of the others. Or, to cite a common trolley car example, it would be wrong to push an obese man onto the tracks in front of the trolley in order to stop it from killing five innocent track workers.²⁰⁶

If accepted, the redirected harm principle (and the underlying distinction between treating people as “means” rather than as “ends”) could account for many situations in which public officials seek to divert flood or fire damage in order to minimize harm, as well as triage choices in which public officials cannot save everyone. To be clear, any particular decision would still be open to criticism—for instance, if the choices were made in an arbitrary or biased fashion—but the inherent tradeoffs would not themselves violate moral principles.

One notable objection to the redirected harm principle is that the difference is merely “phenomenological”—that is, although “it might feel more dastardly” to shove the obese man onto the tracks rather than to turn the wheel of the trolley, the source of the harm is not relevant

rected harm. See, e.g., Michael J. Costa, *The Trolley Problem Revisited*, 24 S.J. PHIL. 437, 437–42 (1986) (using the doctrine of double effect to distinguish actions that properly treat individuals as “ends” from those that use them as “means”); Warren S. Quinn, *Actions, Intentions, and Consequences: The Doctrine of Doing and Allowing*, 98 PHIL. REV. 287, 288–90 (1989) (distinguishing between action that causes harm and inaction that allows harm to occur).

²⁰⁴ See Rakowski, *supra* note 61, at 1071 (arguing that approaches to the trolley problem that rest on Kantian considerations all hold that “killing somebody in a way that makes him a direct instrument for saving one or more other persons is impermissible, except perhaps if the number of lives saved or the good achieved is very much greater than the evil of using somebody as a means by killing him”).

²⁰⁵ See *id.* As Professor Eric Rakowski has summarized, “Several proposed answers to the question of when one may kill to save lives rely crucially upon the notion that a person is used impermissibly as a means to enhance the welfare of others when he is intentionally made a causal antecedent of their salvation.” *Id.*

²⁰⁶ See SANDEL, *supra* note 64, at 22–23.

to whether we are satisfying Kant's moral requirement that we treat others as "ends" and not "means."²⁰⁷ Neither the obese man nor the lone track worker has any agency—we decide what will happen and act accordingly. Thus, treating others as beings worthy of equal respect requires more than an examination of the source of the harm.

b. *Hypothetical Consent*

An alternative approach to the trolley problem seeks to hew more closely to the Kantian imperative by asking whether, hypothetically, the victims would have agreed to a rule designed to save the most people if asked before knowing whether they would be the ones saved.²⁰⁸ This approach, in more detail, is as follows:

[P]eople may . . . be killed to save a larger number of others if . . . a majority of those affected by a life-saving decision either endorsed a policy maximizing the number of lives saved or would have welcomed that policy in the circumstances in which they found themselves were they aware of their moral and religious beliefs, their desires and aversion to risk, and their personal abilities and history, but ignorant of whether they would be killed or saved under the policy.²⁰⁹

In other words, "paternalistic intervention" is acceptable because, under the circumstances, a person is treated "in the manner he would have chosen had he been free from the pressures of his life-threatening predicament."²¹⁰

For example, it seems rational to prefer a rule that directs trolley drivers to avoid as many people as possible, even if that means switching tracks toward an innocent person. From the standpoint of self-interest, a rule that maximizes lives saved is more likely to work to our benefit than a rule that forbids the driver from altering course. Odds

²⁰⁷ See Rakowski, *supra* note 61, at 1096.

²⁰⁸ See *id.* at 1065 (emphasizing the importance of "[a]cting towards those in danger as they would have wanted one to act—not as imaginary rational people . . . would have chosen").

²⁰⁹ *Id.* Professor Rakowski takes into account the interests of "those who dissent or who would have dissented for either moral or religious reasons (and not so that they could ride free) . . . and who would be killed if the greater number were saved," but permits the majority's desire for a maximizing tradeoff if the dissenters could not be excluded from the benefits and their chances of survival would be improved by adoption of a maximizing scheme. *Id.*

²¹⁰ *Id.*

are greater that we will be one of the five than the lone track worker.²¹¹ By contrast, we might not endorse a rule in which healthy patients could be sacrificed to save sick patients—as a form of quasi-insurance, we would be subsidizing unhealthy habits and also damaging the relationship of trust between doctors and patients.²¹²

The hypothetical consent approach gives a method for thinking about tradeoffs that have not been decided in advance. For instance, it is very unlikely that those who may find themselves trapped on a lifeboat and running out of food will have given thought to whether cannibalism would be an acceptable alternative to starvation, and, if so, how to select the victims.²¹³ Indeed, a hypothetical consent approach explicitly excludes cases in which preexisting law governs the outcome, focusing instead on cases in which a decisionmaker has no knowledge of “any explicit agreement intended to guide her decision by those she might save or kill and situations in which no agreement exists.”²¹⁴ The runaway trolley is a paradigmatic example, because the trolley driver and track workers have not communicated previously and there is no opportunity for them to do so once the trolley’s brakes have failed.

As with any approach to decision making that rests upon what the parties would have decided, however, outcomes depend upon our assumptions about human motivation. This, in turn, restates the more fundamental questions about morality, at least as an empirical matter. If people behave like the utility-maximizing rational actor of neoclassical economics, for instance, we may assume that they will generally choose rules that maximize their expected individual benefits and that ends

²¹¹ See *id.* (“[I]f somebody would reasonably have favored killing under certain circumstances—because, for example, that course would tend to maximize the number of lives saved and thus antecedently reduce her own risk of dying—then killing that person to save others is morally permissible, or even commendable.”). But see JUDITH JARVIS THOMSON, *THE REALM OF RIGHTS* 180–81 (1990) (pointing out that better odds would not be realized if the lone worker was a beam fitter, assuming beam fitters always work alone, in which case a bystander may not turn the trolley towards the one).

²¹² See THOMSON, *supra* note 211, at 183–84. Although the choice may be purely hypothetical—no such vote would ever take place, and the doctor-patient relationship would not actually be harmed by the secret killing of a healthy patient—the hypothetical chooser would feel differently about going to the doctor after consenting to the sacrifice of healthy patients, and therefore, would take this adverse consequence into account. Thus, the decision whether to kill a healthy patient cannot rely on the logic of hypothetical consent if that consent would not have been given had there been time and motivation to deliberate in advance.

²¹³ See generally *Regina v. Dudley & Stephens*, [1884] 14 Q.B.D. 273 (Eng.) (involving the murder and consumption of a cabin boy by starving sailors). For a different sort of lifeboat problem, see *supra* notes 56–63.

²¹⁴ See Rakowski, *supra* note 61, at 1068.

will feature more prominently than means.²¹⁵ On the other hand, if we recognize the value that people ascribe to social connections and fairness, we will give more weight to categorical constraints on actions that cause harm.²¹⁶ For instance, individuals motivated by fairness might not agree to sacrifice human beings simply as means to an end. Thus, the hypothetical approach authorizes us to apply ordinary moral intuition, but it does not provide independent answers. Also, the hypothetical consent approach seeks to mimic what would have been decided by an individual or community—thus emphasizing the importance of what those affected by an emergency would want—but does not address the question of whether an actual decision could or should have been made before the crisis.²¹⁷

C. *An Unavoidable Tragedy*

In an important sense, disaster tradeoffs and trolley problems have no morally satisfactory answer; tradeoffs that involve the sacrifice of life or other fundamental values are always fundamentally tragic.²¹⁸ The insight here is not new; the calamity of choosing when the choice necessarily entails the sacrifice of crucial moral values is featured in Greek tragedy. For instance, in Sophocles' play, *Antigone*, King Creon has forbidden the burial of a traitor and Antigone must choose whether to obey his edict and her obligations as a citizen or to honor her duties as a family member.²¹⁹ A choice can be justified (or at least excused) without lessening our regret over the choice.

²¹⁵ See Hanoch Dagan, *Between Rationality and Benevolence: The Happy Ambivalence of Law and Legal Theory*, 62 ALA. L. REV. 191, 192 (2010) ("Law's conventional story assumes that its subjects are rational maximizers of their self-interest.").

²¹⁶ See *id.* at 199 (contending that human behavior is more complex and that "people . . . are indeed self-interested and potentially other-regarding and community-seeking").

²¹⁷ See ZACK, *supra* note 182, at 26 ("Broad public discussion of the allocation of limited resources in emergencies should be a vital component of disaster preparation in a democratic society.").

²¹⁸ See Martha C. Nussbaum, *The Costs of Tragedy: Some Moral Limits of Cost-Benefit Analysis*, 29 J. LEGAL STUD. 1005, 1007 (2000) (noting that a tragic question arises when there is no right answer, and describing such a tragic question as a situation in which "all the possible answers to the obvious question, including the best one, are bad, involving serious moral wrongdoing"); Michael Walzer, *Political Action: The Problem of Dirty Hands*, 2 PHIL. & PUB. AFF. 160, 160 (1973) (examining the choice between two equally wrong courses of action).

²¹⁹ See Sophocles, *Antigone*, in THE THREE THEBAN PLAYS: ANTIGONE, OEDIPUS THE KING, OEDIPUS AT COLONUS 55, 61–63 (Robert Fagles trans., 1984).

Trolley problems are difficult because the alternatives are *all* unpalatable.²²⁰ In cases of serious moral conflict, it is not necessarily true that further deliberation will indicate that one of our moral beliefs is false, and that we can proceed unperturbed with the correct course of action.²²¹ Rather, “it is surely falsifying of moral thought to represent its logic as demanding that in a conflict situation one of the conflicting thoughts must be totally rejected.”²²² At a minimum, it is not irrational for an individual to feel regret.²²³

Accordingly, public choices involve more than a weighing of desired outcomes against the cost of achieving them. Even in the simplest version of the trolley problem, there is something troubling about turning the trolley to aim at an innocent person, even if the rationale for doing so—avoiding the death of five other innocent people—is sound. As one scholar has observed, reducing public decision making to cost-benefit analysis risks obscuring the moral complexity of our choices.²²⁴ If morality were nothing more than utilitarian calculation, the problem of dirty hands could not arise: “Even when [a public official] lies and tortures, his hands will be clean, for he has done what he should as best he can, standing alone in a moment of time, forced to choose.”²²⁵

²²⁰ See Nussbaum, *supra* note 218, at 1007 (distinguishing between “obvious” and “tragic” questions). As Professor Martha Nussbaum has observed, the “obvious” question—what to do—may actually be quite difficult to answer. See *id.* But this difficulty is distinct from the deeper realization that no answer to a problem can be adequate to our moral obligations—this is the “tragic” question. See *id.*

²²¹ See Williams, *supra* note 150, at 122.

²²² *Id.* at 134.

²²³ See *id.* at 122–23. “The notion of an admirable moral agent cannot be all that remote from that of a decent human being, and decent human beings are disposed in some situations of conflict to have the sort of reactions I am talking about.” *Id.* at 123. Some scholars concede that people will feel these emotions, but maintain nevertheless that “an adequate moral theory must rule out genuine dilemmas.” See Terrance C. McConnell, *Moral Dilemmas and Consistency in Ethics*, in *MORAL DILEMMAS*, *supra* note 149, at 154, 155; Williams, *supra* note 150, at 123. This Article does not take a position as to whether moral dilemmas are “genuine” when “there are overriding moral reasons for acting on one rather than the other [moral consideration].” McConnell, *supra*, at 155. Rather, the point is that the outweighed moral considerations are not thereby extinguished—it is this feature that makes it possible to regret an action that one feels was correct.

²²⁴ See Nussbaum, *supra* note 218, at 1007–08 (“Too much reliance on cost-benefit analysis as a general method of public choice can . . . distract us from an issue of major importance, making us believe that we have only one question on our hands, when in fact we have at least two.”). Those questions are what we should do under the circumstances and whether any available choice can be morally justified. See *id.* at 1007.

²²⁵ Walzer, *supra* note 218, at 169 (noting that this is a very “improbable” account of morality, in part because our moral views are socially constructed and a theory of morality that does not grapple with our deeply held beliefs cannot be useful).

Two consequences follow from the recognition of tragedy in disaster tradeoffs. First, there is an obligation to avoid, or at the very least to mitigate, harm.²²⁶ Within the trolley car scenario, for instance, we might ask why the track workers were on tracks in active use, whether there was a warning signal system in place to alert trolley drivers to the presence of workers on the tracks, how the tracks were designed and maintained, and whether the trolley's brakes had been properly serviced. In this case, we are asking the standard questions of tort law.²²⁷ A trolley owner who failed to take basic precautions ought not to be able to invoke a doctrine of necessity to excuse the loss of life that results from that negligence, even if, viewed in isolation, the tradeoff chosen during the emergency that results is appropriate given those avoidable circumstances.

Second, when a tradeoff cannot be avoided, the "recognition that one has 'dirty hands' is not just self-indulgence: it has significance for future actions."²²⁸ In particular, "[i]t informs the chooser that he may owe reparations to the vanquished and an effort to rebuild their lives after the disaster that will have been inflicted upon them."²²⁹ Section 196 of the *Restatement (Second) of Torts* affirms the existence of a moral obligation to provide compensation for property damage in public necessity situations:

Although the moral obligation to compensate the person whose property has been damaged or destroyed for the public good is obviously very great, and is of the kind which should be recognized by the law, the rules as to governmental immunity for suit have stood in the past as a barrier to

²²⁶ See ZACK, *supra*, note 182, at 22 (advocating "Save All Who Can Be Saved" as an ethical principle for disaster response rather than the more modest goal, "Save the Greatest Number"). As Professor Naomi Zack has explained, the more ambitious approach requires significant advance planning, whereas "Save the Greatest Number" fails to avoid departures from ordinary morality and "is morally limited because the greatest number who can be saved depends on the context in question." *Id.*

²²⁷ If negligence is understood in economic terms to involve the reduction of accident costs to an efficient level, however, the ethical requirements for disaster planning may go further. See *id.* at 24 (contending, as a first position, "that we should not plan in advance how to allocate scarce resources because we should not accept such scarcity while there is time to augment resources or otherwise adequately prepare").

²²⁸ Nussbaum, *supra* note 218, at 1009.

²²⁹ *Id.* (observing that "[w]hen the recognition is public, it constitutes an acknowledgment of moral culpability, something that frequently has significance in domestic and international politics"); see also Williams, *supra* note 150, at 122 ("[T]he moral impulse that had to be abandoned in the choice may find a new object, and I may try, for instance, to 'make up' to people involved for the claim that was neglected.").

any effective legal remedy. After major public disaster compensation often has been paid under special legislation enacted for the purpose and in several jurisdictions general statutes provide for such compensation.²³⁰

Providing compensation would help to address the problem that those whose property has the least economic value are most likely to be sacrificed. Indeed, despite notable failures, there is broad societal consensus across the political spectrum that we have a moral obligation to mitigate disaster harm.²³¹

Put in trolley car terms, if the state chooses to sacrifice one person to save five, it ought to compensate the family of the one who was sacrificed. Because we are all vulnerable to harm, we all live on trolley tracks, and any sacrifice should be shared. Although questions of social justice do not necessarily turn on economic efficiency, the willingness of those spared to compensate those harmed would also evidence the Kaldor-Hicks efficiency of the tradeoff—that the choice generates a value for society sufficient to compensate the losers while still leaving the winners better off.²³²

²³⁰ RESTATEMENT (SECOND) OF TORTS § 196 cmt. h (1965). Some jurisdictions statutorily provide for compensation for property damage incurred as a matter of public necessity. See George C. Christie, *The Defense of Necessity Considered from the Legal and Moral Points of View*, 48 DUKE L.J. 975, 995–96 (1999); *supra* note 47 and accompanying text.

²³¹ See Address to the Nation on Hurricane Katrina Recovery from New Orleans, Louisiana, 2 PUB. PAPERS 1439–44 (Sept. 15, 2005). In response to the devastation caused by Hurricane Katrina in 2005, President George W. Bush remarked:

We have also witnessed the kind of desperation no citizen of this great and generous nation should ever have to know: fellow Americans calling out for food and water, vulnerable people left at the mercy of criminals who had no mercy, and the bodies of the dead lying uncovered and untended in the street.

Id.

²³² See POSNER, *supra* note 16, at 13; *supra* note 16 and accompanying text (providing more information on Kaldor-Hicks efficiency); see also Matthew D. Adler, *Beyond Efficiency and Procedure: A Welfarist Theory of Regulation*, 28 FLA. ST. U. L. REV. 241, 248–59 (2000) (discussing Kaldor-Hicks efficiency and concluding that it lacks moral importance). The Kaldor-Hicks heuristic should not be pushed too far, however, as it might seem to elevate economic considerations over other factors in assessing the costs of possible disaster tradeoffs. See Adler, *supra*, at 245–46. If economic factors, such as the market value of affected property interests, are to be given a higher priority than considerations that are less easily monetized, those priorities ought to be assigned through a transparent, political process and not simply built into the model for assessing tradeoffs.

IV. THE LIMITS OF LAW?

If the defense of public necessity seems difficult to reconcile with takings law, we might conclude that disasters fall outside the ordinary framework of law and that state actors must simply do the best that they can, exercising unlimited and essentially unchecked emergency powers.²³³ This Part contends, however, that natural disasters should not suspend the rule of law.²³⁴ Without legal constraints on official action, we cannot be assured that the actions of public officials will reflect our shared values.²³⁵ Further, this Part contrasts the binary choice called for in trolley problems with the complexities—institutional, procedural, and temporal—of public disaster response, and argues that emergencies do not excuse a failure to engage in comprehensive advance planning.

Section A argues that the values at stake in disaster tradeoffs are deeply contested, and that political process matters; communities that may be impacted should have a voice in shaping the legal rules that will apply when a disaster strikes.²³⁶ Section B then responds to the objection that extraordinary crises requiring the compromise of core values fall outside the scope of law and should be resolved as necessity requires.²³⁷ The invocation of necessity as an extralegal concept ignores

²³³ See David A. Super, *Against Flexibility*, 96 CORNELL L. REV. 1375, 1381 (2011) (observing that emergency response rules tend to afford state actors wide discretion, because decisions cannot be made in the absence of information, and the information is not available until a crisis occurs); Jules Lobel, Comment, *Emergency Power and the Decline of Liberalism*, 98 YALE L.J. 1385, 1407–10 (1989) (discussing Congress allowing for the exercise of broad emergency powers during disasters, and noting that as a result of an “excessive and uncontrolled” delegation of emergency authority to violate laws, such authority itself has become routine and lawful).

²³⁴ See Super, *supra* note 233, at 1380 (noting that exercising discretion instead of following the law is often suboptimal—by the time information gathering is maximized so as to best inform decision making, the number and quality of options may be diminished, and the best options may no longer be available). One scholar has further noted that too much flexibility in the exercise of discretion can lead to paralysis, and has argued that the “hurried exercise of discretion” can be defective. See *id.* Instead, the “rule of law” includes norms of like treatment and advance notice. See *id.* at 1377 (“Invocations of ‘the rule of law’ may be demands for consistent treatment, but they are just as likely to be pleas to resolve issues under rules specified in advance.”).

²³⁵ See ZACK, *supra* note 182, at 64 (“No matter how important the virtues of integrity and diligence are for individual cultivation, contemporary disasters require a broader public responsibility on the part of what is generically understood to be ‘government’ and its public policies.”).

²³⁶ See *infra* notes 239–259 and accompanying text; see also SHAPIRO, *supra* note 139, at 35–39 (endorsing local decisions and participation in collective self-governance by individuals with interests expected to be impacted by the collective action at issue).

²³⁷ See *infra* notes 260–270 and accompanying text.

the critical role of disaster planning: to minimize harm, to mitigate vulnerability, and, more broadly, to reflect society's priorities. Finally, Section C contends that an ad hoc approach to disaster tradeoffs would also give short shrift to social justice concerns.²³⁸ Disaster harms often follow from preexisting social inequality; leaving those harmed by government choices during disaster response to bear their own losses would only exacerbate the problem.

A. Process Constraints

Although few would deny the general utility of legal guidelines for disaster response, or the importance of clearly assigned institutional responsibilities, it does not necessarily follow that specific disaster tradeoffs should be subject to legal constraint. If the correct course of action only becomes apparent in the midst of a crisis, legal rules could interfere either by dictating a different and suboptimal result or by imposing bureaucratic delays.²³⁹ Yet, this assumes that we can, in theory, separate substance and process. In fact, the defensibility of a substantive outcome follows from the fairness or unfairness of the underlying procedure.

Consider the famous case of *United States v. Holmes*, decided by the then-Circuit Court for the Eastern District of Pennsylvania in 1842, in which a lifeboat was adrift at sea and in danger of sinking.²⁴⁰ If all lives were not to be lost, some of those onboard would have to be cast over the side to drown. Sailors stood ready to obey the mate's command as ranking officer. But how was he to choose who should be killed? The order was as follows:

The mate directed the crew "not to part man and wife, and not to throw over any women." There was no other principle of selection. There was no evidence of combination among the crew. No lots were cast, nor had the passengers, at any time, been either informed or consulted as to what was now done.²⁴¹

The crew ejected fourteen male passengers from the lifeboat, and the remaining passengers and crew were later rescued.²⁴² The mate's

²³⁸ See *infra* notes 271–286 and accompanying text.

²³⁹ See Super, *supra* note 233, at 1380 (contending that time spent gathering information before making a decision can exceed the benefit when it is more important to be decisive than perfect).

²⁴⁰ 26 F. Cas. 360, 361 (C.C.E.D. Pa. 1842) (No. 15,383).

²⁴¹ *Id.* at 361–62.

²⁴² *Id.* In this regard, the court felt obliged to observe that "[n]ot one of the crew was cast over. One of them, the cook, was a negro." *Id.* At the time of the decision, it appears

decision preserved many lives and seems to have had the merit of expedience, at the least. Without too much difficulty, however, we can imagine a number of alternatives that might also have produced the same result (albeit with different distributive consequences): (1) majority vote;²⁴³ (2) casting lots;²⁴⁴ (3) throwing people overboard according to their weight, regardless of gender or status;²⁴⁵ (4) throwing people overboard according to their age or health, regardless of gender or status; (5) requiring the sailors to sacrifice themselves to protect the passengers entrusted to their care; (6) prioritizing the mate and as many sailors as would be necessary to operate the lifeboat safely, and then putting the remaining sailors overboard, and, if necessary, choosing additional passengers according to one of the other methods listed above; and (7) doing nothing so that all would drown together unless enough people volunteered to drown to save the rest before it was too late.

In a subsequent criminal prosecution, the mate stood trial for manslaughter.²⁴⁶ The court applied a fiduciary theory and instructed the jury that if there were more sailors than needed to operate the boat, “the supernumerary sailors have no right, for their safety, to sacrifice the passengers.”²⁴⁷ Assuming that the sailors and passengers all had an equal right to live, however, the court further instructed that drawing lots would have been “the fairest mode, and, in some sort, as an appeal to God, for selection of the victim.”²⁴⁸ The lawyer for the accused

that a further principle of selection would have prioritized white over non-white persons, regardless of status.

²⁴³ Various procedures for balloting and voting could, of course, impact the outcome. See, e.g., Frank I. Michelman, “*Protecting the People from Themselves, or How Direct Can Democracy Be?*,” 45 UCLA L. REV. 1717, 1729, 1773–74 (1998) (discussing various voting models); Richard H. Pildes & Kristen A. Donoghue, *Cumulative Voting in the United States*, 1995 U. CHI. LEGAL F. 241, 242–43 (analyzing cumulative voting and comparing alternative voting systems).

²⁴⁴ See RONALD DWORKIN, *FREEDOM’S LAW: THE MORAL READING OF THE AMERICAN CONSTITUTION* 139 (1996) (arguing that drawing straws is the fairest way to determine who will be sacrificed). Professor Ronald Dworkin disapproves of voting because many forces, such as “kinship, friendships, enmities, [and] jealousies . . . that should not make a difference will then be decisive.” See *id.* This “lot casting” method, however, could also be combined with preconditions. For instance, the female passengers might have been excluded so that lots would be drawn by only the male passengers and crew.

²⁴⁵ The idea would be to reduce the total number of lives lost, if the displaced weight of the heaviest people on the boat could make it possible to survive with fewer sacrificed lives.

²⁴⁶ *Holmes*, 26 F. Cas. at 363.

²⁴⁷ *Id.* at 367.

²⁴⁸ *Id.*

argued that the procedure of drawing lots was neither practically available nor likely to produce a better substantive outcome.²⁴⁹

The question of choice could have been deliberated not at the time of emergency, but earlier in anticipation of like emergencies.²⁵⁰ The rule of law exists to guide behavior, even “at midnight, in a sinking boat.”²⁵¹ Because several methods of sorting the members of the lifeboat appear possible, and none are obviously correct, a legal rule for tradeoffs of this kind would reduce confusion rather than engender it.²⁵²

Even if we were to examine the lifeboat situation as an example of a trolley problem, the applicability of a necessity defense for the mate’s order remains unclear. Neither the redirected harm nor the hypothetical consent approaches canvassed in the previous Part produce clear answers.²⁵³ First, whether the harm has been redirected or is newly originated depends on how we frame the issue. Throwing someone out of a boat is a violent act, like operating on a healthy patient to harvest organs for the use of others.²⁵⁴ On the other hand, everyone on the boat would otherwise have drowned, and the mate arguably redirected the threatened harm toward a few individuals so that the majority would survive. Unlike the surgeon hypothetical, those sacrificed would

²⁴⁹ See *id.* at 365 (reporting the defense counsel’s argument that it was unheard of to cast lots “at midnight, in a sinking boat, in the midst of darkness, of rain, of terror, and of confusion”). The defense lawyer further argued that the sailors “adopted the only principle of selection which was possible in an emergency like theirs . . . a principle more humane than lots. Man and wife were not torn asunder, and the women were all preserved. Lots would have rendered impossible this clear dictate of humanity.” *Id.*

²⁵⁰ See Wendy F. Hensel & Leslie E. Wolf, *Playing God: The Legality of Plans Denying Scarce Resources to People with Disabilities in Public Health Emergencies*, 63 FLA. L. REV. 719, 721 (2011) (noting that decisions consciously made in anticipation of emergency are likely to be more fair and reasoned than those made in the “midst of a full-blown disaster”); Jeremy Waldron, *A Majority in the Lifeboat*, 90 B.U. L. REV. 1043, 1051, 1055 (2010).

²⁵¹ See *Holmes*, 26 F. Cas. at 365.

²⁵² See ROBIN MISKOLCZE, *WOMEN & CHILDREN FIRST: NINETEENTH-CENTURY SEA NARRATIVES & AMERICAN IDENTITY* 25–66 (2007) (discussing the development of evacuation priorities and the cultural values they embody). Giving advance scrutiny to the horrors of such tradeoffs might also lead to sensible seafaring rules requiring that vessels have lifeboats adequate to handle all passengers and crew and that these lifeboats be regularly maintained. See generally International Convention for the Safety of Life at Sea (SOLAS), Nov. 1, 1974, 32 U.S.T. 47, 1184 U.N.T.S. 278 (prescribing some international seafaring safety standards).

²⁵³ See *supra* notes 193–217 and accompanying text.

²⁵⁴ See *supra* notes 193–217 and accompanying text.

not otherwise have lived, unless, of course, other individuals were sacrificed or volunteered to die instead.²⁵⁵

The question of hypothetical consent is also unclear because it depends on how we draw the “veil of ignorance.”²⁵⁶ A male passenger traveling alone might not consent to be sacrificed so that others could live, and might instead insist upon drawing lots.²⁵⁷ If we wanted to avoid the influence of an individual’s particular circumstances, we would need to ask a disembodied (neither male nor female) chooser.²⁵⁸ This hypothetical decisionmaker would also be ignorant of whether, if male, he would be a member of the crew, a single passenger, or a passenger with a female companion also onboard. The hypothetical choice produced by this procedure, however, would have nothing to do with the actual consent of those on the lifeboat.²⁵⁹

In sum, as the lifeboat case illustrates, the substantive and procedural aspects of justice are not easily disentangled. On the one hand, inadequate decision processes can render tradeoffs unjust that might otherwise have been defensible. On the other hand, a robust process can bolster tradeoffs, even when difficult decisions are unavoidable.

²⁵⁵ See Rakowski, *supra* note 61, at 1091–92 (discussing the view that anybody “who can be killed by pointing the [preexisting] threatening force wherever it is causally possible to aim it—can be killed to maximize the number of people kept alive”). One scholar notes that according to this view, it does not matter “whether those in range are killed by the pre-existing threat or by some newly created force.” *Id.*

²⁵⁶ The term “veil of ignorance” is borrowed from John Rawls, who sought to formulate principles of justice through the use of a hypothetical decision procedure. See RAWLS, *supra* note 59, at 136–38.

²⁵⁷ See THOMSON, *supra* note 211, at 180–81 (discussing the hypothetical beam fitter who always works alone, and arguing that this beam fitter would decline to waive his right not to be killed even if doing so would maximize the number of lives saved).

²⁵⁸ Others have suggested different approaches. Compare THOMSON, *supra* note 211, at 180–81 (concluding that aiming the trolley at a lone worker such as a beam fitter is impermissible), with Rakowski, *supra* note 61, at 1127–29 (arguing that aiming the trolley at a lone worker such as a beam fitter may be permissible depending, for example, on when or how jobs are assigned, whether beam fitters are paid a risk premium, and the possibility of transfer from a beam fitting position).

²⁵⁹ See Heidi M. Hurd, *Justifiably Punishing the Justified*, 90 MICH. L. REV. 2203, 2305 (1992) (discussing the problematic nature of hypothetical consent). Nevertheless, even if the fiction of hypothetical consent makes it troublesome to apply, the focus on human agreement rather than abstract moral injunction provides a different, more political perspective from which to approach moral dilemmas. In particular, the need to achieve consent represents the standpoint from which public deliberation of a legal rule might proceed. See AMY GUTMANN & DENNIS THOMPSON, *WHY DELIBERATIVE DEMOCRACY?* 7 (2004) (defining deliberative democracy as a “form of government in which free and equal citizens (and their representatives), justify decisions in a process in which they give one another reasons that are mutually acceptable and generally accessible”).

B. The “Dirty Hands” Problem

Another possible objection to the formulation of legal rules for disaster response is that, if the tradeoffs called for in disaster response violate foundational moral or legal requirements, then it may be better to deal with emergencies as circumstances demand according to a doctrine of necessity rather than by pretending that our legal system can accommodate the compromise of its core values.²⁶⁰ Moreover, unlike a trolley car driver’s decision, the choices made by public officials in the context of disaster can create precedents for the suspension of liberties.²⁶¹ Thus, it might be the case that stretching the law to cover disaster emergencies could debase the law without improving the quality of those decisions.

In other words, hard questions should be resolved according to an ad hoc principle of necessity rather than by reference to established law.²⁶² These arguments are sometimes bolstered with telling examples, such as the ticking time bomb or the runaway trolley car. If there is no time to reflect, and if the alternatives are all unpalatable, it is best just to choose and have done with it. Pretending that the law can provide an appropriate answer will only diminish respect for the rule of law.²⁶³

²⁶⁰ See Oren Gross, *Chaos and Rules: Should Responses to Violent Crises Always Be Constitutional?*, 112 YALE L.J. 1011, 1014–15, 1019 (2003) (describing a “downward cycle” when the response to successive disasters leads to ever more repressive laws, and arguing that in times of national crises, “democratic nations tend to race to the bottom as far as the protection of human rights and civil liberties . . . is concerned”).

²⁶¹ See, e.g., *Korematsu v. United States*, 323 U.S. 214, 220 (1944) (upholding the compulsory exclusion of Japanese Americans during World War II due to circumstances of “emergency and peril”); see also Frederick Schauer, *Slippery Slopes*, 99 HARV. L. REV. 361, 361–64 (1985) (discussing the slippery slope of a desirable restriction leading to another, “increasingly invidious” one). As one commentator notes, “emergencies suspend, or at least redefine, de facto, if not de jure, much of our cherished freedoms and rights.” See Gross, *supra* note 260, at 1019.

²⁶² See Thomas P. Crocker, *Overcoming Necessity: Torture and the State of Constitutional Culture*, 61 SMU L. REV. 221, 224 (2008) (noting that “[n]ecessity arguments claim that in particular circumstances officials may undertake exceptional actions to achieve their legitimate goals, such as protecting national security, that would otherwise be prohibited if the normal rule of law governed during normal conditions”).

²⁶³ See *id.* at 226 (arguing that when officials act “outside the constraints of fundamental law, the domain of law remains unscathed, but action taken according to necessity becomes lawless”). Professor Thomas Crocker has counseled caution, arguing that we should “overcome the temptation to rely on necessity . . . when doing so threatens to alter our broader commitments to living under constitutional constraints reflected in rights-protecting and separation of power principles.” *Id.* at 227; see also Thomas P. Crocker, *Presidential Power and Constitutional Responsibility*, 52 B.C. L. REV. 1551, 1608–09, 1613 (2011) (arguing that constitutional values limit the president’s power to do what is “necessary”).

In the broadest sense, an objection to extending the rule of law to exceptional, morally compromised choices seems misplaced because it misunderstands the nature of public decision making. One scholar, for instance, has pointed out that public life seems to require that even “good men” commit moral wrongs for which they ought to feel guilty so that they can accomplish greater utilitarian ends for society.²⁶⁴ It is not possible to be effective in public life, in other words, unless one is willing to have dirty hands. We understand this about politicians; we want them to be effective.²⁶⁵ The notion that the public must be protected from knowledge that the world does not always align neatly and that values can conflict seems both patronizing and self-defeating.²⁶⁶ Our conception of the rule of law must not be so brittle that it cannot withstand contact with reality.

Nor does the objection to legal rules for moral dilemmas seem applicable in the context of disaster response. With respect to disaster tradeoffs, the question is not so much whether or not we will have dirty hands—it may be that all available options involve the loss of life—but how those choices will be made and whether we are willing, collectively, to own up to the consequences. A moral response to disaster cannot ignore law, because law represents collective judgment, and only through full community participation can we derive appropriate rules for triage.

In this vein, one scholar has argued that our interests in disaster planning must stem from what we individually feel is just, meaning, what we would want as justice for ourselves because we are all vulnerable to disaster harm.²⁶⁷ As the scholar explains, “If there is a prior consensus that our moral rules are not absolute but subject to exceptions in unusual situations, then we need to clarify what the exceptions are before they occur.”²⁶⁸ Such clarification should be resolved through the political process rather than apart from it:

²⁶⁴ See Walzer, *supra* note 218, at 165.

²⁶⁵ See *id.*

²⁶⁶ See Isaiah Berlin, *Two Concepts of Liberty*, in ISALIAH BERLIN, *LIBERTY* 166, 212 (Henry Hardy ed., 2002) (criticizing the “ancient faith [which] rests on the conviction that all the positive values in which men have believed must, in the end, be compatible, and perhaps even entail one another”).

²⁶⁷ See ZACK *supra* note 182, at 25–26. This argument can be seen as an application of the hypothetical approach to trolley problems. See *id.*; see also Martha Albertson Fineman, *The Vulnerable Subject and the Responsive State*, 60 *EMORY L.J.* 251, 266–69 (2010) (describing the human condition as one of vulnerability).

²⁶⁸ ZACK, *supra* note 182, at 40.

There is nothing wrong with providing exceptions or specifications to our moral principles before the fact of a disaster and then applying those specifications when the time comes. But there is clearly something suspect in making up the exceptions and specifications in the moment of a disaster because that opens the door to mere rationalization and justification after the fact.²⁶⁹

Thus, rather than complacent acceptance of the dirty hands of those who make tradeoffs on our behalf, deliberation and rulemaking would improve the quality of disaster decision making and avoid situations in which a person's life is sacrificed according to a principle that he did not select, was not aware of, and had no opportunity to influence.²⁷⁰

The stylized emergency situations represented by trolley problems can obscure the extent to which disaster tradeoffs ought to be anticipated and made subject to comprehensive planning that seeks to minimize the need for sacrifice and to arrive at rules for necessary tradeoffs through an open, deliberative process. In a democratic society, law can allocate benefits and burdens so that tradeoffs reflect our commitment to self-government and shared sacrifice rather than an expedient victimization of the already vulnerable.

C. *Social Justice After Disaster*

A natural disaster is, in the first instance, a misnomer. Whether natural phenomena become disasters is "contingent upon human exposure and a lack of capacity to cope."²⁷¹ Although we are all vulner-

²⁶⁹ *Id.* at 41.

²⁷⁰ If it were published as law of the sea that single male passengers can expect to be first to go over the side in an overcrowded lifeboat (or to be left on ship), those passengers might choose not to travel, insist on paying a reduced fare, or insist on documentation of safety compliance. I do not mean to suggest that most individuals are fully rational actors and would adjust their behavior to an efficient level given their risk tolerance, but I do contend that anyone who may be exposed to harm deserves the fullest possible disclosure. See *supra* notes 181–217 and accompanying text (discussing annual notices given to individuals living in areas subject to flooding describing the consequences if nearby levees are opened).

²⁷¹ Mark Pelling, *Paradigms of Risk, in* NATURAL DISASTERS AND DEVELOPMENT IN A GLOBALIZING WORLD 3, 4 (Mark Pelling ed., 2003) (noting that natural disaster is a "humanitarian disaster with a natural trigger"); see also Ben Aguirre et al., *Institutional Resilience and Disaster Planning for New Hazards: Insights from Hospitals*, 2 J. HOMELAND SECURITY & EMERGENCY MGMT. 1, 1 (2005) (quoting the Centers for Disease Control and Prevention definition of "disaster" as an "ecological disruption causing human, material, or environmental losses that exceed the ability of the affected community to cope using its own resources, often calling for outside assistance").

able to disaster,²⁷² those without access to resources generally suffer the greatest harm.²⁷³ According to social geographers who have studied the vulnerability of social systems to natural hazards, the “dominant component” in measuring social vulnerability is socioeconomic status.²⁷⁴ Other components that increase social vulnerability include race and ethnicity.²⁷⁵ Put another way, “[d]isasters are income neutral and color-blind. Their impacts, however, are not.”²⁷⁶

Along similar lines, two sociologists who have written about the inadequacy of the government’s response to Hurricane Katrina define a social disaster as “predicated upon and exacerbated by structural inequality and human decisionmaking.”²⁷⁷ These sociologists conclude that “[s]ocial disasters reproduce and reinforce social injustices.”²⁷⁸ Thus, social inequality correlates with vulnerability to disaster.

²⁷² See Martha Albertson Fineman, *The Vulnerable Subject: Anchoring Equality in the Human Condition*, 20 YALE J.L. & FEMINISM 1, 8 (2008) (contending that human vulnerability is not a pathological condition, but rather “a universal, inevitable, enduring aspect of the human condition that must be at the heart of our concept of social and state responsibility”).

²⁷³ See Austin Sarat & Javier Lezaun, *Introduction: The Challenge of Crisis and Catastrophe in Law and Politics*, in CATASTROPHE: LAW, POLITICS, AND THE HUMANITARIAN IMPULSE 1, 3 (Austin Sarat & Javier Lezaun eds., 2009) (“[D]isasters might end up exacerbating inequalities and discriminations, but, at the very least, they can serve to make the plight of vulnerable and underprivileged groups strikingly visible, by manifesting inequality in the rawest, most unadulterated way.”). Put differently, natural events have the potential to become disasters to the extent that human beings are vulnerable to them. See Matthew D. Adler, *Policy Analysis for Natural Hazards: Some Cautionary Lessons from Environmental Policy Analysis*, 56 DUKE L.J. 1, 42 (2006) (“The term often used in the [social science] literature is population ‘vulnerability’: earthquakes, floods, hurricanes, droughts, tornadoes, and avalanches harm humans because of an interaction between a natural event and a human population that is ‘vulnerable,’ to some extent, to that event.”).

²⁷⁴ See Susan L. Cutter & Christina Finch, *Temporal and Spatial Changes in Social Vulnerability to Natural Hazards*, 105 PROC. NAT’L ACAD. SCI. U.S. 2301, 2301 (2008) (reporting on an empirical study of the historical variability in social vulnerability in the United States from 1960 to 2000). Social vulnerability has been defined as “the sensitivity of a population to natural hazards and its ability to respond to and recover from the impacts of hazards.” *Id.*

²⁷⁵ See *id.*

²⁷⁶ Susan L. Cutter, *The Geography of Social Vulnerability: Race, Class, and Catastrophe*, in FARBER & CHEN, *supra* note 22, at 120, 123–24.

²⁷⁷ KRISTIN A. BATES & RICHELLE S. SWAN, *THROUGH THE EYE OF KATRINA: SOCIAL JUSTICE IN THE UNITED STATES* 6 (2d ed. 2010) (“[A] social disaster can be triggered by a force of nature, such as a hurricane, but ultimately it is rooted in the choices that society’s members make and the prioritization of some lives over others.”).

²⁷⁸ *Id.* at 7. To some extent, natural disasters strike regardless of the victims’ race, gender, or social status, but “[i]f one were to draw a map of places in which disasters are most likely to strike, we would also be sketching at least an approximate map of places in which the vulnerable are most likely to be gathered.” See Sarat & Lezaun, *supra* note 273, at 3 (internal quotation marks omitted) (discussing the politics of disaster inequality).

Removing disaster tradeoffs from the ambit of ordinary rule-of-law constraints would exacerbate preexisting inequalities. Rather than reinforce the public necessity defense, we should reject it. The defense is pernicious, in part because it rests upon the faulty assumption that those who lose their home and possessions are equal in social status to those whose property is thereby protected, to say nothing of the judges and legislators who decide what compensation, if any, is owed. The assumption that pre-disaster conditions are neutral lacks empirical support on two levels. First, there is no evidence to support a claim that those whose interests are sacrificed—the rural poor, for instance—stand on equal social, economic, or political footing with larger communities whose interests often take precedence. Second, the majority of those exposed to harm are often the most vulnerable in society and lack the social and economic means to self-insure against possible loss.²⁷⁹

In the wake of Hurricane Sandy in October 2012, for instance, new attention has been paid to the notion of erecting sea barriers to protect Manhattan.²⁸⁰ Yet, water diverted by a barrier will, inevitably, go someplace else.²⁸¹ In this regard, it is notable and troubling that “Wall Street is worth vastly more, in dollar terms, than certain low-lying neighborhoods of Brooklyn, Staten Island and Queens—and that to save Manhattan, planners may decide to flood some other part of the city.”²⁸² Tradeoffs, it seems, may be made in the midst of disaster or embodied in plans that would shield high-priced neighborhoods from flooding while raising floodwater by as much as two feet elsewhere.²⁸³ The answer is not to shy away from disaster preparation, but is rather to ensure that the decision-making process is inclusive and that the state accepts responsibility for those tradeoffs that cannot be averted.

Thus, to talk about disaster is also to talk about social structures. Disaster law and policy necessarily encompasses questions of social jus-

²⁷⁹ See Klein & Zellmer, *supra* note 71, at 1473 (“Too often, those who suffer most are the poorest members of society—those who lack either the ability to evacuate from a floodplain or the financial means to settle in less vulnerable areas.”). Some observers contend that federal flood control efforts and compensation schemes actually create perverse incentives that increase the number of floodplain residents. See *id.*

²⁸⁰ See McKenzie Funk, *Deciding Where Future Disasters Will Strike*, N.Y. TIMES, Nov. 4, 2012, at SR9. Hurricane Sandy caused significant damage to New Jersey, New York, and other parts of the eastern United States. See Andy Newman, *Hurricane Sandy vs. Hurricane Katrina*, N.Y. TIMES CITY ROOM BLOG (Nov. 27, 2012 4:17 PM), <http://cityroom.blogs.nytimes.com/2012/11/27/hurricane-sandy-vs-hurricane-katrina/>.

²⁸¹ See Funk, *supra* note 280.

²⁸² *Id.*

²⁸³ See *id.*

tice, because effective disaster planning seeks to mitigate vulnerability. Identifying structural factors that put individuals at greater risk or influence their ability to respond to disaster can help guide decisions about risk allocation in disaster planning and response.²⁸⁴ Questions of social justice cannot be set to the side in the wake of a disaster, because awareness of social inequality is integral to understanding the harm that has been caused.²⁸⁵ Disasters' harms fall unevenly according to wealth, race, gender, social status, and other factors.²⁸⁶

CONCLUSION

Affected landowners deserve recompense when the state destroys their property in the context of a broader disaster response. Yet, the federal government, along with some state governments, continues to invoke the doctrine of public necessity to absolve itself from any responsibility for costs imposed on private parties through deliberate flooding, controlled burns, and other measures taken in the midst of a crisis to protect the public.²⁸⁷ The government's real involvement, however, begins before the onset of any particular disaster and includes choices concerning the zoning of residences and businesses, the construction of levees, reservoirs, and dams, and other activities that affect a community's vulnerability to disaster.

²⁸⁴ See Susan L. Cutter, *The Vulnerability of Science and the Science of Vulnerability*, 93 ANNALS ASS'N AM. GEOGRAPHERS 1, 6 (2003) (discussing the value of vulnerability science in developing risk, hazard, and disaster reduction policies).

²⁸⁵ See Cutter, *supra* note 276, at 120 (contending that disaster response failures follow from "failures of the social support system for America's impoverished—the largely invisible inner city poor").

²⁸⁶ See Adler, *supra* note 273, at 42 ("Social science data is, of course, crucial to natural hazards risk assessment. The term often used in the literature is population 'vulnerability' . . .").

²⁸⁷ See generally *TrinCo Inv. Co. v. United States*, 106 Fed. Cl. 98 (2012) (finding the government not liable for damaging property in efforts to prevent wildfires from spreading and discussing the necessity defense); *Bass v. Louisiana*, 34 La. Ann. 494 (1882) (declining to provide compensation for government-inflicted damage to land resulting from construction of a levee); *Atken v. Vill. of Wells River*, 70 Vt. 308 (1898) (same); *Short v. Pierce Cnty.*, 78 P.2d 610 (Wash. 1938) (providing no compensation for government inflicted damage to property in the course of controlling floodwaters). These cases adhere to the general view that there is no duty to compensate the owner of property damaged or destroyed in situations of public necessity. See *Cohan*, *supra* note 2, at 691–94 (discussing the public necessity doctrine and the issue of compensation). "Where the danger affects the entire community, or so many people that the public interest is involved, that interest serves as a complete justification to the defendant who acts to avert the peril to all." *KEETON ET AL.*, *supra* note 30, § 24.

Moreover, although public officials need wide latitude to manage a disaster response, authority to act is not itself a justification for withholding payment for damages caused along the way. Indeed, the moral obligation to compensate for harm done was evident even in 1927 when New Orleans sought to deluge its neighbors to escape danger and agreed that it would make whole their losses—a promise conveniently forgotten. Adhering to the principle of just compensation—whether instituted via statute or judicial reinterpretation of the Fifth Amendment’s Takings Clause—would preserve the government’s emergency powers in full while reaffirming the rule of law and advancing the interests of social justice.

