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PROVING MIRACLES AND THE FIRST AMENDMENT

Robert Birmingham*

Baysianism n. . . . *The application of theology to statistics, or vice versa.*¹

I. PANDO

A mule, William Faulkner wrote in his often comic final novel, *The Reivers*, "will work patiently for you for ten years for the chance to kick you once."² *Pando v. Fernandez*,³ decided in 1984, did not kick until 1995, when it kicked twice. While once visible in the reports,⁴ the case does no work. Not for its litigants: Pando was winning but unpaid. Neither does it produce economies external to them by being a precedent; *Pando* in the trial court, the part of the case that alone excites us, lay uncited until 1995. Like a mule, *Pando* lacks pride of ancestry, hope of posterity. The source of both conditions is that outside sparse dicta, only a state trial court decided, or even addressed, its interesting issue.

The question naturally arises, why care about, why praise, *Pando* now? I give two reasons. *Profundity*: the unit of profundity or depth, defined later,⁵ is the turtle; *Pando* is about an anomaly in probability theory many turtles down. *Aesthetics*: the unit of beauty is the millihelen, the amount of beauty necessary and sufficient to launch one ship.⁶ The facts of *Pando* have many small moments of beauty, or millihelens. This beauty is a comic beauty, like that of late Faulkner. Imagine less a mule than a zonkey, the result of mating a zebra and a donkey.⁷ The animal looks silly, but not bad.

Pando resolves a dispute over a venture capital contract. The contracting parties are the entrepreneur, who supplies technology or talent, and the capitalist, who contributes money. The kind of contract in *Pando* is underreported in its initial stages. Yet its undertaking is hubristic, and

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¹ STAN KELLY-BOOTLE, *THE COMPUTER CONTRADICTIONARY* 24 (2d ed. 1995).

² WILLIAM FAULKNER, *THE REIVERS* 123 (1962).

³ 485 N.Y.S.2d 162 (N.Y. Sup. Ct. 1984).

⁴ *Pando v. Hernandez* vanishes from the reports in 1989.

⁵ See *infra* notes 31-34 and accompanying text.

⁶ See, e.g., Stan Kelly-Bootle, *Devil's Advocate: The Mother of All Columns*, 9 UNIX REV. 17 (1991).

⁷ See Chung-I Wu, *Now Blows the East Wind*, 380 NATURE 105 (1996).

acclaim always accompanies its improbable success. The capitalist in Pando is Fernandez, a welfare mother. Fernandez paid in four dollars. Pando is the entrepreneur thinking, "I can do that."⁸ These days entrepreneurs often are young, Pando being fourteen when the minds of the parties met. He purchased four lottery tickets, picking the numbers. Then he beseeched St. Elegua—whose identity I withhold for now—that a ticket he picked win. Pando and Fernandez seek divine intercession to accomplish a transfer payment. A scholar of law and economics would discourage praying by Pando as investment squandered. Yet the parties do nothing dishonorable. Pando put their money in play, risked losing it; thus he differs from a psychic offering to disclose winning numbers to callers on a 900 line, while not playing the lottery herself.

What consideration does Pando anticipate? Pando could not have bought lottery tickets in his own name. Fernandez promised equally to divide any profit. One of the tickets had to win to create the profit, a first condition precedent. The trial court uncovered or constructed a second condition precedent which we are about to come to. Fernandez denied having promised, else we would not have a case. But clearly she promised. Or minimally the allegation by Pando that she promised raises a disputed issue of fact that the court ought not resolve on a motion for summary judgment. One of the tickets won about \$2.8 million. After publicly and effusively complimenting Pando for his connection, Fernandez, having recalculated her options, declined to divide the profits. Pando sued for breach of contract.

Now comes the source of the millihelens, the second condition precedent (besides a ticket winning) to Fernandez having to pay Pando. The contract looks enforceable. We will see one scholar deny that it is a contract at all.⁹ But this result is an outlier and policy-driven. The parties promised; and, the promises having been exchanged, consideration is certain. Judge Greenfield, who grants the summary judgment, brushes aside ankle-biting interpositions by Fernandez of the Statute of Frauds and illegality. The state pays off over many years; to satisfy the statute, however, Fernandez need only assign Pando his share, which she can do immediately. Neither is Greenfield going to deny Pando this share on the ground that as an infant he should stay away from lotteries.

But for a mistake by his attorney, Pando would have won \$1.4 million after a bench trial, and his case would have been unreported. Superficially the mistake was inartfully drafting an affidavit. Some further turtles down, unmentioned in law school, it was not realizing that a

⁸ *Window on Silicon Valley: The Internet: Opportunity or Mania?*, CAL. TECH STOCK LETTER, May 23, 1996, at 4.

⁹ See *infra* notes 109-11 and accompanying text.

contract “exists in a superposition of states until an observation or measurement is made”:¹⁰

Imagine a cat confined to a box containing a bottle of poisonous gas, which will break, killing the cat, if and only if a device connected to it registers the radioactive decay of a radium atom. If the atom, device, and cat together constitute a quantum system, then it seems that this system will exist in a superposition of states unless and until an observer tries to determine which state it is in, by seeing whether or not the cat is dead. But this implies that in the absence of such an observation the cat is neither determinately dead nor determinately alive, which seems absurd.¹¹

The lesson is that metaphysically the contract is according to the third umpire:

The first one says, “Some’s balls and some’s strikes and I calls ‘em as they is.” The second says, “Some’s balls and some’s strikes and I calls ‘em as I sees ‘em as I see ‘em.” The third says, “Some’s balls and some’s strikes but they ain’t nothin ‘till I calls ‘em.”¹²

The contract lacked concreteness before Pando’s suit. The negotiations, the contract itself, were oral, in Spanish, and between parties innocent of law. Like the cat, the contract was nothing, neither alive nor dead, until Pando’s attorney observed it, collapsing the wave function. More humbly it was like the pitch in the story, neither ball nor strike, until the umpire, here Pando’s attorney, called it.

With this opportunity to shape the litigation before him, Pando pleaded:

Mrs. Fernandez, knowing that I am religious and a strong believer in St. Eleggua asked me, after noticing that the Lotto prize was several million dollars, whether or not I could get my Saint to win the Lottery. I told her that I did not know, but I would try. She thereupon told me that she would give me \$4.00 to select four different tickets and that if my St. Eleggua made my selection of the lottery tickets win, she would go equal partners with me on the prize.¹³

The affidavit admits an otherwise open issue of fact. It makes Fernandez’s duty to pay Pando depend, not on his beseeching St. Eleggua and a ticket

¹⁰ E.J. Lowe, *Cat, Schrödinger’s*, in *THE OXFORD COMPANION TO PHILOSOPHY* 125 (Ted Honderich ed., 1995) [hereinafter *OXFORD COMPANION*].

¹¹ *Id.*

¹² George Gurley, *In My Book: Why Play Ball When You Can Think About It?*, *KAN. CITY STAR*, Sept. 18, 1994, at K11.

¹³ 485 N.Y.S.2d 162, 167 (N.Y. Sup. Ct. 1984) (quoting affidavit of Christopher Pando).

he picked winning, but on St. Eleggua causing it to win. No court or jury would have implied this condition had the plaintiff not conceded it—despite Greenfield's wallowing in the consequent opportunity, rare in a state trial court, to do metaphysics. With the concession, Pando had to prove a miracle to prevail.¹⁴ Therein hangs a constitutionally instructive story, which this Essay relates.

II. ANTECEDENTS

A mule, as Faulkner put it, is “free of the obligations of ancestry.”¹⁵ Ancestry is where you find it—often social construct instead of biological fact. I present one example: at German universities, talent descended from father to son-in-law, young academics marrying their professors' daughters, and thus improving their prospect of appointments to professorships.¹⁶ In this open spirit I mention legal, mathematical, and philosophical antecedents of the case that Judge Greenfield overlooked.

A. *Estate of Kidd*¹⁷

Like *Pando*, *Kidd* plays off a tension between mainstream and idiosyncratic belief. On November 9, 1949, James Kidd, a miner and prospector whose life was solitary, poor, nasty, brutish, and short in Arizona, disappeared in the desert. By 1964 he was presumed dead, his estate assessed at \$174,065.69, and a holographic will recovered. The will directed that the assets of the estate “go in a research or some scientific proof of a soul of the human body which leaves at death I think in time their can be a Photograph of soul leaving the human at death.”¹⁸

A billion dollars is not what it used to be and neither is \$174,065.69. The estate attracted 103 or so claimants. They fell broadly into four classes, two of which dropped out early. By admitting the will to probate, Judge Meyers disappointed the first class, the putative heirs, who likewise lost an interlocutory appeal, having put “Descartes before the horse.”¹⁹ Meyers also decided the will created a charitable trust, disqualifying a second class of claimants, representatively including Clausser, who asserted she had witnessed her soul leave her body in Stuttgart in 1937. Claimants of this class, against the plain meaning of its language, which concededly is not every-

¹⁴ *Id.* at 167-68.

¹⁵ FAULKNER, *supra* note 2, at 123.

¹⁶ MARK KAC, ENIGMAS OF CHANCE: AN AUTOBIOGRAPHY 28 (1985).

¹⁷ 479 P.2d 697 (Ariz.), *cert. denied*, 404 U.S. 842 (1971).

¹⁸ *Id.* at 699.

¹⁹ JOHN G. FULLER, THE GREAT SOUL TRIAL 35 (1969).

thing or *Pando* would be easier, read the will to bequeath the money outright as a retrospective reward for proving the soul exists. Or they utterly mistook the character of the proceeding, as did the author of a letter that went, "I wrote you yesterday seeking information as to where I could send my answer to the Kidd Mystery Contest, and I FORGOT to put a stamp on the return envelope."²⁰

Meyers held protracted hearings to choose among surviving applicants. These were orthodox scientific claimants, notably the Barrow Neurological Institute, which would use the funds to investigate the brain; and parapsychological organizations like the American Society for Psychical Research, which would sponsor seances. Any oxymoron aside, the latter claimants are respectable parapsychological organizations. Meyers chose Barrow, but was reversed by the Supreme Court of Arizona sitting en banc. The opinion of that court, by Justice Struckmeyer, held that a probate court has no business imposing its preference as to how a testator disposes of her estate. The court then disqualified Barrow because its researchers "do not consider it possible to discover proof of a soul which leaves at death and, consequently, do not propose to attempt scientific research to that end."²¹

On remand Meyers was directed to choose from among the parapsychological organizations. Presumably he did so.²²

B. *Cosmology*

The tools required to analyze *Pando* are, speaking increasingly specifically, the mathematical theory of probability, its component Bayes' theorem, the theorem's use of prior probabilities, and the determination of priors through the principle of indifference. I explain Bayes' theorem

²⁰ *Id.* at 47.

²¹ 479 P.2d at 704.

²² Belatedly, the benchmark scientific journal *Nature* proposed a technique to study the departing soul without recourse to a medium:

The subject must be sealed in an enclosed cell equipped with an air regenerator, supported on sensitive piezoelectric transducers and fitted with the finest inertial-navigation accelerometers. He must be fitted with sensors for heart-beat, breathing, peristalsis and other bodily movements. A central computer will receive all the transducer and sensor signals, and will refine a model of the whole system and generate its equation of motion. . . .

When the subject dies, this equation will cease to fit. The computer will carry on processing the transducer data, and will ultimately optimize a new equation of motion, with different mechanical constants. Propagating this backwards to the moment of death will then reveal the discontinuities caused by the loss of the soul. The change of mass will reveal its weight; the change of centre of gravity will reveal the site it had vacated; the alteration of inertial moments will reveal its mass distribution. The form of the recoil at the instant of death will reveal the velocity, direction and spin of the departing soul, and the time it had taken to leave the body.

David Jones, *Soular Mass*, 366 NATURE 412, 412 (1993). The technique comes too late to help Barrow.

below;²³ priors and the principle of indifference are so unintuitive that I introduce them up front.

*Shadows of the Mind*²⁴ by Roger Penrose starts with a vignette of Jessica and her father entering a cave that has a boulder lodged above its entrance. So now they are inside the cave. Jessica worries that the boulder will fall forthwith, blocking their exit. Her father reassures her. The question becomes, what, if anything, the length of time the boulder has been there has to do with when it will fall. Jessica and her father express these conflicting views, the father's implicitly endorsed by the author:

Jessica: Surely, if it's going to fall down sometime, then the longer it's been there, the more likely it's going to fall down now?

Father: Actually, you could even say that the longer that it's been there, the less likely that it's going to fall down when we're here.²⁵

Penrose is a smart cosmologist,²⁶ which is like being a big elephant, because even a dumb cosmologist is smarter than almost anyone else.²⁷ So we must see why her father rather than Jessica is right that the boulder probably will not fall soon.

Penrose probably borrowed the calculation from a fellow cosmologist, Gott.²⁸ With no evidence beyond that from the Leakeys,²⁹ Gott answers the question, How long will our species survive? He claims a 0.95 probability that we will become extinct between 5,100 and 7,800,000 years hence. Here is how Gott does it. He notes we have existed about 200,000 years. He posits that this interval is as likely a proportion of our total existence as any other proportion, and then omits the 2.5% of proportions at either extreme.³⁰ This is calculation *ex nihilo*.

²³ See *infra* Part V.

²⁴ ROGER PENROSE, *SHADOWS OF THE MIND: A SEARCH FOR THE MISSING SCIENCE OF CONSCIOUSNESS* (1994).

²⁵ *Id.* at 4.

²⁶ ALAN LIGHTMAN & ROBERTA BREWER, *ORIGINS: THE LIVES AND WORLDS OF MODERN COSMOLOGISTS* 415 (1990).

²⁷ Adolf Grünbaum, *The Pseudo-Problem of Creation in Physical Cosmology*, 56 *PHIL. SCI.* 373, 383 (1989).

²⁸ J. Richard Gott III, *Implications of the Copernican Principle for Our Future Prospects*, 363 *NATURE* 315 (1993).

The name, "God" in German, suggests we are being put on; yet Gott exists, "a boyishly pudgy-faced Kentuckian who never lost his native accent," in which he says "after all, if you could really go into the past and kill your grandma before you were born, physics will have to find some way to deal with that." MICHAEL D. LEMONICK, *THE LIGHT AT THE EDGE OF THE UNIVERSE: LEADING COSMOLOGISTS ON THE BRINK OF A SCIENTIFIC REVOLUTION* 228, 304 (1993).

²⁹ See VIRGINIA MORELL, *ANCESTRAL PASSIONS: THE LEAKEY FAMILY AND THE QUEST FOR HUMANKIND'S BEGINNINGS* (1995).

³⁰ So the 5100 years corresponds to the 200,000 years being .957 of our species' existence (205,100 years). And the 7,800,000 years corresponds to the 200,000 years being 0.025 of our species'

To understand what drives the dubious calculations of Penrose and Gott, start from the turtles in a cosmological story I quote from Stephen Hawking:³¹

A well-known scientist (some say it was Bertrand Russell) once gave a public lecture on astronomy. He described how the earth orbits around the sun and how the sun, in turn, orbits around the center of a vast collection of stars called our galaxy. At the end of the lecture, a little old lady at the back of the room got up and said: "What you have told us is rubbish. The world is really a flat plate supported on the back of a giant tortoise." The scientist gave a superior smile before replying, "What is the tortoise standing on?" "You're very clever, young man, very clever," said the old lady. "But it's turtles all the way down."³²

Probabilities resemble these turtles in that one probability stands on the back of another. Thus, for instance, to get the posterior probability, given some evidence that the defendant did it, you must start with a prior probability, the probability without the evidence, that she did it. What cuts off the regress is that at some stage you arbitrarily choose a first prior. Usually you use the principle of indifference,³³ which directs that if you lack information, you distribute the prior probabilities evenly over the possible outcomes. So if there are two possibilities, the prior for each is 0.5. But it might just as well be anything else. This distribution is itself arbitrary, as is the identification of what are the possible outcomes. The conclusions of Penrose and Gott look arbitrary because they exploit this principle, "the most notorious principle in the whole history of probability theory."³⁴ In *Pando* as elsewhere, there is no getting around priors.

C. Hume

The problem in *Pando* is that the plaintiff had to prove a miracle. So a student of the case must ask at once what a miracle is, and ponder how to prove it. The secondary source at which to start, unavailable to Judge Greenfield, is *The Oxford Companion to Philosophy*, which states:

MIRACLES. Usually defined as violations of a law of nature by a supernatural being. Questions have been raised about how to articulate a notion of law of nature which is not exceptionless by definition Any argument that a

existence (8,000,000 years). The interval of 5100 to 7,800,000 years was the 200,000 years being 0.025 to 0.975 of our species' existence. That is 95 percent of all proportions.

³¹ It has at least 18 retellings in the ALLREV database of the LAWREV library of LEXIS.

³² STEPHEN HAWKING, A BRIEF HISTORY OF TIME 1 (1988).

³³ JOHN M. KEYNES, A TREATISE ON PROBABILITY 42, 62 (1921).

³⁴ MICHAEL W. OAKES, STATISTICAL INFERENCE 100 (1986) (attributed to Henry E. Kyburg, Jr.).

miraculous event has occurred faces the tough challenge of showing both that the event in question did occur and that it was miraculous.³⁵

The logical difficulty thereby exposed is straight out of the eighteenth-century essay *Of Miracles* by David Hume, which the entry in the *Companion* inevitably cites and quotes. The legal interest of Hume is transparent. He had studied law but because there was too much of it substituted philosophy. He claimed, "A miracle is a violation of the laws of nature; and as a firm and unalterable experience has established these laws, the proof against a miracle, from the very nature of the fact, is as entire as any argument from experience can possibly be imagined."³⁶ To this proof a proponent of the miraculous juxtaposes only the evidence of her senses, if she believes herself personally to have witnessed a miracle; or, more frequently, testimonial evidence. It is the common experience of mankind that intermittently the senses fail. And, as Hume remarks, "no testimony is sufficient to establish a miracle, unless the testimony be of such a kind, that its falsehood would be more miraculous, than the fact, which it endeavors to establish."³⁷ Because witnesses often are credulous or lie, this cannot be the case.

Hence a belief in a miracle is an act of faith, not reason. Hume concludes:

So that, upon the whole, we may conclude, that the *Christian Religion* not only was at first attended with miracles, but even at this day cannot be believed by any reasonable person without one. Mere reason is insufficient to convince us of its veracity: And whoever is moved by faith to assent to it, is conscious of a continued miracle in his own person, which subverts all the principles of understanding, and gives him a determination to believe what is contrary to custom and experience.³⁸

III. SUMMARY JUDGMENT

Judge Greenfield grants summary judgment for Fernandez. He asks, "How can we really know what happened?"³⁹ He answers we cannot. *Compare*: "Pilate saith unto him, What is truth?"⁴⁰ There are a couple of

³⁵ Noa Latham, *Miracles*, in OXFORD COMPANION, *supra* note 10, at 581.

³⁶ DAVID HUME, ENQUIRIES CONCERNING HUMAN UNDERSTANDING AND CONCERNING THE PRINCIPLES OF MORALS 114 (L.A. Selby-Bigge ed., 3d ed. 1975).

³⁷ *Id.* at 115-16.

³⁸ *Id.* at 131.

³⁹ *Pando v. Fernandez*, 485 N.Y.S.2d 162, 168 (N.Y. Sup. Ct. 1984).

⁴⁰ *John* 19:38.

kinds of impossibility Greenfield is not talking about. Not, or not precisely, that impossibility which Hume identified; Greenfield's inquiry does not get that far. Nor is it a constitutional impossibility, generated for instance, by the Establishment Clause forbidding a court to investigate miracles. *Lemon* entanglement⁴¹ does not come up. Greenfield's inquiry is more into the impossibility of not being able to look—what once prevented us from knowing that the other side of the moon is not made of green cheese.

This result is unsatisfying because Greenfield grants that the parties bargained as Pando said, yet denies his claim. It is the job of a court to reach and explain an intuitively just result. Instead Greenfield scores a metaphysical point at Pando's expense. He could have reserved the construction of the contract as an issue of fact to be decided at trial. Or, he could have decided that the miracle occurred. As I argue below, the Establishment Clause compels this latter result.

Greenfield explains:

[J]udges and jurors must decide on what they have seen and heard, not on what faith leads them to believe. Beliefs founded on faith cannot readily be tested on motions directed to the sufficiency of the evidence, or on appellate review. . . .

The distinction must always be made between evidence based on knowledge and conclusions based on belief.⁴²

But calculating a probability is always an act of faith because it requires a prior.

Reproachable as unjust, *Pando* has contemporary theological implications. Theology has tried to prove, among other things, that God exists.⁴³ Today some theologians, for instance the Calvinist Plantinga, argue that the existence of God, like the world not having been created five minutes ago, is not the *kind of thing* one proves.⁴⁴ Thinking this way, neither is St. Eleggua working a miracle the kind of thing one proves.

IV. GREENFIELD REDEEMED

Faulkner in his small soliloquy on mules points out they are "free . . . of the responsibilities of posterity."⁴⁵ *Pando* (at the trial level) had been sterile also, in the legal sense of uncited, until 1995. In that year Greenfield,

⁴¹ See *infra* notes 82-84 and accompanying text.

⁴² 485 N.Y.S.2d at 168.

⁴³ Thus, the ontological proof and natural theology.

⁴⁴ R.G. Swinburne, *Religion, Problems of the Philosophy of*, in OXFORD COMPANION, *supra* note 10, at 763-64. See generally FAITH AND RATIONALITY (Alvin Plantinga & Nicholas Wolterstorff eds., 1983).

⁴⁵ FAULKNER, *supra* note 2, at 123.

hoisting himself by his bootstraps, cited *Pando* himself. Professors do that sometimes too. The citing case is *Williams v. Bright*.⁴⁶ Belatedly, in *Williams*, Greenfield gets right what he got wrong in *Pando*. Paradoxically, the authority on which he draws to get it right is *Pando*.

The defendant in *Williams* negligently injured Robbins, a Jehovah's witness. Robbins declined to mitigate damages by an operation, safe and hugely beneficial, that required a blood transfusion. Greenfield charged the jury:

Now, in making your determination as to whether she has acted reasonably to mitigate the damage, I will instruct you that under no circumstances are you to consider the validity or reasonableness of her religious beliefs. . . .

What is reasonable for adherent[s] of one religion may appear totally unreasonable to somebody who has different beliefs, but you may not pass on the validity of anyone else's beliefs. That is out of bounds for you.

You have to accept as a given that the dictates of her religion forbid blood transfusions.

And so you have to determine in assessing the question of damages, damages past and damages future, whether she, Mrs. Robbins, acted reasonably as a Jehovah's witness in refusing surgery which would involve blood transfusions.

Was it reasonable for her, not what you would do – or your friends or family – was it reasonable for her, given her beliefs, without questioning the validity or propriety of her beliefs.⁴⁷

The jury returned a verdict that awarded the plaintiff damages of nearly \$10 million. The defendant, who had objected to the charge, moved to set aside the verdict and for a new trial. Greenfield denied the motion on the ground that to instruct otherwise would violate the Establishment or the Free Exercise Clause. He added, "In our courts, 'theology is to be protected against the law, just as the law is to be protected from theology.' *Pando v. Fernandez*"⁴⁸

Unlike *Pando*, which does not much depend on case law, Greenfield filling the lacunae in authority by quoting St. Augustine to no purpose, *Williams* marshals legal authority lavishly. Of course, by 1995, there was more of it, i.e., *Pando*. Greenfield, in *Williams*, discusses Supreme Court cases⁴⁹ that highlight the narrow window between the Establishment and Free Exercise Clauses. While the discussion is okay, it tells us more than we want to know—as if the weatherperson on channel three were to deduce, starting from the Big Bang, that it will be windy today.⁵⁰ Greenfield

⁴⁶ 632 N.Y.S.2d 760 (N.Y. Sup. Ct. 1995).

⁴⁷ *Id.* at 763-64.

⁴⁸ *Id.* at 764.

⁴⁹ Starting with *Sherbert v. Verner*, 374 U.S. 398 (1963).

⁵⁰ See *infra* note 75 and accompanying text for a discussion of how chaos theory shows that this

examines as well New York precedential decisions that find a plaintiff has no duty to mitigate damages by engaging in behavior against her religious conviction. Greenfield's investigation of these cases, while it gets him where he wants to go, is curiously incomplete. It omits the preeminent academic analysis of such mitigation, by Dean, now Judge, Calabresi.

Calabresi's analysis commences from a New York case, *Friedman v. State*,⁵¹ also uncited by Greenfield.⁵² Calabresi calls *Friedman* "my Jewish case."⁵³ Friedman and Katz, a sixteen-year-old woman and a nineteen-year-old man, on a summer day took a chair lift up a mountain, had a picnic, and started down on the lift. New York State, proprietor of the lift, shut off the power, leaving them suspended. Friedman believed it religiously awful to spend the night with a man where others lacked access. It was getting dark, so she jumped. The *Friedman* court, as a matter of law, denied she was contributorily negligent. Calabresi enjoyed teaching the case:

And as the sun sank slowly in the Catskills, Ms. Friedman jumped from the ski lift. Perhaps, more accurately, one should say she dove, because the case reports her most significant injuries were facial lacerations. I must interject that I have never understood why Jack Katz did not jump, or, for that matter, why she did not push him.⁵⁴

V. BAYES' THEOREM

As I said, the problem in *Pando* implicates Bayes' theorem. In mathematical terms, Bayes' theorem⁵⁵ is:

$$P(g/e) = \frac{P(e/g)P(g)}{P(e)}$$

A probability is a real number between 0 and 1. What Bayes' theorem does is let evidence change a probability. The probability before the change is the prior probability. The probability after the change is the posterior probability. The posterior probability is the probability conditional on the evidence.

To illustrate, I present some examples, about proving witchcraft,

prediction is impossible.

⁵¹ 282 N.Y.S.2d 858 (N.Y. Ct. Cl. 1967), *modified*, 297 N.Y.S.2d 850 (N.Y. App. Div. 1969).

⁵² I speculate that *Friedman* eluded his research because it nominally involves contributory negligence not mitigation, and because the New York Court of Claims decided it, making it outside the main line of precedent.

⁵³ GUIDO CALABRESI, IDEALS, BELIEFS, ATTITUDES, AND THE LAW: PRIVATE LAW PERSPECTIVES ON A PUBLIC LAW PROBLEM 51 (1985).

⁵⁴ *Id.*

⁵⁵ Read $P(g/e)$ as "the probability of guilt given the evidence," $P(e/g)$ as "the probability of the evidence given guilt," $P(e)$ as "the probability of the evidence," and $P(g)$ as "the probability of guilt."

consonant with our theological theme. An inquisitor requires a slight antecedent indication of guilt before torturing an accused. One such indication is that, on being accused, a suspect appears frightened.⁵⁶

Hence the inquisitor calculates the posterior probability, $P(g/e)$, the probability the accused is a witch given the evidence that she looks frightened. $P(e)$ is the probability she looks frightened. $P(e/g)$ is the probability she looks frightened given she is a witch. The prior probability, $P(g)$, is the probability of her being a witch that the inquisitor starts with, before he takes into account the evidence. Applying the principle of indifference, as explained,⁵⁷ the inquisitor sets the prior probability at 0.5: she is as likely a witch as not.

Example 1: Every accused looks scared. Thus, the probability the accused looks frightened, whether or not she is a witch, is 1.0,⁵⁸ and the probability the accused looks frightened if she is a witch is also 1.0.⁵⁹ We then calculate the posterior probability, i.e., the probability the accused is a witch because she looks frightened, as 0.5, as shown below. The evidence teaches nothing:

$$P_1(g/e) = \frac{1}{1} 0.5 = 0.5$$

Example 2: All witches, and only witches, look scared. Thus, the probability the accused looks frightened if she is a witch is 1.0—all witches look frightened.⁶⁰ Remember that in all of these examples, the prior probability assumed by the inquisitor that the accused is a witch, without taking into account any evidence, is set at 0.5.⁶¹ Thus, on the basis of this assumed prior, the probability the accused looks frightened whether or not she is a witch is also 0.5.⁶² The posterior probability, the probability the accused is a witch if she looks frightened, is 1.0, as calculated below. The evidence conclusively establishes guilt:

$$P_2(g/e) = \frac{1}{0.5} 0.5 = 1$$

Example 3: Witches look scared 0.8 of the time; others look scared only 0.4 of the time. Thus, the probability an accused looks scared if she is

⁵⁶ HENRI BOGUET, *AN EXAMEN OF WITCHES* (1929); BARBARA J. SHAPIRO, *BEYOND A REASONABLE DOUBT AND PROBABLE CAUSE 3* (1991).

⁵⁷ See *supra* notes 33-34 and accompanying text.

⁵⁸ $P(e) = 1.0$.

⁵⁹ $P(e/g) = 1.0$.

⁶⁰ $P(e/g) = 1.0$.

⁶¹ $P(g) = 0.5$.

⁶² The probability an accused will look frightened is the sum of two products: the probability a witch looks scared, times the prior probability that the accused is a witch; and the probability an accused who is not a witch looks scared, times the prior probability the accused is not a witch:

$P(e) = P(e/g)P(g) + P(e/-g)P(-g) = 1(0.5) + 0(0.5) = 0.5$.

Note that $P(-g) = 1 - P(g)$ is the prior probability the accused is *not* a witch.

a witch is 0.8, and the probability an accused looks scared if she is not a witch is 0.4.⁶³ Based on these probabilities and the prior probability of 0.5, the probability any accused will look frightened is 0.6.⁶⁴ The posterior probability, as calculated below, is 0.67. The evidence substantially increases the probability the accused is guilty:

$$P_3(g/e) = \frac{0.8}{0.6} 0.5 = 0.67$$

VI. PANDO'S PRIOR

The payoff to Fernandez approached \$3 million; the lottery sold about four million tickets. That is close enough for our purposes. Recall that Pando chose four tickets. The probability that a ticket Pando chooses wins, given that the Saint does not intervene, is one in a million.⁶⁵ The probability that a ticket Pando chooses wins, given that the Saint intervenes, is 1.0.⁶⁶ If the Saint makes the ticket win, it wins. Recall from example 2 of the illustrations above that the probability that a ticket Pando chooses wins is the probability the Saint makes the ticket win, weighted by the probability the Saint makes it win, plus the probability the Saint fails to make the ticket win, weighted by the probability the Saint fails to make it win.⁶⁷ We rewrite Bayes' theorem:

$$P(i/w) = \frac{P(w/i)P(i)}{P(w/i)P(i) + P(w/\sim i)P(\sim i)} =$$

$$\frac{P(i)}{P(i) + 0.000001(1 - P(i))} = \frac{P(i)}{0.999999P(i) + .000001}$$

In the illustrations of Part V, the inquisitor applies the principle of indifference to identify the prior, then uses the prior to calculate the posterior. Greenfield decided Pando could not prove the miracle as a matter of law. Proof in a civil case, which *Pando* is, requires a preponderance of

⁶³ $P(e/g) = 0.8$ and $P(e/\sim g) = 0.4$.

⁶⁴ Again, this probability, the probability an accused will look frightened, is the sum of two products. See *supra* note 62. If 50 percent of a population of 100 women are witches (i.e., 50 women are witches), and 80 percent of those witches look frightened when accused, then 40 women, who also happen to be witches, will look frightened. The other 50 women are not witches, but 40 percent of them will look frightened when accused. Thus, 20 women, who are not witches, will also look frightened. The total number of women who will look frightened is 60:

$$P(e) = 0.8(0.5) + 0.4(0.5) = 0.6.$$

⁶⁵ The probability of winning given the Saint does not intervene, $P(w/\sim i) = 0.000001$.

⁶⁶ $P(w/i) = 1.0$.

⁶⁷ $P(w) = P(w/i)P(i) + P(w/\sim i)P(\sim i)$.

the evidence, which translates into a probability greater than 0.5. Therefore, Greenfield's summary judgment is equivalent to holding that the posterior in *Pando*, the probability St. Eleggua made Pando's ticket win, on the evidence it did win, does not exceed 0.5. Now, we can reverse engineer: work back from the known posterior to calculate the minimum prior that gives Greenfield's result. We just solve for $P(i)$, having $P(w/i)$, rather than the other way around:

$$\frac{P(i)}{0.999999P(i) + 0.000001} \leq 0.5$$

$$P(i) \leq 0.000001$$

This is a remarkable result. Only if the prior probability the Saint makes the ticket win—the probability, assessed before considering the evidence, which is that the ticket did win—does not exceed one in a million, can Greenfield, mathematically, decide as he did. Of course, absent legal compulsion, which is coming, Greenfield can pick whatever prior probability he wants.⁶⁸ But 0.000001 is a long way from indifference. And Greenfield lacks any experience, of saints intervening or not in lotteries when prayed to, on which to base the prior probability. This result depends on Bayes' theorem. Bayes' theorem is a definition of 'conditional probability.' Or it is a postulate on a par with 'A probability cannot be negative' or 'The probability of a tautology is 1.'⁶⁹ That is, Bayes' theorem is entrenched, either as a definition or a postulate.

VII. EKELAND

As merely a lay matter, the coming constitutional claim aside, the rough treatment Greenfield metes out to the religious undertaking of Pando and Fernandez is insensitive, disrespectful. For a paradigm of sensibility, consult a recent small book by Ivar Ekeland, *The Broken Dice*.⁷⁰ The book builds mainly upon the beautiful Icelandic sagas. But Ekeland peripherally discusses the story from Genesis of Joseph interpreting Pharaoh's dream. This discussion is representative and coincidentally addresses the issue of probabilities in *Pando*.

⁶⁸ See *supra* notes 33-34 and accompanying text.

⁶⁹ COLIN HOWSON & PETER URBACH, *SCIENTIFIC REASONING: THE BAYESIAN APPROACH* 21 (2d ed. 1993).

⁷⁰ IVAR EKELAND, *THE BROKEN DICE AND OTHER MATHEMATICAL TALES OF CHANCE* (1993).

Recall the story.⁷¹ Joseph is in prison, having been sold by his brothers into Egypt, and eventually cast into prison. He interprets dreams for other prisoners, some of whom are released unexecuted. They forget him, however, until Pharaoh has a dream nobody else can figure out. Pharaoh summons Joseph from prison to interpret his dream: that seven fat cows come out of the Nile, followed by seven thin cows that consume them; and that seven good ears of grain grow up, then seven blasted ears that eat them. God like other good communicators builds in redundancy. The annual floods of the Nile determine the Egyptian harvests, or did before the Aswan High Dam.⁷² Joseph interpreted that seven prosperous years would be succeeded by seven years of famine, and advised Pharaoh to build granaries to store the surplus during the good years to distribute during the bad years. Pharaoh appointed Joseph to manage the project, the harvests were as predicted, and Pharaoh profited from selling the stores.

The fluctuations in the flow of the Nile have always been capricious.⁷³ Also, Ekeland recognizes that nature alone discloses nothing about the weather a year ahead, remarking, "On the scale of one year, meteorology has no memory. The person who knows that it has rained today and the person who doesn't have an equal chance of predicting the weather a year from now."⁷⁴ That meteorology lacks memory is a consequence of the butterfly effect.⁷⁵ Hence Ekeland puzzles over the pattern of fourteen consecutive harvests correctly predicted by Joseph from Pharaoh's dream as evidence of divine intervention:

There may be climatic cycles, or manifestations of divine anger, but in the absence of convincing indicators it is reasonable to assume that the weather next year is independent of the weather this year. The consequence is simple. If we consider, as we did above, that the years of drought have a frequency of one in seven, the probability that there will be two consecutive droughts is only one in forty-nine, and the probability that there will be seven in a row is one in 823,543. This event is so improbable that its occurrence would be a convincing indicator of supernatural intervention, or of a mistake in the model.⁷⁶

The one in a million of *Pando*, having the same order of magnitude as

⁷¹ *Genesis* 41:17-36.

⁷² See ROBERT D. KAPLAN, *THE ENDS OF THE EARTH: A JOURNEY AT THE DAWN OF THE 21ST CENTURY* 91-100 (1966).

⁷³ See, e.g., FELIPE FERNÁNDEZ-ARMESTO, *MILLENNIUM: A HISTORY OF THE LAST THOUSAND YEARS* 102-03 (1995).

⁷⁴ EKELAND, *supra* note 70, at 155.

⁷⁵ See, e.g., PETER COVENEY & ROGER HIGHFIELD, *FRONTIERS OF COMPLEXITY: THE SEARCH FOR ORDER IN A CHAOTIC WORLD* 170 (1995). Chaos theory shows that, initial conditions not being knowable with infinite precision, a small variation in them can produce a large change later—often not much later.

⁷⁶ EKELAND, *supra* note 70, at 154.

Ekeland's 1 in 823,543, should bear equal witness to "supernatural intervention."

The context of *Pando* compounds Greenfield's mistake. A lottery is literally (etymologically) casting lots. Ekeland observes that, from a parochial Christian perspective—which the common law historically presupposes—casting lots does not resort to a random process, but invites divine intercession.⁷⁷ Finally, I mention from literary sources two instances of an improbable condition or event inducing attribution of a supernatural cause. In *Roger's Version*, by Updike, a graduate student offers to prove that God exists from cosmological coincidences to the fourth decimal place that supply the conditions necessary for life.⁷⁸ The underlying idea is that the universe could not be so finely tuned unless someone, God, had tuned it. The proof is like that of natural theology, arguing from the analogy of the existence of a watch proving a watchmaker. How could a watch have come about by chance? A character in *Rosenkranz and Guildenstern Are Dead*, a Stoppard play, includes among candidate explanations of an unbroken sequence of tossed coins coming up heads, "Three: divine intervention, that is to say, a good turn from above concerning him, cf. children of Israel, or retribution from above concerning me, cf. Lot's wife."⁷⁹ Again, how could a coin keep coming up heads unless the equivalent of St. Eleggua was interceding to make it do so? The improbabilities in these cases, resolvable by attributing action by God, come from using the principle of indifference

⁷⁷ "The lot is cast into the lap, but the decision is wholly from the Lord" (Prov. 16:33). Matthais is chosen by lot to complete the twelve apostles (Acts 1:26), as is Zachary to enter into a sanctuary (Luke 1:9). It is by lot, *Ourim* or *Toummim*, that the almighty designates the guilty, Jonathan (1 Sam. 14:37-43), Jonah (Jon. 1:1-10), Achan (Josh. 7:10-23), and by which Saul is designated king of Israel (1 Sam. 10:20-24). Following the expression of Augustine (*Enarrationes in Psalmos* [Ps 30:16, enarr. 2, serm. 2]), "*Sors non est aliquid mali, sed res, in humana dubitatione, divinam indicans voluntatem.*" "Lots are not bad in and of themselves, but indicate the divine will when man is in doubt."

Id. at 9 & n.3.

⁷⁸ About fifty years ago a physicist called Paul Dirac asked himself why the number ten to the fortieth power keeps occurring. The square of this number, ten to the eightieth power, is the mass of the visible universe, measured in terms of the mass of the proton. The number itself, ten to the fortieth, is the present age of the universe, expressed in units of time it takes light to travel across a proton. And, get this, the constant that measures the strength of gravity in terms of the electrical force between two protons is ten to the fortieth times weaker! Also, ten to the fortieth to the one-fourth, or ten to the tenth, just about equals the number of stars in a galaxy, the number of galaxies in the universe, and the inverse of the weak-fine structure constant!

JOHN UPDIKE, *ROGER'S VERSION* 23-24 (1986); GEORGE JOHNSON, *A FIRE IN THE MIND: SCIENCE, FAITH, AND THE SEARCH FOR ORDER* 308-16 (1996).

⁷⁹ TOM STOPPARD, *ROSENKRANZ AND GUILDENSTERN ARE DEAD* 11 (1967).

to distribute priors over lots of possible outcomes. Seven good years followed by seven bad years is improbable if all sequences of good and bad years are equally probable. So is a set of cosmological values with 10^{40} improbable, unless the values are constrained. Using the principle of indifference, the prior probability of a sequence of n heads is $1/2^n$, which is very low for large n .

VIII. THE CONSTITUTIONAL PRIOR

Put against this background, the constitutional argument is straightforward. Pando must prove by a preponderance of the evidence that the Saint intervened. That is, Pando must establish a posterior probability greater than 0.5 that she did so. His evidence is that a lottery ticket he chose for Fernandez won. The posterior probability that the Saint intervened depends on three quantities. Two of these are parameters set by the context: the probability of Pando's ticket winning if St. Eleggua makes the ticket win; and the probability of Pando's ticket winning if she does not. Their values are 1.0 and 0.000001, respectively.⁸⁰ The third quantity is the prior probability.

Figure 1 portrays the posterior probability of intervention given the evidence that Pando's ticket won, $P(i/w)$, along the vertical axis as a function of the prior probability of intervention, $P(i)$, plotted along the horizontal axis, increasing to the right; and of the number of tickets issued in the lottery, t , plotted increasing to the back. To avoid having to divide through by four, Figure 1 further contemplates that Pando purchases a single ticket. Not to lose fine structure, it plots t from 1 to 10 instead of from 1 to 1,000,000. The adjustment of scale quantifies the mistake by Greenfield as five orders of magnitude.

Look first at only the front surface in Figure 1. Here the lottery has exactly one ticket. Thus Pando wins if he buys the ticket. We learn nothing from his winning beyond that he bought the ticket, and that the posterior probability equals the prior probability, both being the probability that he buys the ticket. As more tickets are issued, so that one moves toward the back of the box, the posterior increases ever more sharply as the prior grows from 0.0. In court, Pando, his burden of proof being by a preponderance of the evidence, to win must prove a probability that exceeds 0.5. With ten tickets, a prior of 0.1 does that. There were the equivalent of one million tickets, yet Pando lost, so the court used approximately 0.0.

We come then to what prior, if any, the Constitution requires. Here, as

⁸⁰ $P(w/i) = 1.0$, and $P(w/-i) = 0.000001$.

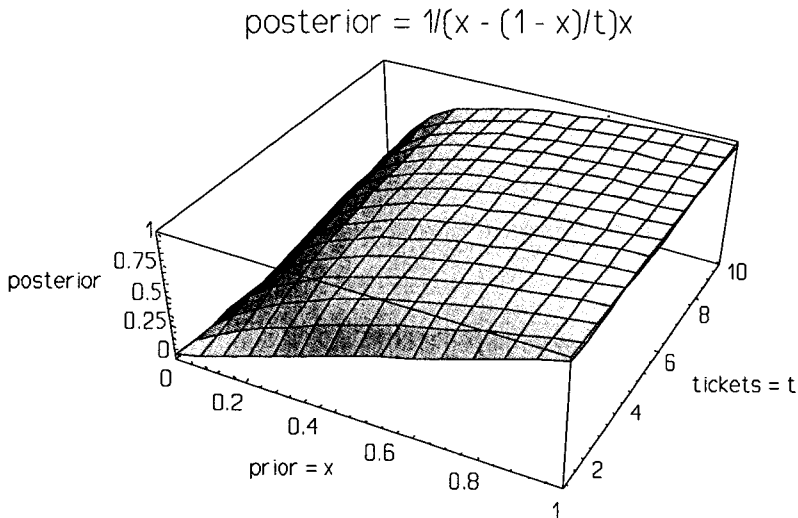


Figure 1

elsewhere, the Constitution is succinct to the point of opacity. It directs only, "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof."⁸¹ The test of *Lemon v. Kurtzman*,⁸² recited and applied routinely since the Court announced it in 1971, asserts: "First, the statute must have a secular legislative purpose; second, its principal or primary effect must be one that neither advances nor inhibits religion . . . ; finally, the statute must not foster an excessive government entanglement with religion."⁸³ This expansion of the Establishment Clause is not itself transparent, so that "Our cases . . . have made such a maze of the Establishment Clause that even the most conscientious government officials can only guess what . . . will be held unconstitutional."⁸⁴ This assessment is of only the first part of the tri-partite test of *Lemon*, but the confusion is cumulative.

I will appraise *Pando* using the *Lemon* test, and that of *An Economic Approach to Issues of Religious Freedom* by McConnell and Judge Posner⁸⁵—the most prominent of the infrequent readings of the religion clauses having a quantitative cast. Starting from a proposition everyone

⁸¹ U.S. CONST. amend. I.

⁸² 403 U.S. 602 (1971).

⁸³ *Id.* at 612-13.

⁸⁴ *Edwards v. Aguillard*, 482 U.S. 578, 636 (1986) (Scalia, J., dissenting).

⁸⁵ Michael W. McConnell & Richard A. Posner, *An Economic Approach to Issues of Religious Freedom*, 56 U. CHI. L. REV. 1 (1989).

endorses, the authors observe that the First Amendment is "concerned to keep government's hands off religion in some sense."⁸⁶ McConnell and Posner articulate the sense thus:

This policy, which we shall call "neutrality," protects the values embodied in the religion clauses two ways. First, it guards against government abuse: by requiring the government to act neutrally, we make it less likely that legislators and government officials will use their power, perhaps inadvertently, to promote or retard religion. Government cannot single out or exclude disfavored beliefs, or shower favors on favored beliefs, without extending similar treatment to others. Second, neutrality reduces (and in theory eliminates) the impact that governmental action has upon individual choice with respect to religion. If government treats competing activities that are secular the same way it treats religious activities, it will create neither incentives nor disincentives to engage in religious activities.⁸⁷

To see crudely and intuitively that *Pando* is not a marginal case of nonneutrality, and that it violates the second part in *Lemon*, imagine the least marginal case—probably *Da Costa v. De Pas*.⁸⁸ There the court disallowed as not charitable a bequest to establish an assembly to read Jewish law; and the king through his prerogative power, our *cy pres*, substituted the purpose of teaching Christianity to children. The difficulty in *Da Costa* was the illegality of the bequest. Equivalently *Pando* and Fernandez by their shared religious belief made in effect an illegal contract. But what does it mean to contract illegally? Typically the sole effect of a finding of illegality is unenforceability,⁸⁹ as in *Pando*:

Courts are also fond of condemning the unenforceable agreement as "illegal." This is misleading insofar as it suggests that some penalty is necessarily imposed on one of the parties, apart from the court's refusal to enforce the agreement. In some cases, the conduct that renders the agreement unenforceable is also a crime, but it is not necessarily or even usually so.⁹⁰

The freedom to contract is basic, withheld only from infants, incompetents, animals, and, historically, women.

Evaluation in terms of priors allows a more subtle and determinate analysis. First recall that one's choice of a prior is arbitrary.⁹¹ Far enough

⁸⁶ *Id.* at 5.

⁸⁷ *Id.* at 11.

⁸⁸ 27 Eng. Rep. 150 (Ch. 1754).

⁸⁹ An exceptional case of collateral consequences from the illegality of a contract is *The Highwayman's Case*, 9 LAW Q. REV. 197, 198-99 (1893), in which the court directed that the attorney, seeking an accounting of the proceeds by a robber against his partner, be hanged.

⁹⁰ E. ALLAN FARNSWORTH, CONTRACTS § 5.1 (2d ed. 1990) (citations omitted).

⁹¹ See *supra* notes 33-34 and accompanying text.

down the stack of turtles there is no empirical or theoretical reason to choose one prior instead of another. The principle of indifference, which assigns equal probabilities to a set of possible outcomes, ordinarily exercises, rather than avoids, this arbitrariness. Intuitively, a value of 0.000001 for the prior probability that the Saint made the ticket win, the largest value Greenfield could have assigned while deciding *Pando* as he did, is not neutral, or in the language of *Lemon*, inhibits religion. Indeed the principle of indifference, not good for much else, supplies a more algorithmic test of constitutionality than that supplied by McConnell and Posner, who are trying to be concrete. That it does so presupposes what often is absent—a salient set of possible outcomes. Yet such a set is present in *Pando*, with help from the principle of the excluded middle:⁹² either the Saint caused the ticket to win or she did not. Applying the principle of indifference not to hide arbitrariness but by constitutional compulsion, we conclude that one or the other or both of the Establishment and Free Exercise Clauses requires that Greenfield calculate the posterior probability, and so the adequacy of Pando's proof, starting from a prior probability of 0.5. The result, given the evidence that a ticket purchased by Pando for Fernandez won, is a 0.999999 probability that the Saint caused the ticket to win. Obviously, this probability greatly exceeds 0.5, the floor for proof by a preponderance of the evidence.

IX. ENTANGLEMENT

Priors of an application of Bayes' theorem do not always appear arbitrary, because often they are posteriors of an immediately preceding application. Recall Hawking's turtle story.⁹³ Although a prior stands on another prior,⁹⁴ it cannot be priors all the way down. One must eventually just make up what becomes the bottom prior, usually by applying the principle of indifference.

*United States v. Hatahley*⁹⁵ decided that a court did not go down enough turtles, did not proceed sufficiently far along the regress of priors, and too hastily applied the principle of indifference. Significantly, the context does not implicate the First Amendment. The United States, having arrested on public land the horses and burros of the native-American plaintiffs, sold these animals to a glue factory. The unlawfully precipitate

⁹² Postmodern legal analysis generally finds this principle suspect. But the principle is not as suspect as postmodern legal analysis. See Alan Sokal, *A Physicist Experiments with Cultural Studies*, *LINGUA FRANCA* 62 (May-June 1996).

⁹³ See *supra* notes 31-32 and accompanying text.

⁹⁴ FREDERICK SUPPE, *THE SEMANTIC CONCEPTION OF THEORIES AND SCIENTIFIC REALISM* 399 (1989).

⁹⁵ 257 F.2d 920 (10th Cir. 1958).

sale indirectly diminished the flocks of sheep of the plaintiffs, herding them having become more labor intensive; and the brutality to, and the loss of companionship of, the sold animals saddened the plaintiffs.

Calculating damages, the district court twice applied the principle of indifference. By its first application, it awarded the plaintiffs half the decline in value of their individual flocks. The district court thus curtailed the regress at the second stage, having at the first stage already counted these individual flocks. It could have investigated the causes of the declines in individual cases. That would have been the third stage. In its second application, the district court stopped at the first stage, by dividing equally among the plaintiffs an amount to compensate them for their bereavement, rather than assessing particular levels of grief. The court of appeals reversed, requiring in each instance an additional step:

The [district] court found "that approximately fifty percent of this amount represented damages to the plaintiff[s] proximately caused by deprivation of the use of plaintiff[s'] horses" The result, insofar as it related to use damage, was arbitrary, pure speculation, and clearly erroneous. . . . There was considerable evidence that some of the plaintiffs mourned the loss of their animals for a long period of time. We think it quite clear that the sum given each plaintiff was wholly conjectural and picked out of thin air. The District Court seemed to think that because the horses and burros played such an important part in the Indians' lives, the grief and hardships were the same to each.⁹⁶

Applied to *Pando*, across jurisdictions and jurisprudential subfields, *Hatahley* might compel Judge Greenfield to articulate the probability that the Saint intervened. He might, least intrusively, expand the set of possible cases over which to distribute prior probabilities by the principle of indifference. Despite difficulties in individualizing religions, he could begin this effort with Hume's remark "that, in matters of religion, whatever is different is contrary; and it is impossible that the religions of ancient Rome, of Turkey, of Siam, and of China, should, all of them, be established on any solid foundation,"⁹⁷ so that "all the prodigies of different religions are to be regarded as contrary facts, and the evidences of these prodigies, whether weak or strong, as opposite to each other."⁹⁸ So *Pando*'s prior falls from 0.5 to one divided by the number of religions.

One expects, without authority more specific than *Lemon*, that the third entanglement part of its test precludes even this inquiry into priors. Hence Greenfield, in *Williams*,⁹⁹ forbade the jury, deciding whether the plaintiff

⁹⁶ *Id.* at 925.

⁹⁷ HUME, *supra* note 36, at 121.

⁹⁸ *Id.* at 122.

⁹⁹ Greenfield failed to cite to *Lemon* in *Williams*.

had mitigated her damages despite refusing an operation that would reduce them, to address the reasonableness of her beliefs as a Jehovah's Witness. Also, as Calabresi recognizes, entanglement informs, however instinctively, decisions like *Friedman*, in which the comparable issue is contributory negligence.

The infusion of religion changes the rules of the game.¹⁰⁰

X. ANOTHER *WILLIAMS*

Greenfield is not a bad man. I believe he was overcome by the opportunity to decide *Pando* by the properties of miracles. As we see below, however, the consequent injustice, if it was such, was ephemeral. No harm came to Pando other than that inherent in being up against the law. Greenfield's life on the trial bench would be solitary, poor, nasty, brutish, and long without an occasional philosophical diversion. And his decision in *Williams v. Bright* is redemptively sensitive.¹⁰¹

Yet I sense that something more sinister is going on too. Recall that Greenfield's decision to disregard the proof of St. Eleggua's miracle left Pando and Fernandez with an effectively illegal contract. A comparable disability followed from *Williams v. Walker-Thomas Furniture Co.*,¹⁰² a celebrated decision by Judge Skelly Wright. In *Walker-Thomas*, recall, another mother on welfare bought a stereo on time under a contract that upon her default allowed the seller to repossess previous purchases paid off but for a legal technicality. Although Wright remanded, the gist of his opinion was that the contract was unconscionable. Well it was certainly harsh, but the plaintiff had six children and Walker-Thomas would have been unlikely without a large down payment to have released the stereo into that household with itself as its only security. A stereo in a household depreciates proportionally to the number of children. Therefore, as in *Pando*, the result was that Williams could not contract that way. In so far as her choice was to contract thus or not at all, Wright was limiting her freedom to contract by denying her the stereo. Well maybe she should have been feeding her children. But *Walker-Thomas*, like *Pando*, imposes on the litigants values or beliefs that judges, as a class, but not welfare mothers, likely hold.

XI. EPILOGUE

The issue of proving a miracle vanished from later proceedings in

¹⁰⁰ See *supra* Part VIII.

¹⁰¹ See *supra* Part IV.

¹⁰² 350 F.2d 445 (D.C. Cir. 1965).

Pando. The appellate division agreed with Greenfield that "saintly intervention is not provable in a court of law."¹⁰³ The gist of this paper is, why in heaven's name not? But the appellate division reversed Greenfield's award of summary judgment to Fernandez, holding that it was an open issue of fact whether the contract required this intervention or merely best efforts on Pando's part to bring it about. Further litigation apparently resolved this issue for Pando, because the case fades from the New York Supplement seven years after it entered it, with Pando winning but unpaid. In 1989, the appellate division affirmed an order that New York pay the next installment of the prize into escrow. Fernandez, having received by then and dissipated about half the \$2.8 million prize, lacked funds to post a bond.¹⁰⁴ Walker-Thomas would not have sold her a stereo either.

Although the appellate division decided *Pando* on other grounds, the relevance to the modern world of its issue of proving miracles is manifest in a recent article.¹⁰⁵ Marina Warner, a classicist and novelist, makes two points connected to our inquiry. The first is that occurrences of miracles are not merely historical:

As the millennium approaches, the frequency and the variety of such incidents is increasing. The Virgin Mary has appeared in photographs of the sky and on Eucharistic hosts. Her statues have wobbled in front of crowds thousands strong; mystics have received the stigmata, and their own eyes have bled. The phenomena have not quite kept pace with alien abductions and have not spread worldwide as fast as the incidents of milk-drinking by the elephant-headed god Ganesh – a prodigy that was seen within a matter of hours in both Calcutta and Jersey City in September 1995. But, with advances in telecommunications, the kind of Marian wonders that used to be dismissed as the fancies of a credulous and benighted populace have begun to command interest far beyond the circle of religious believers. Statues of the Virgin Mary also began drinking milk, first in Cheshire, then in Kuala Lumpur.¹⁰⁶

Warner's implicit second point is that a state asked to endorse or denounce a miracle should, using the principle of indifference, apply a neutral prior and let it go at that. Warner describes an Italian instance in early 1995 of a statue of Mary weeping tears of blood that was challenged, ultimately at law, by, among others, the otherwise devout *telefono antiplagio, controllo le truffe dei maghi e della sette*, which title she renders as "the anti-brainwashing telephone line, against the tricks of wizards and sects."¹⁰⁷ A principle of Italian criminal law, absent except in special cases

¹⁰³ *Pando v. Daysi*, 499 N.Y.S.2d 950, 952 (N.Y. App. Div. 1986).

¹⁰⁴ *Pando v. Daysi*, 538 N.Y.S.2d 444 (N.Y. App. Div. 1989).

¹⁰⁵ Marina Warner, *Blood and Tears*, NEW YORKER, Apr. 8, 1996, at 63.

¹⁰⁶ *Id.* at 64.

¹⁰⁷ *Id.* at 65.

from our own individualistic jurisprudence, is *l'obbligo dell'azione penale*, the duty to act. The result has been a surreal legal and ecclesiastic standoff in which, disturbed that "blood is appearing on various statues all over Italy, and more frequently,"¹⁰⁸ the secular authorities sequestered then finally released the statue. During its captivity, they tested the Madonna with a CAT scan, finding it solid; and they took a DNA profile of its tears, which turned out to be hemoglobin, but, with uncertain implication, male. Fabio Gregori, the owner of the statue and with his family the first witness to its weeping, has been charged with *abuso della credulità popolare*, which carries a fine but not imprisonment. Gregori refuses to let a DNA profile of his blood be taken, except under ecclesiastical auspices.

The year 1995 was also a big one for *Pando*, not only because Greenfield quoted his opinion in *Williams*, but also because of a fine student Note in the Duke Law Journal, by Matthew J. Gries, which featured *Pando* as representative of courts finding and enforcing contracts to divide winnings from lotteries.¹⁰⁹ Gries' reference is the second kick of the case. The Note is interesting in several respects. Gries is less sanguine than I that *Pando* honestly reported his understanding with Fernandez. Also, Gries identifies the Saint *Pando* prayed to as "Eleggua, one of the 'seven African powers' revered in some western hemisphere religions that have their origins in Africa, such as voodoo."¹¹⁰ The argument of the Note is interesting and unexpected. Because they impair relationships, Gries would not enforce agreements to divide winnings (unless these are written). Rather, he would treat them as promises to make gifts routinely not enforced, or as mere social promises. As an instance of the latter, he cites an action for \$49.53, settled out of court, by a girl against a boy for breaking a date to take her to their high school prom.¹¹¹ One justification of Greenfield granting summary judgment for Fernandez is that he thought as does Gries. Nevertheless, I am uneasy characterizing by 'mere' an undertaking by *Pando* and Fernandez, that the parties may have taken very seriously and that anticipated a large if improbably realized return. The casual disregard of their intentions harks back to the opinion of Skelly Wright in *Walker-Thomas*.

Finally, *Pando* is important because in it three almost hopelessly inexact inquiries—regarding prior probabilities, regarding religious truth, and regarding the religion clauses of the First Amendment—converge to produce a curiously certain rule. Prior probabilities notoriously lack suffi-

¹⁰⁸ *Id.* at 68.

¹⁰⁹ Matthew J. Gries, Note, *Judicial Enforcement of Agreements to Share Winning Lottery Tickets*, 44 DUKE L.J. 1000 (1995).

¹¹⁰ *Id.* at 1004 n.9 (citing LUISA TEISH, JAMBALAYA 113 (1985)).

¹¹¹ *Id.* at 1010.

cient justification. We have no basis, other than the principle of indifference, to assign one value rather than another. It is far enough down the stack of turtles that we have no basis to assign any value, and it infects the priors above it. I have quoted Justice Scalia claiming the cases explaining the religion clauses are chaotic. And, independently of the current Italian travail, courts are rightly reluctant to adjudicate religious truth. The issue is how they may escape doing so. In *Pando*, helped by the third entanglement part of the *Lemon* test, the principle of indifference finds a justification in religious neutrality, and precisely measures the degree of credulity to be accorded a religious claim under the Constitution.

