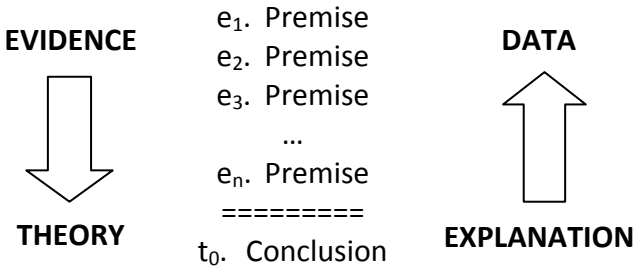
EVIDENCE AND EXPLANATION IN LAW AND LITERATURE

I.

> In making this inference one infers, from the fact that a certain hypothesis would explain the evidence, to the truth of that hypothesis. In general, there will be several hypotheses which might explain the evidence, so one must be able to reject all such alternative hypotheses before one is warranted in making the inference. Thus one infers, from the premise that a given hypothesis would provide a "better" explanation for the evidence than would any other hypothesis, to the conclusion that the given hypothesis is true.[1]

Evidence and explanation stand in a symmetrical relationship. Facts, observations, data and the like can be marshaled as evidence in defense of a theory or hypothesis. The theory being defended is often, perhaps always, an explanation of, at least part of, the data.



This simple schema gives us both a structural model of how evidence works, and announces an evaluative standard for good evidence. As Harman notes the preferred explanation must not only explain the data, it must explain it ***better*** than any rival explanations.

In this short paper I want to take the first steps toward defending the view that inference to the best explanation captures the structure of evidence as it is used in literature, at least detective fiction, the criminal law, literary criticism, and constitutional interpretation. I concede at the outset, as Harman did in his canonical work on inference to the best explanation, that much additional work remains to be done.

> There is, of course, a problem about how one is to judge that one hypothesis is sufficiently better than another hypothesis. Presumably such a judgment will be based on considerations such as which hypothesis is simpler, which is more plausible, which explains more, which is less ad hoc, and so forth. I do not wish to deny that there is a problem about explaining the exact nature of these considerations; I will not, however, say anything more about this problem.[2]

Although vague and abstract I believe these criteria for explanatory success work remarkably well in the contexts we will be considering here.

II.

> (yeah, yeah, yeah, yeah, yeah, yeah)
> (yeah, yeah, yeah, yeah, yeah, yeah)
>
> When you left me all alone at the record hop
> Told me you were goin' out for a soda pop
> You were gone for quite a while, half an hour or more
> You came back and man oh man this is what I saw
>
> Lipstick on your collar told a tale on you
> Lipstick on your collar said you were untrue
> Bet your bottom dollar you and I are through
> Cuz lipstick on your collar told a tale on you, yeah
>
> You said it belonged to me, made me stop and think
> Then I noticed yours was red, mine was baby pink
> Who walked in but Mary Jane, lipstick all a mess
> Were you smoochin' my best friend, guess the answer's yes
>
> Lipstick on you collar told a tale on you
> Lipstick on you collar said you were untrue
> Bet your bottom dollar you and I are through
> Cuz lipstick on you collar told a tale on you, boy
>
> Told a tale on you, man
>
> Told a tale on you, yeah
>
> Connie Francis, *Lipstick On Your Collar*

Connie is confronted with data, mainly her own simple observations, that cry out for explanation. Where did the lipstick stain come from? Why was he gone for so long? Why did he say it belonged to her when the stain was red and her lipstick was baby pink? Why when Mary Jane appeared was her lipstick all a mess? Although neither a trained natural scientist, nor an experienced detective, Connie easily forms an explanatory hypothesis. When she then writes her sad song, she implicitly asks us to account for what happened. Her argument looks like this.

e_1. He left Connie all alone at the record hop.
e_2. He was gone for half an hour or more.
e_3. There was a lipstick stain on his collar.
e_4. When confronted he claimed that the stain came from Connie's lipstick.
e_5. The stain was red.
e_6. Connie's lipstick was baby pink.
e_7. Mary Jane's lipstick was all a mess.
==========
t_0. He had been smooching Mary Jane during the half hour absence.

Connie never suggests any rival explanations, but they are easy enough to formulate. He went out for a soda pop, just as he said. When asked about the lipstick stain he responded that it came from Connie, since she was the only one he had been smooching. The laundry detergent his mother uses left a residue on his collar that chemically changed the baby pink lipstick to a bright red color. Mary Jane had been smooching a new guy she met at the record hop, and this messed up her lipstick. We can label this rival explanation t_1. Or the circumstances might be more sinister. He left Connie all alone because he was feeling ill, but thought it more decorous to say he wanted a soda pop. Mary Jane has been harboring a grudge against Connie since the last student council meeting. She found him in the lobby,

distracted him, and wiped lipstick on his collar. After he left to return to Connie, Mary Jane smudged her lipstick with the back of her hand. When he returned and was asked about the stain, he told Connie it was hers because she was the only one he had been smooching. Let's label this one t_2. When I evaluate these alternative accounts I am quite confident in judging Connie's explanation as far more plausible than t_1 or t_2 – i.e., she has pretty strong evidence.

III.

> Here are the missing links of the very simple chain: 1. You had chalk between your left finger and thumb when you returned from the club last night. 2. You put chalk there when you play billiards, to steady the cue. 3. You never play billiards except with Thurston. 4. You told me, four weeks ago, that Thurston had an option on some South African property which would expire in a month, and which he desired you to share with him. 5. Your check book is locked in my drawer, and you have not asked for the key. 6. You do not propose to invest your money in this manner.[3]

The beginning of "The Adventure of the Dancing Men" begins with a little case study in Sherlock Holmes' "deductive" method. Holmes' method, of course, is not deductive in the formal logician's sense, but inductive, or better, abductive. It is inference to the best explanation. Holmes possesses a fair amount of data. His reasoning proceeds in two linked explanatory steps.

e_1. Watson had chalk between his left finger and thumb.
e_2. He uses the chalk when he plays billiards.
e_3. He only plays billiards with Thurston
==========
t'_0. Watson played billiards with Thurston last night.
e_4. He told Holmes four weeks ago that Thurston had an option on some South African property which would expire in a month.
e_5. Watson's check book is locked in Holmes' drawer.
e_6. Watson has not asked for the key.
==========
t''_0. Watson has decided against the investment.

Each of these inferences are to (alleged) best explanations. t'_0 explains the chalk on his hand and is consistent with Holmes' background knowledge of Watson's preferences in playing partners. t''_0 explains the lack of a request for the key, and is consistent with Holmes' knowledge of what Watson told him four weeks ago, and the location of the check book. As always in an explanatory inference, rival explanations are always possible. Other things might explain the chalk.

t'_1. Watson played billiards with someone else last night.
t'_2. Watson was purchasing a new cue, and applied the chalk to test its feel.
t'_3. Something else entirely was responsible for the chalk on Watson's hand.

Although it is unlikely to be taken seriously by juries and the like, including a generic rival like t'_3 is often a good idea. Similarly many other things could explain the absence of a request for the key.

t''_1. Watson keeps a secret stash of money, and made the investment with Thurston from this source of cash.
t''_2. Thurston's option has been extended an additional two months, and Watson is still considering the investment.
t''_3. Something else entirely is the reason Watson did not ask for the key.

We know from Watson's narrative that Holmes was indeed correct in his diagnosis. But even without this additional bit of data, inference to the best explanation allows us to see why Holmes had pretty good evidence for each of his hypotheses, since both t'_o and t''_0 better explain what we know than any of the rivals we have reflected on. It is, of course, true, that oversight or lack of imagination have precluded consideration of better rivals. And it is also true that even if Holmes' evidence is very strong, one of the rival explanations nevertheless

captures what was actually going on. Such is the nature of evidence – it indicates truth, but does not guarantee it.

IV.

> At first glance, the evidence that O. J. Simpson was guilty of the murder of his ex-wife was overwhelming. Shortly after the time that the murder took place, he caught a plane to Chicago carrying a bag that disappeared, perhaps because it contained the murder weapon and bloody clothes. Police who came to Simpson's house found drops of blood in his car that matched his own blood and that of Ron Goldman. In Simpson's back yard, police found a bloody glove was of a pair with one that was found at the scene of the crime, and they found a bloody sock in his bedroom. Simpson had a cut on his hand that might have been caused a struggle with the victims who tried to defend themselves. Moreover, there was a plausible motive for the murder, in that Simpson had been physically abusive to his wife while they were married, and was reported to be jealous of other men who saw Nicole after the divorce.[4]

Paul Thagard is one of the earlier defenders of inference to the best explanation. His account of the evidence in the O. J. Simpson case nicely summarizes the details of a long criminal trial. To feel confident that the evidence is really overwhelming, we must compare the prosecution's diagnosis that O. J. had murdered Nicole to rival explanations. Again, from Thagard:

> The first task of the defense lawyers was to generate an alternative explanation of who killed Nicole Simpson and Ron Goldman. Based on Nicole's known history of cocaine use, they hypothesized that she was killed by drug dealers … In order to explain the circumstantial evidence linking O. J. to the crime scene, including the bloody car, glove and sock, the defense contended that the items had been planted by Los Angeles Police Department officers determined to frame Simpson for the crime.[5]

If all the jury had to do was to determine the best explanation of the facts introduced at trial, I think the case would have been an easy one. Introducing mysterious drug dealers and a

racist plot on the part of the police would, indeed, explain all the evidence the jurors heard, but even the most skeptical juror would have had to admit that this rival account is complicated and pretty *ad hoc*. They, of course, were asked to do more. They needed to conclude that not only was there good evidence that O. J. was the murderer, but that the state had proved this beyond a reasonable doubt. Defenders of IBE in criminal law will need to eventually show how the reasonable doubt standard is to be understood in explanatory terms.[6]

V.

> I have in mind a sign that is affixed in this unpunctuated form to the door of the Johns Hopkins University Club:
>
> **PRIVATE MEMBERS ONLY**
>
> I have had occasion to ask several classes what that sign means, and I have received a variety of answers, the least interesting of which is, "Only those who are secretly and not publicly members of this club may enter it." Other answers fall within a predictable narrow range: "Only the genitalia of members may enter" (this seems redundant), or "You may bring in your own genitalia," or (and this is the most popular reading perhaps because of its Disney-like anthropomorphism) "Only genitalia may enter." In every class, however, some Dr. Johnson-like positivist rises to say, "But you're just playing games; everybody knows that the sign really means, 'Only those persons who belong to this club may enter it.'" He is of course right.[7]

You're driving on the Interstate, come up quickly on a car ahead, change lanes and pass. As you pass, the driver's left hand comes up along the side of his head. Did he just give you an obscene hand gesture? Or was he simply scratching his ear? Just as though we must explain the lipstick on his collar and the evidence at O. J.'s trial, we often find ourselves in communicative contexts where we must explain potential hand gestures, mysterious signs on

faculty club doors, to say nothing of literary and legal texts. I, of course, believe that inference to the best explanation will be helpful in these latter situations.

Interpreting the sign involves making an inference about what it means. We have a collection of data that is in need of explanation.

e_1. The "text" is on a sign.
e_2. The sign is on a door.
e_3. The door is to the Johns Hopkins University Club.
e_4. The "text" reads, "PRIVATE MEMBERS ONLY".

Such a characterization of the data implies that we have already done a certain amount of interpretation. We have explained the shapes "PRIVATE MEMBERS ONLY" as an attempt at linguistic communication; they did not accidentally appear when the building was being painted, nor are they modern art. Our explanatory question focuses on what these words are intended to communicate. We have a number of explanatory hypotheses:

t_0. Only those persons who belong to this club may enter it.
t_1. Only those who are secretly and not publicly members of this club may enter it.
t_2. Only the genitalia of members may enter.
t_3. You may bring in your own genitalia.
t_4. Only genitalia may enter.
t_5. The sign was intentionally designed with the double meaning by witty intellectuals.

As Fish's no-nonsense student insists, it is perfectly obvious what the best explanation of the words on the door is. Clearly t_0 is the simplest, most complete, least ad hoc, and most plausible account. Linguistic communication and interpretation is an inherently explanatory process. From casual conversations and fun signs on doors, to the interpretation of literary, constitutional and biblical texts, the role of the reader (or listener) is always the same. There are printed shapes and noises that need to be explained. Given the first order explanation that

they are attempts at linguistic communication, the question now becomes what hypothesis best accounts for the meaning in the present context?

VI.

> Hamlet is a creature of Shakespeare's imagination … He is not an actual patient. Therefore clinical diagnosis must be tentative, but there is good evidence in the play for depressive illness. Depressive illness is characterized by low mood, anhedonia, negative beliefs, and reduced energy. Hamlet actually calls himself melancholic and the very first speech he makes in the play is devoted to a public statement of his melancholy.[8]

Not many critics are inclined to take Earnest Jones' hypothesis that Hamlet was suffering from an Oedipus-complex seriously. The problem is not so much the quality of Jones's reasoning, but the Freudian paradigm that he so candidly and enthusiastically buys into. If one is skeptical that such a thing as an Odepus-complex exists, one is going to find it very difficult to explain the actions and creations of literary characters and authors in terms of it. It is interesting in this connection to consider a more contemporary psychological account of *Hamlet.* A. B. Shaw argues that the text clearly shows Hamlet manifesting the clinical indicators of depressive illness.

e_1. Hamlet exhibits anhedonia – e.g., "He speaks at length to Rosencrantz and Guildenstern, saying he has lost all mirth and that man does not delight him."[9]

e_2. Hamlet expresses negative beliefs – e.g., "He calls Denmark a prison. His comments to Ophelia on women are bitter."[10]

e_3. Hamlet "alludes to sleep disturbance 'were it not that I had bad dreams'."[11]

e_4. Hamlet "has experienced events likely to precipitate depression: his father's sudden death, his mother's hasty marriage, and his disappointment in the succession."[12]

==========

t_0. Hamlet suffered from depressive illness.

Shaw argues further that it is no embarrassment whatsoever that depressive illness only entered the clinical paradigm centuries after the play was written. We certainly grant that people suffered from this devastating condition long before psychology and medicine catalogued, and began to treat, it. Shakespeare was an excellent student of the human condition. Just as a perceptive author can recognize overly ambitious characters, jealous lovers, and power mad leaders, Shakespeare can recognize the person exhibiting the clinical behavior brought on by depressive illness – what his contemporaries would have called melancholy. Further, he can locate his depressive lead character in a play with perhaps larger and different artistic motives. Whether or not Shaw's interpretation is the ***best***, of course, can only be determined by comparing it to rival interpretations, of which the critical literature is replete.

VII.

> [T]he death penalty remains fraught with arbitrariness, discrimination, caprice, and mistake. … Rather than continue to coddle the Court's delusion that the desired level of fairness has been achieved and the need for regulation eviscerated, I feel morally and intellectually obligated simply to concede that the death penalty experiment has failed.[13]

The concept of evidence is rarely used to describe the structure of an appellate opinion, but it is clear that Justice Blackmun is presenting an argument, both for why the Court should have granted *certiorari* in the case at hand, and defending his intention to find in all further death penalty cases that the punishment as now administered is unconstitutional. Taking Justice Blackmun as the lead, I hope to show how the argument can be expanded as a linked inference once again reminiscent of the chalk on Watson's hand to his decision not to invest.

The first sort of evidence that Blackumun needs is the constitutional language, itself.

Both the Fifth & Fourteenth Amendments state that "[no person shall be] ***deprived of life***, liberty, or property, without ***due process of law***." The Eighth Amendment commands: "[C]ruel and unusual punishment [shall not be] inflicted." And the Fourteenth Amendment requires that "[no State shall] deny to any person within its jurisdiction the ***equal protection of the laws***." This language, as it stands is problematic to Justice Blackmun's case against the death penalty for two reasons. The first, of course, is that the language of due process, equal protection, and cruel and unusual punishment is abstract, vague, and inherently controversial. How those words came to be in the Constitution, an inherently explanatory question, is the subject of deep historical and jurisprudential controversy. The interpretive question of what they mean is even more controversial. The second problem, though, is more immediate. The language of the Fifth and Fourteenth Amendments strongly suggests that persons may be deprived of life by the state without violating their constitutional rights.

To address this second problem Blackmun should appeal to a useful interpretive distinction first introduced by Ronald Dworkin.[14] Dworkin notes that the venerable methodology of authorial or original intent is ambiguous. The framers, no doubt, had concrete intentions about the death penalty. They did not, however, enter these thoughts explicitly in the constitutional text. Rather, their language was abstract – the talked of due process, and equal protection.

Blackmun now appeals to recent constitutional precedent. The case of *Furman v. Georgia* Mr. Justice Stewart's reasoning is the most often seen as the relevant precedent.

> These death sentences are cruel and unusual in the same way that being struck by lightning is cruel and unusual. … [T]he Eighth and Fourteenth Amendments cannot tolerate the infliction of a

> sentence of death under legal systems that permit this unique penalty to be so wantonly and so freakishly imposed.[15]

The *Gregg v. Georgia*[16] case did three things, two of which were to the dismay of death penalty abolitionists. Most significantly, it ruled that capital punishment was not, *per se*, cruel and unusual punishment under the Eighth Amendment. It also ruled that new sentencing procedures initiated after *Furman* had successfully eliminated the problem of arbitrary and capricious administration of the death penalty in Georgia. But, and this is crucial to Blackmun's argument, it reinforced the basic finding of *Furman*. This gives him an elegant argument for his reading of the constitutionality of the death penalty

> e_1. From the Fifth & Fourteenth Amendments: "[No person shall be] ***deprived of life***, liberty, or property, without ***due process of law***."
> e_2. From the Eighth Amendment: "[C]ruel and unusual punishment [shall not be] inflicted."
> e_3. From the Fourteenth Amendment: "[No State shall] deny to any person within its jurisdiction the ***equal protection of the laws***."
> e_4. The authors of the Fifth, Eighth, and Fourteen amendments concretely intended that capital punishment did not violate the Constitution.
> e_5. The authors of the Fifth, Eighth, and Fourteen amendments abstractly intended that the entire criminal justice system, including capital punishment, adhere to the abstract standards of avoiding cruel and unusual punishments, and administering them with due process of law, and equal protection of the law.
> e_6. *Furman v. Georgia* 408 U.S. 238 (1972)
> e_7. *Gregg v. Georgia* 428 U.S. 153 (1976)
> ==========
> t'_0. [T]he death penalty must be imposed fairly, and with reasonable consistency, or not at all.[17]

The final part of Blackmun's argument applies extralegal empirical facts. He will employ an argumentative strategy that I have called "the argument form contingent reality."[18] He will

concede the *per se* constitutionality of capital punishment, but will then counter that contingent facts about its current application render it unconstitutional. To do so he will utilize at least four sorts of general facts. The first, of course, will hearken back to *Furman*. He will document that an examination of current death penalty convictions shows that they remain arbitrary and capricious. He will then remind the Court that there is a wealth of evidence that the above mentioned pattern in the sentencing is worse than simply capricious, but is actually discriminatory, both in terms of race[19] and socio-economic class.[20] Finally, he will point out that research demonstrates a troubling number of cases where there has been near misses of convicting and executing an innocent defendant,[21] and may go so far as to claim that innocent defendants have been executed.[22]

> e_9. Clear statistical data demonstrating that the race of both the defendant and the victim is a relevant factor in who receives a death sentence.
> e_{10}. Clear statistical data demonstrating that the socio-economic class of the defendant plays a causally relevant factor in who receives a death sentence.
> e_{11}. Demonstrably innocent defendants have been convicted of homicides that potentially carried the death penalty.
> e_{12}. Innocent defendants have probably been executed.
> ==========
> t"$_0$. [T]he inevitability of factual, legal, and moral error gives us a system that we know must wrongly kill some defendants, a system that fails to deliver the fair, consistent, and reliable sentences of death required by the Constitution.[23]

Is the ***best explanation*** of all the relevant constitutional language, Supreme Court precedent, and empirical facts about our death penalty administration, is one to which I cannot pretend objectivity. I am a lifelong opponent of capital punishment. I completely endorse Justice Blackmun's judgment – "It is virtually self evident to me now that no combination of

procedural rules or substantive regulations ever can save the death penalty from its inherent constitutional deficiencies."[24]

VIII.

> Though truth *is* correspondence with the facts it cannot be *recognized* by its correspondence. We cannot rely on the facts to guide proofs of scientific theories since the facts are irretrievably at the outer end of the correspondence relation. … So any indicators of truth must be internal. … The process of justifying, then, is a process of comparing aspects of the system, and the accomplishment of justification is the demonstration of coherence among the aspects.[25]

Peter Kosso's blending of the correspondence and coherence theories of truth nicely captures much of our thinking about evidence and truth. Connie whats to know how that lipstick stain got there. Jurors want to know who killed Ron and Nicole. We believe that there's something "out there," the world, that makes our theories true or false. Sadly, we have no direct access to that world, so we must rely on evidence to make inferences about it. Our standards for the best explanation are clearly coherence based standards. But, as Kosso wisely reminds us, our inferential goal is "correspondence with the facts."

But it's only by analogy and metaphor that we believe that there's a world where Watson did or did not choose to invest, or one where Hamlet failed to act. We believe there's a constitutional text, and an historical record of previous Supreme Court rulings. We also believe there's a world (described of course in our conceptual scheme) where race, class, and human error influence who lives and dies. But is it this world that determines the truth or falsity of Justice Blackmun's claim? Literary and constitutional truths appear to rely more on the coherence theory of truth.

Perhaps it's not so surprising that we see two very different sorts of truth at work in different compartments of our intellectual lives. The basic explanatory skill that underlies naïve metaphysical realism and the correspondence theory of truth must have developed much earlier in evolutionary history. Our human and pre-human ancestors merely needed to explain the world as it "really" was well enough to survive and reproduce. As we progressed as a species and began to produce complicated texts, and indeed whole cultural practices within which these texts were embedded, these closely related explanatory skills had much more abstract and intellectual applications to these very texts and cultural practices. In these latter contexts, inference to the best explanation does not discover truth as much as it creates truth.

ENDNOTES

[1] Gilbert Harman, "The Inference to the Best Explanation," The Philosophical Review 74:1 (1965), p. 89.
[2] *Ibid.*
[3] Sir Arthur Conan Doyle, "The Adventure of the Dancing Men." Reprinted in John A. Hodgson (editor), *Sherlock Holmes: The Major Stories with Contemporary Critical Essays* (Boston: Bedford/St. Martin's, 1994) p. 250 .
[4] Paul Thagard, *Hot Thought* (Cambridge, MA: The MIT Press, 2006), p. 136.
[5] *Ibid*, pp. 138-9.
[6] See, Jeffery L. Johnson, "Legal Evidence and the Reasonable Doubt Standard," currently under review.
[7] Stanley Fish, *Is There a Text in this Class?* (Cambridge MA: Harvard University Press, 1980), pp. 274-5.
[8] A. B. Shaw, "Depressive Illness Delayed Hamlet's Revenge, 28 *Medical Humanities*, 2002, pp. 92-6.
[9] *Ibid.*
[10] *Ibid.*
[11] *Ibid.*
[12] *Ibid.*
[13] *Callins v. Collins*, 510 U.S. 1141 (1994). Justice Blackmun, dissenting.
[14] Ronald Dworkin, *A Matter of Principle*, (Cambridge, MA: Harvard University Press, 1985), pp. 48-55.
[15] *Furman v. Georgia*, 408 U.S. 238 (1972).
[16] *Gregg v. Georgia*, 428 U.S. 153 (1976).
[17] *Ibid.*
[18] Omitted for purposes of blind review.
[19] See, for example, David C, Baldus, Charles Pulaski, and George Woodworth, "Comparative Review of Death Sentences: An Empirical Study of the Georgia Experience". *Journal of Criminal Law and Criminology* (1983); and "Death Penalty Sentencing: Research Indicates Pattern of Racial Disparities," GAO/GGD-90-57, 26 February 1990, reprinted in Hugo Adam Bedau, *The Death Penalty in America* (New York: Oxford University Press, 1997) pp. 268-74.
[20] See, for example (omitted for purposes of blind review), *op. cit.*, and Stephen B. Bright, "Counsel for the Poor: The Death Sentence Not for the Worst Crime but for the Worst Lawyer, 103 *Yale Law Journal* (May 1994).
[21] See, Michael L. Radelet, Hugo Adam Bedau, and Constance Putnam, *In Spite of Innocence* (Boston: Northeastern University Press, 1992.
[22] See, John C. Tucker, *May God Have Mercy* (New York: W. W. Norton, 1997).
[23] *Callins v. Collins, op. cit.*
[24] *Ibid.*
[25] Peter Kosso, *Reading the Book of Nature* (Cambridge: Cambridge University Press, 1992), p. 136.