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Coherence in the Process of Legal Proof

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Thesis submitted in accordance with the requirements for the degree of

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Abstract: The concept of coherence has long been thought to provide answers to a number of classical philosophical questions in metaphysics, epistemology and elsewhere. In recent decades, the promise of coherence has drawn the attention of many in legal theory, where coherence has since been employed for a number of different reasons. Among the many claims made for coherence in law and legal reasoning, some have argued that coherence plays a central role in the process of legal proof, justifying beliefs about unperceived past events. This claim constitutes the primary subject of this thesis. Focusing on the influential coherence-based theories of justification presented by Laurence BonJour, Neil MacCormick and Amalia Amaya, I argue that the use of coherence in the process of legal proof has been overestimated. Highlighting a number of conceptual and epistemological problems for coherence theories of justification, I suggest that coherence provides too weak a test to deliver justificatory force in the acceptance of beliefs about unperceived past events. In light of these findings, I tentatively propose a new, more limited role for coherence in the context of discovery and theory-formulation, where coherence may have a part to play in the process of legal proof after all.

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Introduction

I. Coherence

‘Coherence is in vogue.’¹ The opening to Joseph Raz’s ‘The Relevance of Coherence’ remains, more than 20 years after its initial publication, an accurate portrayal of the philosophical climate. Throughout much of the last century, philosophers have grappled with the idea that the notion of coherence, of “hanging together”, provides the answer to a number of classical philosophical questions. In metaphysics, for example, the opinion that a proposition is *true* if and only if that proposition fits within a coherent system of propositions rose to prominence in philosophical thought at the turn of the 20th century, before going out of fashion more suddenly than it came in.² Coherence has long been ‘a major player’ in epistemology too,³ where many have argued that coherence plays a critical role in the acquisition of *knowledge*, forming the decisive criterion in the *justification* of empirical beliefs.⁴

More recently, the allure of coherence has caught the attention of thinkers from a wide range of subjects, including aesthetics,⁵ ethics⁶ and, indeed, law, where the notion of coherence has been sought, employed and endorsed by many of the most eminent figures in contemporary legal philosophy.

¹ Joseph Raz, ‘The Relevance of Coherence’ in *Boston University Law Review*, Vol. 72, No. 2 (1992), pp. 273-321, 273.

² See, for example: F.H. Bradley, *Essays on Truth and Reality* (London: Clarendon-Oxford University Press, 1914), 202-218; Brand Blanshard, *The Nature of Thought Vol. II* (London: George Allen & Unwin, 1939), 212-303; A.C. Ewing, *Idealism: A Critical Survey* (London: Methuen, 3rd edn, 1961) 195-261; and, Nicolas Rescher, *The Coherence Theory of Truth* (London: Clarendon-Oxford University Press, 1973). For a recent defence, see: James O. Young, ‘A Defence of the Coherence Theory of Truth’ in *Journal of Philosophical Research*, Vol. 26, (2001), pp. 89-101.

³ Keith Lehrer, ‘Coherentism’ in Jonathan Dancy, Ernest Sosa and Matthias Steup (eds), *A Companion to Epistemology* (Chichester, UK: Wiley-Blackwell, 2nd edn, 2010), 278.

⁴ For an overview, see: *ibid.*

⁵ See, for example: Karl Aschenbrenner, *The Concept of Coherence in Art* (Dordrecht: D. Reidel, 1985).

⁶ See, for example: John Rawls, *A Theory of Justice* (Oxford: Oxford University Press, rev edn, 1999).

In law, coherence has been invoked within a number of different areas for a number of reasons. Most notably, it has been suggested, roughly speaking, that the coherence of a legal system represents a normative ideal, like justice;⁷ that individual judicial decisions are justified if (and, perhaps, only if) they cohere with the wider legal system, its principles and/or political morality;⁸ and that coherence plays a significant role in the process of legal fact-finding, solving the longstanding “problem of proof”.⁹ Unsurprisingly, the vast range of subjects that coherence occupies within legal philosophy leaves any meaningful analysis of coherence in law far beyond the scope of this thesis. Thus, the investigation presented here focuses on the role of coherence in just one of these arenas: the process of legal proof, where the application of coherence maintains a close connection to its epistemological forerunner.

II. The Problem of Proof

In recent decades, the emergence of the so-called “new evidence scholarship”¹⁰ has seen a shift in the focus of legal evidence scholarship away from the mere analysis of black-letter legal rules, in search of a better understanding of how evidence is, and ought to be, used in the process of legal proof. At the centre of this venture lies a fundamental question, with its roots deep in epistemology, that underpins the entire debate: on what basis are legal fact-finders justified in accepting one theory of a case,¹¹ among competing alternative theories, as true? In answering this question, attempting to solve the “problem of proof”,

⁷ Notable examples include: Neil MacCormick, *Rhetoric and the Rule of Law: A Theory of Legal Reasoning* (Oxford: Oxford University Press, 2005), esp. ch 10; Ronald Dworkin, *Law's Empire* (Oxford: Hart, 1998), esp. ch 6-7; and, Aleksander Peczenik, *On Law and Reason* (Dordrecht: Springer, 2nd edn, 2008), esp. ch 4.

⁸ *ibid.* See also: Barbara Baum Levenbrook, ‘The Role of Coherence in Legal Reasoning’ in *Law and Philosophy*, Vol. 3 (1984), pp. 355-374; and, Raz, (n 1). For at least some (see, for example: MacCormick, (n 7), 203) it seems that the arguments that decisions ought to cohere with prior law, principles and/or morality and that systemic coherence represents a normative ideal are mutually supporting. It is important to remember, however, that the two claims, though often interrelated, are distinct, as Moral Soriano points out. See: Leonor Moral Soriano, ‘A Modest Notion of Coherence in Legal Reasoning. A Model for the European Court of Justice’ in *Ratio Juris*, Vol. 16, No. 3 (2003), pp. 296-323.

⁹ See: Section II.

¹⁰ This phrase is Lempert’s. See: Richard Lempert, ‘The New Evidence Scholarship: Analyzing the Process of Proof’ in *Boston University Law Review*, Vol. 66 (1986), pp.439-477. For a brief overview of the new evidence scholarship and its origins, see: John Jackson and Sean Doran, ‘Evidence’ in Dennis Patterson (ed), *A Companion to the Philosophy of Law and Legal Theory* (Chichester, UK: Wiley-Blackwell, 2nd edn, 2010), 182ff.

¹¹ That is, a hypothesis about the disputed facts of a case.

legal theorists have drawn extensively on epistemological literature, which has long sought to answer the more general question as to how empirical beliefs might be justified.¹²

The influence of epistemological thought in this new evidence scholarship has led contemporary legal evidence scholars to develop two distinct schools of thought. The conventional view, atomism, is built upon the premise that the relative probability of evidentiary hypotheses can be assessed by combining the probability of each theory's constituent parts, often relying on mathematical (particularly Bayesian) theories of probability.¹³ Conversely, holism presents the alternative view that evidence is to be understood as a whole, where theories of a case are understood as stories, and the plausibility of each theory depends on the holistic analysis of the story it tells.¹⁴ The popularity of the holistic approach, encouraged in part by its psychological plausibility,¹⁵ has led a number of legal theorists to consider the grounds on which such holistic evaluations ought to be made. For example, Michael Pardo and Ronald Allen, perhaps the most prominent advocates of holism in legal evidence, suggest that legal fact-finders ought to accept as true the hypothesis that best explains the

¹² This is unsurprising, perhaps, since legal proof is arguably 'an epistemic endeavor' after all; Michael S. Pardo, 'The Gettier Problem and Legal Proof' in *Legal Theory*, Vol. 16 (2010), pp. 37-57, 37. The overlap between epistemology and legal evidence can be seen, for example, in a special issue of the journal *Episteme* (Vol. 5, Issue 3 (2008)) dedicated to the interaction of epistemology and legal philosophy.

¹³ The classical account of atomism presented by J.H. Wigmore relies on the attachment of "fuzzy probabilities" to individual propositions; see, for example: John H. Wigmore, 'The Problem of Proof' in *Illinois Law Review*, Vol. 8, No. 2 (1913), pp. 105-131; and, Terence Anderson, David Schum and William Twining, *Analysis of Evidence* (Cambridge: Cambridge University Press, 2nd edn, 2005), 260-261. By contrast, Bayesian approaches attach a numerical probability to each individual component of a hypothesis, multiplying the resulting probabilities to determine the probability that the hypothesis, as a whole, is true; see, for example: Michael O. Finkelstein and William B. Fairley, 'A Bayesian Approach to Identification Evidence' in *Harvard Law Review*, Vol. 83, No. 3 (1970), pp. 489-517. cf Laurence H. Tribe, 'Trial by Mathematics: Precision and Ritual in the Legal Process' in *Harvard Law Review*, Vol. 84, No. 6 (1971), pp.1329-1393.

¹⁴ The inception of the recent drive towards evidentiary holism in law is generally attributed to the work of Ronald Allen. See, for example: Ronald J. Allen, 'Factual Ambiguity and a Theory of Evidence' in *Northwestern University Law Review*, Vol. 88, No. 2 (1994), pp. 604-640.

¹⁵ See, for example: Nancy Pennington and Reid Hastie, 'The Story Model for Juror Decision Making' in Reid Hastie (ed), *Inside the Juror: The Psychology of Decision Making* (Cambridge: Cambridge University Press, 1993).

evidence by reference to a number of criteria, including consistency, simplicity, consilience, coherence, and so on.¹⁶

Yet, some have argued that one of these criteria in particular ought to play a more central role in the process of legal proof: coherence.¹⁷ Coherence theories of legal proof, much like their epistemological counterparts, contend that a legal fact-finder's acceptance of a given hypothesis as true depends predominantly, if not entirely, on the coherence of its parts. Of those advocating coherence-based accounts of legal proof, two particular legal theorists stand out in both significance and aptitude.

The first, Neil MacCormick, is among the most renowned figures in 20th century legal theory. His *Legal Reasoning and Legal Theory*,¹⁸ developed in the recent *Rhetoric and the Rule of Law*,¹⁹ represents one of the earliest and, indeed, most sophisticated arguments that coherence is of value in law, and his distinction between "normative" and "narrative" coherence remains a key feature in legal coherence theory today.²⁰ Thus, MacCormick's thought provides the most developed classical account of coherence in law.

By contrast, Amalia Amaya is an emerging young scholar whose recent, and still ongoing,²¹ research has already attracted attention from a number of legal

¹⁶ Michael S. Pardo and Ronald Allen, 'Juridical Proof and the Best Explanation' in *Law and Philosophy*, Vol. 27 (2008), pp. 223-268, 229-230.

¹⁷ See, for example: Neil MacCormick, 'The Coherence of a Case and the Reasonableness of Doubt' in *The Liverpool Law Review*, Vol. 2, No. 1 (1980), pp. 45-50; Bernard S. Jackson, *Law, Fact and Narrative Coherence* (Routledge, UK: Deborah Charles, 1988); J.M. Balkin, 'Understanding Legal Understanding: The Legal Subject and the Problem of Legal Coherence' in *Yale Law Journal*, Vol. 103, No. 1 (1993), pp. 105-176; Paul Thagard, 'Causal Inference in Legal Decision Making: Explanatory vs. Bayesian Networks' in *Applied Artificial Intelligence*, Vol. 18 (2004), pp. 231-249; and, Amalia Amaya, 'Coherence, Evidence, and Legal Proof' in *Legal Theory*, Vol. 19 (2013), pp. 1-43.

¹⁸ Neil MacCormick, *Legal Reasoning and Legal Theory* (Oxford: Oxford University Press, rev edn, 1994).

¹⁹ MacCormick, (n 7).

²⁰ See: Neil MacCormick, 'Coherence in Legal Justification' in Aleksander Peczenik, Lars Lindahl and Bert Van Roermund (eds), *Theory of Legal Science* (Dordrecht: D. Reidel, 1984) [republished with changes in Werner Krawietz et al. (eds), *Theorie der Normen* (Berlin: Duncker and Humblot, 1984)].

²¹ Amaya's first monograph on coherence in law, *The Tapestry of Reason: An Inquiry into the Nature of Coherence and its Role in Legal Argument*, is due with Hart Publishing in December 2014.

theorists.²² Her work also typifies a shift that has recently taken place in research on coherence in law, which seeks to utilise the formal tools developed in epistemology, cognitive science and artificial intelligence to inform our understanding of the nature of coherence and its role in legal reasoning and justification.²³

And so, in this thesis I present a close examination of the thought of both MacCormick and Amaya, which together represent two distinct approaches to the role of coherence in the process of legal proof.²⁴ Though not exhaustive, this focus allows the requisite space in which to develop and present an in-depth analysis of each theory in turn, exposing a number of fundamental issues that are indicative of the wider problems facing a coherence-based account of legal fact-finding. Yet, the ramifications of the criticisms presented here reach far beyond the context of legal proof. I suggest that many of the challenges for coherence in legal fact-finding stem, in fact, from its use in the context of epistemic justification, while an investigation into the meaning of coherence reveals a number of conceptual issues which plague the coherentist literature more generally.

III. The Structure of the Thesis

The central question under consideration here is whether the respective theories of MacCormick and Amaya are successful in presenting an adequate coherence-based theory of justification that provides legal fact-finders with some non-arbitrary reason to accept one theory of a case, among competing alternative theories, as true. My investigation begins, however, not in law, but in epistemology. The problem of legal proof is derived from a more general epistemological question concerning the basis on which empirical beliefs might

²² See, for example, articles by Manuel Atienza, Juliano Maranhão, Cristina Redondo, Aldo Schiavello, Guillermo Lariguet and Claudio Michelon published in *Discussiones*, Vol. 10 (2011), and Amaya's reply in the same volume (in Spanish).

²³ See: Amalia Amaya, 'Formal Models of Coherence in Legal Epistemology' in *Artificial Intelligence and Law*, Vol. 15 (2007), pp. 429-447, 437. This shift can also be seen in the forming of a workshop on "Artificial Intelligence, Coherence and Judicial Reasoning" held at the biannual International Conference on Artificial Intelligence and Law in 2011 and 2013, as well as the publication of Michał Araszkiewicz and Jaromír Šavelka (eds), *Coherence: Insights from Philosophy, Jurisprudence and Artificial Intelligence* (Dordrecht: Springer, 2013).

²⁴ Indeed, Amaya's reliance on the work of Paul Thagard provides the opportunity to consider, albeit more briefly, a third major figure in the literature on coherence in legal fact-finding.

be adequately justified to constitute knowledge, and, as I have explained, the suggestion that coherence represents the solution finds its origins in epistemology, too. For these reasons, I begin, in Chapter 2, by examining epistemic coherentism, before turning to its counterpart in the context of legal proof.

Coherence plays a major role in epistemology, where the belief that coherence represents the crucial ingredient in epistemic justification is one of the most popular views in contemporary theories of knowledge. The reader will, I suspect, be unsurprised to learn that the epistemological literature is so vast as to warrant its own separate investigation, such that any general overview provided in just one chapter (or, indeed, even in an entire thesis of this length) would prove too superficial to constitute a meaningful exhibition of its many forms and variations. I propose, therefore, to focus, once again, on a particular version of coherentism that best exemplifies the merits and demerits of the more general position, *viz.* Laurence BonJour's *The Structure of Empirical Knowledge*.²⁵

BonJour's well-known monograph is arguably the single most significant contribution to the pursuit of an adequate coherence theory of epistemic justification. Some 30 years after its initial publication, *The Structure of Empirical Knowledge* remains one of the clearest explications of epistemic coherentism available and a common starting point for discussions of coherence in epistemology and elsewhere.

My aim in analysing BonJour's coherentism is a relatively modest one. Indeed, such is the sophistication and complexity of BonJour's coherentism that a comprehensive account of his theory, and his later rejection of it, would extend far beyond my present project. Instead, the analysis afforded in Chapter 2 introduces the reader to the wide range of problems that confront the use of coherence in justification of beliefs. In short, I argue: BonJour's theory fails to overcome the seeming complexity that surrounds the concept of coherence,

²⁵ Laurence BonJour, *The Structure of Empirical Knowledge* (Cambridge, MA: Harvard University Press, 1985).

presenting the erroneous view that the concept of coherence is somehow tied to beliefs and exists as a matter of degree; that it is unable to establish an effective method by which one can choose non-arbitrarily between competing beliefs; and that Bonjour fails to provide sufficient evidence in support of his claim that adherence to coherentist standards is at least likely to lead to the acceptance of true beliefs and the rejection of false ones. These criticisms form the position from which I examine the role of coherence in the justification of beliefs about past facts in the legal context.

In Chapter 3, I consider MacCormick's widely discussed account of coherence in legal reasoning, focusing on "narrative coherence", which he argues is 'our only basis for upholding conclusions, opinions, or indeed verdicts about matters of past fact.'²⁶ Following a clear outline of MacCormick's position, intended to avoid any misconceptions or misrepresentations that may exist throughout the literature, I argue that MacCormick's solution to the problem of proof falls victim to many of the problems that are found in Bonjour's theory of epistemic justification. Like Bonjour, MacCormick commits a number of conceptual mistakes, leading to a conception of coherence that fails to make sense, and his theory of narrative coherence proves unfit to deliver justificatory force. In light of these findings, I present a novel constructive interpretation of MacCormick's account, suggesting that his narrative coherence could be of use outside the context of evidentiary *justification* and may be better placed in the process of *discovery*.

I turn, in Chapter 4, to Amaya's recent theory of legal justification by "optimal coherence". Amaya contends that a belief about the law or facts under dispute is justified if and only if it is coherent and is such that an epistemically responsible actor would accept it as justified in like circumstances.²⁷ Modifying Paul Thagard's conception of coherence as constraint satisfaction, Amaya suggests that the kind of coherence that is relevant to the process of legal proof, "factual coherence", represents one of a number of discrete kinds of

²⁶ MacCormick, (n 7), 224.

²⁷ Amalia Amaya, 'Legal Justification by Optimal Coherence' in *Ratio Juris*, Vol. 24, No. 3 (2011), pp. 304-329, 306.

coherence, each made up of a set of principles or constraints. She argues that a legal fact-finder is justified in accepting as true the theory of the case that is best on a test on factual coherence, where he fulfils the epistemic duties and displays the intellectual virtues required by the context. However, I contend that Amaya's attempt to set out a clear description of coherence leads to the endless proliferation of "kinds" of coherence, losing sight of the concept of coherence itself. I further argue that her account of inference to the best explanation becomes severely restricted once coherence is correctly understood as an absolute concept,²⁸ while her responsibility-supplement is too vague to provide any meaningful support.

On the basis of these problems, I conclude in Chapter 5 by tentatively suggesting that coherence theories of legal fact-finding, in their current state, are unfit for purpose and that the role of coherence in the process of legal proof appears to have been overestimated. I propose, however, that there may be hope for coherence yet. The arguments presented in this thesis provide the space in which to develop a clearer, more accurate account of what coherence amounts to, as well as uncovering a potential role for coherence in the context of discovery that has until now been unexplored.

²⁸ That is, that coherence is not a matter of degree.

2

BonJour's Coherence Theory of Epistemic Justification

Laurence BonJour's *The Structure of Empirical Knowledge*,¹ first published in 1985, represents one of the most influential works, perhaps *the* most influential work, on coherence and coherentism in contemporary epistemology. Following a thorough attack on foundationalist theories of epistemic justification, BonJour sets out a coherentist account of justification, arguing that an individual is epistemically justified in accepting a system of beliefs as true where that system forms a coherent whole. However, it should be noted from the outset that BonJour's view has changed dramatically since the publication of his 1985 monograph. In recent years, BonJour has come to reject coherentism, which he now considers a 'thoroughly untenable'² project that is 'doomed to failure',³ advocating a form of internalist foundationalism instead.⁴

Despite his radical change of opinion, this chapter focuses on BonJour's *The Structure of Empirical Knowledge* for two reasons. First, BonJour's earlier work remains a common starting point for coherence-based theories of justification in epistemology, law and elsewhere, with many supporters of coherentism appearing to overlook the defection of their most famous former ally. Second, and more significantly, the examination of BonJour's work presented here reveals a number of basic problems surrounding the use of coherence in the epistemic justification of empirical beliefs. In particular, I argue that coherentism is troubled by the obscurity of the concept of coherence, its apparent inability to differentiate non-arbitrarily between numerous coherent belief systems, and the

¹ Laurence BonJour, *The Structure of Empirical Knowledge* (Cambridge, MA: Harvard University Press, 1985) ("*SEK*" hereinafter).

² Laurence BonJour, 'The Dialectic of Foundationalism and Coherentism' in John Greco and Ernest Sosa (eds), *The Blackwell Guide to Epistemology* (Oxford: Blackwell, 1999), 130.

³ Laurence BonJour, 'Self-Profile' in Jonathan Dancy, Ernest Sosa and Matthias Steup (eds), *A Companion to Epistemology* (Chichester, UK: Wiley-Blackwell, 2nd edn, 2010), 115.

⁴ See, generally: Part I of Laurence BonJour and Ernest Sosa, *Epistemic Justification* (Oxford: Blackwell, 2003).

failure to show that coherentism is truth-conducive. Yet, these problems (and variations of them) are not limited to BonJour's theory or even epistemic coherentism more generally, but rather extend to the use of coherence in law and elsewhere. Thus, the primary purpose of this chapter is to introduce the concept of coherence, its use in the justification of beliefs and the problems this gives rise to. These problems then form the basis of much of the critique that follows in the remainder of the thesis.

I. A Coherentist Theory of Empirical Knowledge

In *The Structure of Empirical Knowledge*, BonJour attempts to establish a philosophical account of empirical knowledge⁵ that is able to overcome the classical problem of epistemic regress, outlined below. Whether he succeeds in so doing is, however, of little significance to the objectives of the present thesis. For this reason, I will offer little more than a superficial overview of the regress problem and its potential solutions here, in order to contextualise BonJour's theory, before turning to the more pertinent matter of the theory itself.

Adopting the classical tripartite view of knowledge as justified true belief,⁶ BonJour asserts that for a person A to know that P, where P is a proposition or set of propositions, the following three conditions must be satisfied:

- (1) A must believe confidently that P,
- (2) P must be true, and
- (3) A's belief that P must be adequately justified.⁷

BonJour's primary aim in *The Structure of Empirical Knowledge* concerns condition (3): the basis on which a belief (like A's belief that P) is *adequately justified*. For A to be justified in his belief that P, there must be a sufficiently good reason for person A to believe that P. Of course, there may be a number

⁵ That is, knowledge concerning *a posteriori* beliefs held on the basis of some sensory or perceptual experience, rather than *a priori* beliefs justified by pure reason.

⁶ Though this classical account of knowledge is problematised by Gettier's famous critique of knowledge as justified true belief, BonJour ignores these problems, as will I, on the basis that 'their exact bearing on the issues which will be discussed is obscure' and 'because there is quite enough to do without them' (SEK, 5). See: Edmund L. Gettier, 'Is Justified True Belief Knowledge?' in *Analysis*, Vol. 23, No. 6 (1963), pp. 121-123.

⁷ SEK, 4.

of reasons why A believes that P, and the adequacy of any given reason will depend on the context. In the context of knowledge, BonJour explains that the sort of justification required is *epistemic* justification,⁸ which, reflecting the implicit rationale of knowledge,⁹ is *essentially* related to the cognitive goal of truth, meaning that A's belief that P is epistemically justified where he has good reason to think that P is true.¹⁰

Typically, the justification of a belief like P is derived from some further, epistemically justified, belief or set of beliefs; for example, it might be that a person A is justified in believing P because Q. BonJour calls this form of justification *inferential justification*, since A's belief that P is justified because it is inferred from Q,¹¹ where A has reason to believe that P is true or probably true if Q is true or probably true. It follows, of course, that the justification of A's belief that P also rests on there being some good reason for A to believe that Q. Perhaps A believes Q (and, therefore, P) because R, but then A must also have some good reason to believe R. The problem is that this question appears to go on indefinitely, since each belief must be justified by reference to some further premise-belief, which in turn depends on yet another premise-belief. Without resort to the sceptical view that the purported justification of all knowledge rests on some epistemically unjustifiable beliefs,¹² or the implausible possibility that the regress continues *ad infinitum*,¹³ this problem of regress gives rise to two possibilities.

The first is that of foundationalism. The foundationalist response to the problem of regress, roughly speaking, is that the regress ends with some basic empirical beliefs, which have some non-inferential epistemic justification, on which all

⁸ SEK, 5.

⁹ SEK, 7.

¹⁰ SEK, 8.

¹¹ See: SEK, 18-19.

¹² SEK, 22. BonJour contends that this sceptical view can be reasonably set aside until all other possibilities are shown to have failed (SEK, 87).

¹³ BonJour suggests that since nobody could ever possess an infinite number of beliefs, this alternative could never 'represent an accurate account of how the empirical knowledge of ordinary, finite knowers is actually justified' (SEK, 24). For a defence of infinitism, see: Peter D. Klein, 'Human Knowledge and the Infinite Regress of Reasons' in *Philosophical Perspectives*, Vol. 13 (1999), pp. 297-325; and, 'Human Knowledge and the Infinite Progress of Reasoning' in *Philosophical Studies*, Vol. 134, No. 1 (2007), pp. 1-17.

other beliefs are built. Foundationalism, however, faces an immediate and damning problem, for there appears to be no epistemically justified basis on which to establish these basic, foundational beliefs.¹⁴ 'Foundationalism', it seems, 'is thus a dead end.'¹⁵

The second possibility comes from coherentism. Coherentism suggests that the regress circles back upon itself, such that the justification of beliefs within the system comes from the system's internal coherence. Ostensibly, the coherentist view is also problematic, failing to end the infinite regress in question *and* resorting to a seemingly vicious circularity. The problem is that under the coherentist approach the epistemic justification of a belief depends on *its own* prior epistemic justification;¹⁶ for example, A may believe that P because Q, that Q because R, and that R because P, thus seeming to believe P because he believes P. BonJour's response to this problem is to reconsider the common assumption that inferential justification proceeds in this *linear* fashion. He argues that, in fact, 'inferential justification, despite its linear appearance, is essentially systematic or holistic in character: beliefs are justified by being inferentially related to other beliefs in the overall context of a coherent system.'¹⁷ Drawing a distinction between the "local" justification of 'a single empirical belief or small set of such beliefs' within the context of a presumed justified system and the "global" justification of that entire system,¹⁸ BonJour explains that despite the linear *appearance* of justification at the local level, the inferential justification of beliefs at the global level is a matter of nonlinear reciprocal support.¹⁹

On BonJour's account, then, the claim that coherentist justification is viciously circular is misplaced '*because it is not genuinely a circle*: the justification of a particular empirical belief finally depends [...] on the overall system and its

¹⁴ For BonJour's critique of attempts to overcome this problem, see: 'Externalist Version of Foundationalism' and 'The Doctrine of the Empirically Given', ch 3-4 in *SEK*.

¹⁵ *SEK*, 84. cf BonJour and Sosa, (n 4).

¹⁶ See: *SEK*, 24.

¹⁷ *SEK*, 90.

¹⁸ *SEK*, 91.

¹⁹ *ibid.*

coherence.²⁰ Thus, where an overall system of beliefs is epistemically justified and internally coherent, a particular belief P is justified 'by virtue of its membership in the system.'²¹

II. The Concept of Coherence

An initial obstacle for BonJour's coherence theory of justification stems from the 'obscurity' of its central concept: coherence.²² For, despite its "immanence in all our thinking",²³ those employing the concept of coherence in philosophy, law and elsewhere have been unable to agree upon what "coherence" actually amounts to, such that it has become commonplace throughout the literature for proponents and opponents alike to begin with some introductory remark as to its being 'an inherently elusive and slippery concept'.²⁴ Indeed, as Erik Olsson observes, 'it has become a standard objection to coherence theories that their advocates fail to provide a detailed account of the central notion'.²⁵ The problem is that coherence seems to be so complex a notion that a fully adequate explication extends beyond the scope of any work of manageable length;²⁶ the objection is that 'there is little point in talking at length about coherence without a somewhat clearer idea of what is involved.'²⁷

Thus, building on his intuition that 'coherence is a matter of how well a body of beliefs "hangs together": how well its component beliefs fit together, agree or dovetail with each other, so as to produce an organized, tightly structured system of beliefs',²⁸ BonJour sets out five conditions for coherence. His 'state of the art'²⁹ coherence criteria suggest that:

- (i) a system of beliefs is coherent only if it is logically consistent;

²⁰ SEK, 92 [original emphasis].

²¹ *ibid.*

²² SEK, 93.

²³ See: A.C. Ewing, *Idealism: A Critical Survey* (London: Methuen, 3rd edn, 1961), 231; quoted in SEK, 94.

²⁴ Stefano Bertea, 'The Arguments from Coherence: Analysis and Evaluation' in *Oxford Journal of Legal Studies*, Vol. 25, No. 3 (2005), pp. 369-391, 371.

²⁵ Erik J. Olsson, *Against Coherence: Truth, Probability, and Justification* (Oxford: Clarendon-Oxford University Press, 2005), 13.

²⁶ SEK, 93.

²⁷ SEK, 94.

²⁸ SEK, 93.

²⁹ Olsson, (n 25), 14.

- (ii) a system of beliefs is coherent in proportion to its degree of probabilistic consistency;
- (iii) the coherence of a system of beliefs is increased by the presence of inferential connections between its component beliefs and increased in proportion to the number and strength of such connections;
- (iv) the coherence of a system of beliefs is diminished to the extent to which it is divided into subsystems of beliefs which are relatively unconnected to each other by inferential connections; and,
- (v) the coherence of a system of beliefs is decreased in proportion to the presence of unexplained anomalies in the believed content of the system.³⁰

Though accepting that this remains 'a long way from being as definitive as desirable', BonJour submits that his criteria present an account of the concept that 'is nonetheless clear enough to make it reasonable to use it'.³¹ However, BonJour's coherence criteria have attracted criticism. Marshall Swain, for example, has expressed his disappointment at BonJour's 'lack of detail',³² while Olsson takes issue with the criteria and the relationship between them.³³

A yet more fundamental and significant criticism is made by Stephen Pethick, who observes that the intuition on which BonJour's criteria are based leads to the absurd suggestion that coherence has to do with 'how well *a body of beliefs* "hangs together"'.³⁴ BonJour's intuition is plainly mistaken, since it cannot be said that the coherence of a story, a sentence, or a painting depends in any way on how well *a body of beliefs* hangs together. Rather, BonJour's intuition leads him to elucidate what the coherence *of a body of beliefs* might look like, not coherence itself. Pethick contends that many of the problems surrounding the meaning of coherence arise from this very mistake, that is, he claims that the notion of coherence owes much of its apparent complexity and slipperiness

³⁰ See: *SEK*, 95-99.

³¹ *SEK*, 101.

³² Marshall Swain, 'BonJour's Coherence Theory of Justification' in John W. Bender (ed), *The Current State of the Coherence Theory* (Dordrecht: Kluwer Academic Publishers, 1989), 116.

³³ Olsson, (n 25), 15.

³⁴ Stephen Pethick, 'On the Entanglement of Coherence' in *Ratio Juris*, Vol. 27, Issue 1 (2014), pp. 116-137, 121.

to a striking methodological oversight that is prevalent throughout the literature, *viz.* the repeated conflation of the concept's *intension* and *extension*.³⁵ In short, Pethick suggests that writers in philosophy, linguistics, legal theory and elsewhere 'have happened universally to misidentify characteristics of objects of which coherence may be predicated as characteristics of coherence itself',³⁶ as BonJour does here. Thus,

in articulating coherence, C, theorists all happen to have in mind some *x* that instantiates it, and then draw on features of *Cx* in their attempt to determine C, causing the inadvertent imputation to C of characteristics possessed otherwise by the *x* in question.³⁷

This conceptual mistake, made by BonJour and others, leads to the conclusion,

that there is a single true coherence, in virtue of which other accounts or uses of coherence must be mistaken; or that there must be *kinds* or *types* or *concepts* of coherence; or that there are so many different 'coherences' that the prospect of conceptual definition is ruled out altogether.³⁸

It is unsurprising, then, that the notion of coherence seems too obscure a concept to explicate in any work of manageable length, or any work whatsoever. Yet, Pethick's criticism provides the opportunity to do just that. Once the view that there are *kinds* of coherence or coherences is rejected, space remains in which it is possible to develop an adequately clear but also suitably general account of coherence's intension, which is broad enough to encapsulate its wide-ranging extension. In the remainder of this section, I will consider three commonly cited candidates for such an account: hanging together; sticking together; and, fitting together. Exploring the ordinary language use of each, I argue that the third is best placed to describe the concept of coherence that is so imminent in our thinking.

³⁵ As Pethick observes (*ibid.*, 118 fn2), the same point is made by Susan Haack in relation to "truth". See: Susan Haack, 'The Whole Truth and Nothing but the Truth' in *Midwest Studies in Philosophy*, Vol. 32 (2008), pp. 20-35.

³⁶ Pethick, *ibid.*, 118.

³⁷ *ibid.*, 119.

³⁸ *ibid.* [original emphasis].

II.1 Coherence as "Hanging Together"

Perhaps the most common description of coherence, which can be seen in BonJour's opening intuition, is that it amounts to "hanging together". Thus understood, a belief P coheres with a belief Q if they "hang together", while a given sentence is coherent if its parts "hang together", and so on. It seems, then, that BonJour's intuition may present a viable elucidation of coherence, once the delimiting reference to 'a body of beliefs' is removed.

The next question, of course, is what it means to hang together, and it is here that the conception of coherence as hanging together comes unstuck. The problem is that the term "hangs together" is simply synonymous with "coherent" and, when broken into its constituent parts, hanging together proves unable to capture the sense of coherence. For, though coherence is generally accepted to be a symmetrical relation (i.e. hanging *together*),³⁹ there is no obvious way in which the notion of *hanging*, far-reaching as it is, describes the relation in question. Thus, while coherence as hanging together is certainly free from the conflation between intension and extension that Pethick picks out, it fails to take us any closer towards a clear account of what coherence's intension is.

II.2 Coherence as "Sticking Together"

Conversely, Pethick presents the rather less common view that coherence 'just happens (has just happened) to mean "sticking together"'.⁴⁰ Once again, the conception of coherence as "sticking together" looks suitably general to encompass the wide variety of objects to which coherence is predicated. As Pethick explains, under this conception, coherence remains sticking together irrespective of the objects in question and, indeed, in both one-place or multi-place use; '[h]ow, or in consequence of *what*, some thing or some things "stick together" is then answered by the nature of, or particular relation between, the object(s) that cohere.'⁴¹

³⁹ As Rescher remarks, 'all coherence must be coherence *with something*.' Nicholas Rescher, *The Coherence Theory of Truth* (London: Clarendon-Oxford University Press, 1973), 32 [original emphasis].

⁴⁰ Pethick, (n 34), 130.

⁴¹ *ibid* [original emphasis].

At first glance, Pethick's conception of coherence is clearer than that considered above. Yet, on closer examination, Pethick's use of "sticking together" is also problematic, depicting a relation which is in some respects too strong and in others too weak to describe that of coherence. Among its many senses, the only sense of the verb "stick" (that is, to stick or be stuck) which emerges as a plausible explanation of how sticking plays a role in coherence is that *to stick is to adhere or cling to something*, as in "the poster sticks to the wall". Thus, it could be said that a story is coherent where its parts adhere or cling together, or that plan A coheres with plan B where plan A clings together with plan B.⁴²

The first problem to arise under this conception of coherence concerns the strength of the relation in question, since sticking together denotes a relation far stronger than that of coherence. Consider, for example, the following coherent set S_1 of beliefs:

- (A) The coffee machine is missing from the common room.
- (B) Luke was seen carrying the coffee machine away.
- (C) Luke is known to be a thief.
- (D) Luke has taken the coffee machine.

On Pethick's account, the set is coherent because its constituent parts (A) to (D) "stick together". Suppose, then, that for some reason one of these beliefs, say (C), must be rejected (perhaps some new evidence shows it to be false), leaving the (still coherent) set S_2 [(A), (B), (D)]. Where such coherence is understood in terms of "sticking", the rejection of (C) seems to require the rejection of those other beliefs to which it is stuck – precisely because they are *stuck together*. The problem, then, is that the notion of sticking is too strong, denoting a permanence that is not found in the concept of coherence. Indeed, it could be argued that the link between sticking and sticking *permanently* presented here is mistaken. Indeed, if I say that I am stuck with my homework or stuck in traffic on the motorway I do not mean to suggest that I will be stuck there forever. Yet, these examples appeal to a different sense of the word stuck

⁴² cf *ibid.*

and can be quickly dismissed, for the sense of sticking in play here is not one of adherence or clinging, but rather of being unable to move or progress. It might be suggested, too, that to observe that the poster is stuck to the wall is not to suggest that it cannot be removed, but the point is that the poster must be *forced* away from the wall – probably taking some of the wallpaper with it.

On the other hand, the conception of coherence as sticking together seems too weak to capture the concept of coherence, since any objects can be forced to stick together. Consider the sentence: “Wins lucky pony child”. The sentence is clearly incoherent, a mere selection of random words placed in a random order. But so long as those words are forced together into the sentence above, one might say they are stuck together. Plainly, the notion of coherence requires more than the mere sticking together of random objects. Rather, those objects must fit together in some way to form a composite whole, as in the potential newspaper headline: “Lucky child wins pony.”

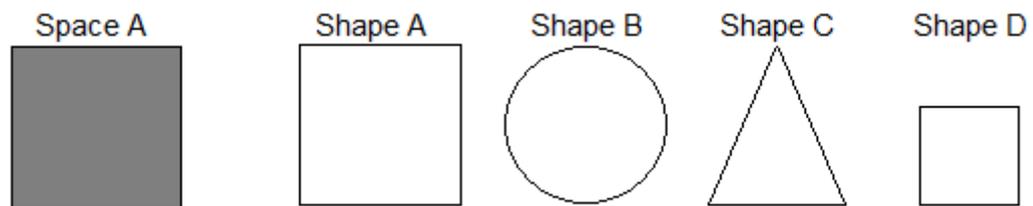
For these reasons, the conception of coherence as “sticking together” also fails to adequately describe the concept of coherence.

II.3 *Coherence as “Fitting Together”*

The final and, I argue, most plausible candidate for a clear, general account of coherence is that of “fitting together”. Alongside the unhelpful description of coherence as “hanging together”, one of our most basic intuitions about coherence seems to be that it amounts to “fitting together”. Though the opinion that coherence is a matter of fitting together is implicit throughout much of the literature,⁴³ this highly intuitive description has scarcely been developed.

⁴³ For some examples of (casual) descriptions of coherence as “fit” or “fitting together”, see: *SEK*, 93; Amalia Amaya, ‘Coherence, Evidence, and Legal Proof’ in *Legal Theory*, Vol. 19, Issue 1 (2013), pp. 1-43, 12; Luc Bovens and Stephan Hartmann, ‘Solving the Riddle of Coherence’ in *Mind*, Vol. 112 (2003), pp. 601-633, 601; Wojciech Cyrul, ‘Consistency and Coherence in the “Hypertext” of Law: A Textological Approach’ in Michał Araszkiewicz and Jaromír Šavelka (eds), *Coherence: Insights from Philosophy, Jurisprudence and Artificial Intelligence* (Dordrecht: Springer, 2013), 173; Igor Douven and Wouter Meijs, ‘Measuring Coherence’ in *Synthese*, Vol. 156, No. 3 (2007), pp. 405-425, 405; Marcello Guarini, ‘Case Classification, Similarities, Spaces of Reasons, and Coherences’ in Michał Araszkiewicz and Jaromír Šavelka (eds), *Coherence: Insights from Philosophy, Jurisprudence and Artificial Intelligence* (Dordrecht: Springer, 2013), 194, 199; Daniel H. Glass, ‘Coherence Measure and Inference to the Best Explanation’ in *Synthese*, Vol. 157 (2007), pp. 275-296, 282; Joseph Raz,

The term “fit” has almost as many senses as “sticking”. Though many can be ignored in this context,⁴⁴ the notion to which I appeal, fitting *together*, must be quickly distinguished from that of fitting *within* (e.g. “the car fits in the space”, or “the elephant doesn’t fit in the room”), for though both are commonly substituted for the broader notion of “fit”, it is important to stress that only the former is able to portray the concept of coherence. The fundamental difference between fitting *within* and *together* is that the former describes a relation between two objects in which one is able to occupy the other, while the latter describes the reciprocal relation of matching or agreement. This difference can be seen most simply in the example of an inset puzzle,⁴⁵ like that shown below, in which the task is to place a cut-out shape into the corresponding space.



In the puzzle above, it is possible to place *any* one of the shapes (Shape A, B, C or D) into Space A, since all of the shapes are small enough to fit *within* the space available. Plainly, however, only *one* shape (Shape A) can be meaningfully described as coherent with Space A, since it is only Shape A that fits *together* with the space.

The usefulness of coherence as *fitting together* can be seen by revisiting the example considered above. First, I imagined a coherent set of beliefs (A) to (D) regarding the disappearance of the coffee machine. I then supposed that belief (C) must be rejected for some reason, leaving the still coherent set [(A), (B),

'On the Relevance of Coherence' in *Boston University Law Review*, Vol. 72, No. 2 (1992), pp. 273-321; and, Timoji Shogenji, 'The Role of Coherence in Epistemic Justification' in *Australasian Journal of Philosophy*, Vol. 79, No. 1 (2001), pp. 90-106, 95.

⁴⁴ It is obvious, I suspect, that a number of senses of “fit” are plainly of little relation to the notion sought here (e.g. to be suitable for a specific purpose, to install or fix something into place, etc.).

⁴⁵ As Juan Manuel Pérez Bermejo observes, puzzles (particularly jigsaw and crossword puzzles) are a common metaphor for coherence. See: Juan Manuel Pérez Bermejo, 'Coherence: An Outline in Six Metaphors and Four Rules' in Michał Araszkiewicz and Jaromír Šavelka (eds), *Coherence: Insights from Philosophy, Jurisprudence and Artificial Intelligence* (Dordrecht: Springer, 2013), 98-99.

(D)]. However, the removal of (C) proved problematic under Pethick's account of coherence as *sticking* together, since the rejection of (C) appears to entail the rejection of those beliefs to which it is stuck, too. Conversely, where coherence is understood as the (weaker) relation of *fitting* together, (C) can be simply removed without need to disrupt the remaining, and otherwise coherent, beliefs in the set.

My claim, then, is that this intuitive conception of coherence as fitting together represents a clear, useful and accurate account of the concept of coherence. In other words, *coherence, properly understood, is a matter of fitting together, matching or agreement.*

A similar, though, I think, distinguishable, idea is presented in Erik Olsson's epistemological writing. In a paper entitled 'Cohering With',⁴⁶ Olsson contends that coherence is a matter of "fitting coherently together", such that "the statement "A coheres with B" expresses that A somehow fits coherently together with B."⁴⁷ Thus, on Olsson's account, "cohering with" is a species of "fitting with".⁴⁸ Yet, by describing coherence as a mere *species of fitting with*, Olsson says little about coherence itself. The problem is seen most clearly in Olsson's general account of fitting statements:

(F) A fits together with B in virtue of a given property if and only if combining A with B yields an object with that property.

Thus, A and B fit coherently together where [A plus B] is coherent. But, as Pethick observes, the notion of coherence in Olsson's example might easily be replaced by any number of different notions, for example:

A is [beautiful] with B expresses that A somehow fits [beautifully] together with B.⁴⁹

⁴⁶ Erik J. Olsson, 'Cohering With' in *Erkenntnis*, Vol. 50 (1999), pp. 273-291.

⁴⁷ *ibid*, 275.

⁴⁸ *ibid*, 276.

⁴⁹ Stephen Pethick, 'Coherence: The Phantom Presence', presented at the Artificial Intelligence, Coherence and Judicial Reasoning workshop at The Fourteenth International Conference on Artificial Intelligence and Law (Rome, 10 June 2013), 3.

The result is that Olsson's analysis, in fact, says very little about coherence (or cohering with) at all. Rather, Olsson's analysis amounts to no more than a discussion of the preposition "-with".⁵⁰ The same cannot be said, however, for the conception of coherence as simply fitting together. The key distinction between the conception of coherence presented here and that in Olsson's account is a simple one: coherence is not *a species of* fitting together, as Olsson suggests; coherence *is* fitting together.

III. Three Standard Objections

Notwithstanding the apparent difficulty surrounding the concept of coherence, BonJour acknowledges that his coherentism faces three further challenges, common to coherence theories of epistemic justification. First, coherence theories face the so-called "isolation" or "input objection". The objection is that if the *internal* relations of a system of beliefs provide the sole basis of its epistemic justification, it would seem that justification is wholly detached from the world.⁵¹ The second objection against coherentism concerns the possibility that there might be two or more alternative coherent systems available. Where this is the case, the problem is that coherentism appears to provide no epistemically non-arbitrary reason to select any *one* coherent system as true or most probably true.⁵² Third, if BonJour's coherence theory is to amount to a theory of *epistemic* justification, it must be shown that the coherence of a given set of beliefs can in some way establish that those beliefs are probably *true*.⁵³

Though at first glance almost trivially simple, if left unanswered these objections threaten to devastate any prospect of a successful coherence theory of epistemic justification. The effects of these problems also spill over into coherentist accounts of legal proof, threatening to undermine attempts to establish a non-arbitrary basis on which legal fact-finders ought to select a single theory of a case to accept as true.

⁵⁰ *ibid*, 4.

⁵¹ See: *SEK*, 108.

⁵² See: *SEK*, 107-108.

⁵³ See: *SEK*, 108-109.

In the sections that follow, I consider each of these problems in turn, examining Bonjour's proposed solutions. In an attempt to circumvent the input objection, Bonjour introduces a further element of his coherentism: the Observation Requirement. This requirement then forms the basis of his response to the problem of alternative coherent systems and seems to provide the necessary connection between coherence and truth.

IV. The Input Objection

As has been explained, Bonjour contends that epistemic justification depends upon the internal relations between beliefs within a system of beliefs, whereby an individual is epistemically justified in accepting a system of beliefs as true where those beliefs constitute a coherent set. The input objection is that, where truth is understood in terms of correspondence with reality, the isolation of coherentism leads to the absurd result that one might hold epistemically justified beliefs about a reality that has no input in the course of justification. One might, for example, be justified in accepting that a well-written fiction novel or even a dream presents a true account of real-world events.⁵⁴

Bonjour's response to the input objection is that epistemic justification requires *observational* input, suggesting that the necessary connection between coherentist epistemic justification and reality is made through the formation of non-inferential observational beliefs. Yet, this reliance on justified beliefs appears to cut against the grain of coherentism. As was observed at section I, the fundamental distinction between foundationalism and coherentism rests on the former's acceptance of some basic, non-inferentially justified belief; thus, Bonjour's reliance on non-inferential observational beliefs appears to transform his account into a version of foundationalism. Bonjour contends, however, that the inclusion of these observational beliefs in his theory rests on an important distinction between how a belief is *arrived at*, and how it comes to be epistemically *justified*.⁵⁵ Bonjour suggests that,

⁵⁴ These examples are Amaya's and Olsson's, respectively. See: Amaya, (n 43), 36; and, Erik J. Olsson, 'Coherentism' in Sven Bernecker and Duncan Pritchard (eds), *The Routledge Companion to Epistemology* (Oxford: Routledge, 2011), 261.

⁵⁵ SEK, 112.

a belief might occur to a person in some noninferential way which would confer on it no special justificatory status (for instance, as a spontaneous hunch) and only subsequently be seen to cohere with the rest of the system of beliefs in a way which would yield justification.⁵⁶

In a case of this sort, the epistemic *justification* of the belief remains inferential, and thus consistent with coherentism's fundamental premise, since the non-inferential *origin* of that belief is irrelevant to its being justified. BonJour provides the following example:

As I sit at my desk (or so I believe), I come to have the belief, among very many others, that there is a red book on the desk [...] of a certain approximate size, of an approximately rectangular shape, which is a fairly specific shade of red, and so on.⁵⁷

The belief that the red book sits on the table before BonJour is wholly non-inferential, that is, BonJour's beliefs about the book do not rest on some further premise-belief. 'Rather', he continues, 'it simply occurs to me, "strikes me," in a manner which is both involuntary and quite coercive; such a belief is, I will say, *cognitively spontaneous*.'⁵⁸ How, then, is a spontaneous belief like that in question epistemically justified within a coherentist theory of knowledge? BonJour suggests that the epistemic justification of his belief about the red book rests on three premises. First, BonJour's spontaneous belief is 'of a certain, reasonably definite kind K_1 ',⁵⁹ in this case K_1 represents "apparently visual" beliefs.⁶⁰ Second, the conditions in which his observation takes place are of a sort C_1 : 'the lighting is good, I am reasonably close to the apparent location of the object,'⁶¹ and so on. And third, 'it is a true law of nature' that his cognitively spontaneous beliefs of the kind K_1 in the conditions C_1 are 'highly reliable, that is, very likely to be true.'⁶²

⁵⁶ SEK, 113.

⁵⁷ SEK, 117.

⁵⁸ Ibid [original emphasis].

⁵⁹ SEK, 118.

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² Ibid.

Thus, the justification of cognitively spontaneous beliefs takes the following general form:

- (1) I have a cognitively spontaneous belief that P which is of kind K.
- (2) Conditions C obtain.
- (3) Cognitively spontaneous beliefs of kind K in conditions C are very likely to be true.

Therefore, my belief that P is very likely to be true.

Therefore, (probably) P.⁶³

However, the third premise in BonJour's justificatory process, above, is problematic. Indeed, BonJour suggests that the belief that spontaneous beliefs of a specific kind in certain conditions are very likely to be true is justified *empirically*.⁶⁴ Thus, BonJour's belief about the red book before him is very likely to be true because usually when he forms a spontaneous belief of the apparently visual kind and the lighting is good, etc., it is true. The problem is that BonJour's belief in premise (3) is open to an infinite regress of the kind his coherentism purports to address. Suppose that BonJour believes the third premise because he correctly believed there to be a blue book on the table on the previous occasion, and the time before that he correctly believed there to be a green book on the table. The problem is that BonJour has no basis on which to accept his beliefs about the blue and green books as (probably) true in the first place. It seems, then, that the epistemic justification of his present belief about the red book before is based solely on these unconfirmed earlier beliefs.

Nonetheless, BonJour argues that through the justification of such observational beliefs his coherentist theory of empirical knowledge is able to overcome the input objection, connecting the theoretical justification of beliefs to the extra-theoretic world. BonJour further contends that such input is not merely a *possibility* under the coherentist scheme, but rather represents a *requirement* of a truth-conducive theory of epistemic justification,⁶⁵ and explains that the underlying idea behind his "Observation Requirement" is that,

⁶³ SEK, 123.

⁶⁴ See: SEK, 124-126.

⁶⁵ SEK, 141.

any claim in the system which is not justified *a priori* should in principle be capable of being observationally checked, either directly or indirectly, and thereby either confirmed or refuted.⁶⁶

This Observation Requirement, for BonJour, provides the solution to all three of the standard objections under consideration here.

V. Choosing Between Coherent Systems

The second challenge for BonJour's coherentism concerns the possibility that there may exist two or more equally coherent but mutually incompatible systems of beliefs. The objection is that, in cases of this kind, coherentism fails to offer any epistemically justifiable basis on which to accept one of these systems as true, rejecting the other(s) as false.

BonJour argues that this objection all but disappears once the Observation Requirement is included in the coherentist account. He contends that while coherentism may provide no solution to the problem in instances where there are multiple competing, coherent systems of beliefs *at a given time*, the most that can be reasonably expected from a theory of epistemic justification 'is that it make it possible for such ties to be broken *in the long run*.'⁶⁷ In the long run, BonJour's Observation Requirement does just that, since any epistemically unjustified system of beliefs will eventually come undone when subjected to the mandatory observational check.⁶⁸

However, a variant of this objection proves more problematic for coherentism, for the problem of coherence-ties is amplified at the *local* level of justification, that is, where a single empirical belief or small set of beliefs is considered within a putatively justified system of beliefs. Indeed, at this level, BonJour's observational check may prove sufficient to determine the comparative acceptability of competing beliefs in some instances. For example, I may believe that the water falling outside my window is simply rain, or that it is coming solely from my neighbour's unbridled sprinkling system. Where both of

⁶⁶ *ibid.*

⁶⁷ *SEK*, 144 [original emphasis].

⁶⁸ *ibid.*

these beliefs cohere with my (putatively justified) wider system of beliefs, a simple observational check (i.e. going outside to take a look) will likely refute the coherence of one, or perhaps both, of the beliefs in question, thereby providing some epistemically justifiable reason to choose one over the other, or to reject both.

There are a number of examples, however, where such an observational check provides little or no assistance in the settling of such a tie. Consider, for example, that I enter a room and see the body of a man, Adam, who appears to have just died from a stab wound. I then see Eve, alone, standing placidly beside his corpse, her clothes covered in what seems to be Adam's blood. It strikes me that Eve has stabbed and killed Adam and this third belief stands alongside my beliefs that Adam was stabbed to death and that Eve stands bloodstained beside him, completing a coherent set S_3 of beliefs:

- (1) Adam has just died from a stab wound.
- (2) Eve stands placidly beside Adam's corpse and her clothes are covered with his blood.
- (3) Eve killed Adam by wounding.

The propositions in set S_3 fit together because (1) and (2) provide evidence to support my belief that (3), while proposition (3) reciprocates that support by providing an explanation for both (1) and (2). Meanwhile, S_3 coheres with my wider system of beliefs, in which I believe that stabbings take place at close-range, the victim's blood will often be found on the stabber's clothes, and so on.

But, of course, I might just as easily have formed any number of other beliefs which contradict (3); for example, I could replace (3) with the following proposition, (4), to form the set S_4 :

- (4) Eve found Adam mortally wounded and made an unsuccessful attempt to help him survive.

In set S_4 , the propositions (1) and (2) support my belief that (4) in the same way that they supported (3), while (4) reciprocates that support by providing an explanation for both (1) and (2). Once again, set S_4 coheres with my wider

system of beliefs, in which I believe that a stab victim's blood will often be found on the clothes of those attempting to rescue him and that the shock of witnessing death often leads people to appear placid and emotionless. In this example, BonJour's Observation Requirement is unable to help me in the selection of S_3 over S_4 or vice versa. In this example, propositions (3) and (4) simply cannot be observationally checked, unless some further evidence comes to light.

Of course, it may be argued that such coherence-ties are unlikely, and that *in the long run* BonJour's coherentism will lead to the acceptance of epistemically justified beliefs. But even if coherence *does* generally lead to the acceptance of epistemically justified beliefs in the long run, such long run success would be purely coincidental. Events of this second kind form the subject matter of the present thesis, because the supposed facts in legal cases are presented to legal fact-finders some time *after the event*. In these cases, the legal fact-finder cannot check the probable truth of any possible belief through direct observation. Instead, she must rely on the *indirect* observation of events through evidence, witness testimony, etc., which may, in many cases, provide some non-arbitrary reason to accept one proposed belief over another – troublingly, in some cases it does not.

VI. Coherence and Truth

The third and final objection to coherentism to be considered here concerns the relationship between coherence and truth. A fundamental feature of knowledge and *epistemic* justification is its appeal to truth. Thus, the adequacy of BonJour's coherence theory of epistemic justification rests on the argument that it is *truth-conducive*, that is, that adherence to the standards of justification it endorses is at least likely to lead to the acceptance of true beliefs and the rejection of false ones.⁶⁹

Once again, BonJour's response rests on the Observation Requirement outlined above. In short, he contends:

⁶⁹ See: SEK, 157.

A system of beliefs which (a) remains coherent (and stable) over the long run and (b) continues to satisfy the Observation Requirement is likely, to a degree which is proportional to the degree of coherence (and stability) and the longness of the run, to correspond closely to independent reality.⁷⁰

BonJour does not suggest that a system of beliefs can be accepted as true on the basis that it is coherent at a given moment, but rather contends that, other things being equal,⁷¹ 'adhering to coherentist standards over the long run is likely eventually to yield beliefs which correspond to reality'.⁷² Such long run success then provides epistemic justification for the acceptance of a coherent system of beliefs as true at a given moment, too.

The question of whether coherentist standards do, in fact, yield true beliefs is perhaps the most complex and controversial question surrounding coherence in epistemology. In an article that prompted the so-called "*Analysis* debate",⁷³ Peter Klein and Ted Warfield argue that increased coherence does not necessarily increase the likelihood of truth on the simple basis that while the addition of a proposition to a set of incoherent propositions may render that set coherent, the *likelihood of truth* is decreased.⁷⁴ Using the example of a detective who believes that a murder was committed by a Mr Dunitz,⁷⁵ Klein and Warfield show that the addition of *further* information to a set of beliefs reduces the likelihood of its being true, despite increasing its coherence, since informational content and probability have an inverse relationship.⁷⁶

Luc Bovens and Erik Olsson have convincingly argued that this is not necessarily so. Bovens and Olsson contend that Klein and Warfield's Dunitz

⁷⁰ *SEK*, 171.

⁷¹ This ostensibly minor condition, to which BonJour refers in passing (*SEK*, 170), proves significant in Bovens and Olsson's analysis of coherentism, discussed below.

⁷² *SEK*, 169.

⁷³ For a brief summary of the debate, see: Erik J. Olsson, 'Coherentist Theories of Epistemic Justification' in *Stanford Encyclopedia of Philosophy* (First published November 2003; substantive revision November 2012) <<http://plato.stanford.edu/entries/justep-coherence/>> accessed 15 July 2014.

⁷⁴ Peter Klein and Ted A. Warfield, 'What Price Coherence?' in *Analysis*, Vol. 54, No. 3 (1994), pp. 129-132, esp. 130-131.

⁷⁵ *ibid.*, 130-131.

⁷⁶ Thus, despite common belief, a conjunction is less probable than one of its conjuncts. See: Amos Tversky and Daniel Kahneman, 'Extensional Versus Intuitive Reasoning: Conjunction Fallacy in Probability Judgment' in *Psychological Review*, Vol. 90, No. 4 (1983), pp. 293-315.

example fails to take account of other factors that affect the probability that a belief or set of beliefs is true; for, indeed, the likelihood of a belief being true also depends, for example, on the reliability of the process through which it was acquired.⁷⁷ Thus, the decrease in probability seen in the expansion of a set's informational content may be counteracted by an increase in the reliability of its source(s) or, perhaps, the introduction of further supporting evidence.⁷⁸

This leads Bovens and Olsson to suggest, mirroring BonJour's fleeting reference,⁷⁹ that a higher level of coherence may increase the likelihood of truth *ceteris paribus*, that is, more coherence increases the likelihood of truth *if and only if* the beliefs under consideration remain equally independent and reliable.⁸⁰ Thus, it seems, 'the likelihood that a system of beliefs corresponds to reality varies in proportion to its degree of coherence [...] *other things being equal*.'⁸¹

VI.1 Degrees of Coherence

BonJour's argument for the truth-conduciveness of coherence gives rise to a further conceptual problem that subsists throughout much of the coherentist literature. BonJour contends that a system of beliefs is likely, to a degree proportionate to its *degree of coherence*, to be true, suggesting that 'coherence is obviously, on any reasonable view, a matter of degree'.⁸² Yet, this seemingly basic claim demands further consideration.

BonJour's commitment to degrees of coherence rests implicitly on a fundamental, though often overlooked, distinction between two kinds of concepts: *relative* concepts and *absolute* concepts.⁸³ Relative concepts are

⁷⁷ Luc Bovens and Erik J. Olsson, 'Believing More, Risking Less: On Coherence, Truth and Non-Trivial Extensions' in *Erkenntnis*, Vol. 57 (2002), pp. 137-150, 147.

⁷⁸ See: Olsson, (n 25), 107-109.

⁷⁹ See: text to n 71.

⁸⁰ Bovens and Olsson, (n 77), 147.

⁸¹ *SEK*, 170 [emphasis added].

⁸² *ibid*.

⁸³ The argument raised here is based on Peter Unger's distinction between "relative" or "degree" terms and "absolute" or "limited" terms, read through Susan Haack's partial adoption of it in relation to truth (discussed below). On Unger's distinction, see: Peter Unger, *Ignorance* (Oxford: Oxford University Press, 1975), 47-91; and, Susan Haack, 'Is Truth Flat or Bumpy?' in D. H.

those concepts (e.g. fast and quiet) that exist as a matter of degree; thus, relative concepts may be predicated to a greater or lesser extent in any given object or objects. Absolute concepts, on the other hand, (e.g. silence and consistency) are bivalent. Concepts of this second kind *cannot* exist to a degree – they cannot be more or less present in or between a given object or objects, they simply *are* or *are not*.

Consider, for example, the relative notion of tallness, that is, of being tall. Tallness, being of greater than average height, might be used as a one- or multi-place predicate. As a one-place predicate, one might say that a man, John, with a height of six feet, is tall, because six feet is *greater* than the average height for a man, or person more generally; conversely, another man, Peter, with a height of seven feet, might be described as *very* tall, since Peter's height is *much greater* than that of the average man. In multi-place use, one could compare the heights of John and Peter with each other, observing that Peter is *taller* (i.e. more tall) than John, or that Peter is the *tallest* (the most tall) member of a group. Thus, "tall" is relative, existing as a matter of degree.

In contrast, absolute concepts are somewhat less flexible. Susan Haack's discussion of truth provides a helpful example. Responding to Lotfi Zadeh's contention that human reasoning utilises approximate reasoning, including fuzzy truth-values,⁸⁴ Haack argues that "truth" is an absolute concept in this way.⁸⁵ Though we may speak in ordinary conversation of a given proposition being, for example, *very* true (as we do with relative concepts like tall), our use of such adverbial modifiers differs between absolute and relative concepts, for 'this means, not that the statement is true to a high degree, but that it is not only true but also very much to the point.'⁸⁶

Mellor (ed), *Prospects for Pragmatism* (Cambridge: Cambridge University Press, 1980), esp. 5-7.

⁸⁴ See: Lotfi A. Zadeh, 'Fuzzy Logic and Approximate Reasoning' in *Synthese*, Vol. 30 (1975), pp. 407-428, esp. 407.

⁸⁵ See: Haack, (n 83); and, (n 35), esp. 27-29. Haack first rejects degrees of truth in a brief postscript to 'Logic and Logics', ch 9 in Susan Haack, *Philosophy of Logics* (Cambridge: Cambridge University Press, 1978), 168-169.

⁸⁶ Haack, (n 35), 27.

Similarly, Haack observes that, '[s]ome truths are vague, in various ways and in varying degrees.'⁸⁷ Yet, that there are varying degrees of vagueness does not mean that the degree of truth also varies. Consider, for example, that a man named Paul is riding a unicycle and wearing a bowler hat. In these circumstances, both of the following statements are true:

- (i) A man is riding a unicycle.
- (ii) A man named Paul is riding a unicycle and wearing a bowler hat.

However, neither of these statements is truer than the other. Indeed, though (ii) describes the situation better than (i), this is not because (ii) is *truer* than (i), but simply because (ii) provides a *fuller* (i.e. *closer to complete*),⁸⁸ more specific⁸⁹ description of the situation. Both statements would, however, be truer than the (false) statement:

- (iii) A woman named Maria is riding a bicycle and wearing a baseball cap.

As a multi-place predicate, the use of absolute concepts like truth is, therefore, limited. One might say that a true proposition is truer than a false proposition, just as one might describe a tall person as taller than a short one, and one false proposition might be *closer* to truth than another. However, unlike the relative concept tall, it cannot be said that a true proposition is *truer* than another true proposition, or that a false proposition is *truer* than another false proposition.

This, I suggest, is the case for coherence, too. I have argued, at II.3 above, that coherence, properly understood, amounts to "fitting together". Thus, an object is coherent (in one-place use) where its constituent parts fit together, just as an object coheres with (two-place) another object where those two objects fit together. Coherence thus understood is an absolute concept, like truth. In other

⁸⁷ *ibid*, 25.

⁸⁸ "Completeness" is also an absolute concept. For example: two people, A and B, run in a 100m race. If A runs 120m and B runs just 100m, it cannot be said that A has completed the race *more than* B; both have simply completed the race. Similarly, if A runs 50m and B runs 80m, B has not completed the race *more than* A; neither have completed the race, B is merely *closer to* completing the race. I am grateful to Stephen Pethick for this example.

⁸⁹ "Specificity" is relative; I could continue to provide increasingly specific accounts of the event, just as I could provide a less specific account. Consider, for example: "A man named Paul...", "A 35-year-old man named Paul...", "A 35-and-one-half-year-old man named Paul...", etc. cf "A person is cycling."

words, I offer the “unreasonable” view that coherence cannot be understood on a spectrum which moves from the incoherent, through to the slightly coherent, and all the way to the very coherent. Rather, I contend that some thing or set of things is either coherent *simpliciter*, or it is not coherent. That is not to say that an incoherent thing or set of things cannot *almost* cohere; indeed it can, and one thing or set of things may be closer to (and contrarily further from) coherence than another. Similarly, such an understanding does not preclude the prospect of one set being coherent *in more ways* than another.

Consider, for example, four sets of wooden pieces cut into various shapes, like a jigsaw puzzle, where each set can be accurately described as follows:

Set A: A few of the pieces fit together.

Set B: Most of the pieces fit together.

Set C: All of the pieces fit together, while each piece is painted with a random picture.

Set D: All of the pieces fit together, while small pictures on each piece fit together to form a larger picture.

Sets A and B are not coherent, though set B is *closer to* coherence than A, since a larger proportion of its pieces fit together. Both sets C and D are coherent. It is clear that set D is coherent *in more ways* than C, because both the pieces and the pictures on the pieces in set D fit together while only the former can be said of C. But it does not follow that D is *more coherent* than C, unless the question concerns the coherence of each *as a picture*.

VI.2 Coherence: A Necessary (but not sufficient)

Criterion of Justified Belief

If correct, the argument that coherence is not a matter of degree has a severe impact on the role of coherence in the justification of beliefs. As the foregoing discussion has shown, BonJour's account of epistemic justification rests on the premise that the likelihood of a system of beliefs being true is proportionate to its degree of coherence, other things being equal. Thus, if coherence is understood as an absolute concept, the coherentist position must be altered to the following claim: a coherent system of beliefs is more likely to be true than an

incoherent system of beliefs, other things being equal. This simpler claim is intuitively plausible, presenting coherence as a minimal requirement of epistemic justification. Yet, this modest claim does little to resolve the philosophical problem under consideration, for coherence alone proves too weak a test to deliver probable truths and fails to provide any method through which to select one proposition from two or more coherent candidates. Thus, if coherence provides a necessary, but not sufficient, criterion in the epistemically justified acceptance of a belief or set of beliefs, it remains to be seen which other factors must also be considered.

VII. Conclusion

Coherentism, the view that a belief or set of beliefs is justified by virtue of its coherence, is a popular theory of epistemic justification. This chapter has examined one of the most influential accounts of coherentism in contemporary epistemology: Laurence BonJour's *The Structure of Empirical Knowledge*. BonJour contends that an individual is epistemically justified in accepting a system of beliefs as true where that system forms a coherent whole, arguing that a coherent belief-system is likely, to an extent proportionate to the level and duration of its coherence, to be true. However, the close examination presented above has revealed a number of problems for BonJour's theory, and coherentism more generally.

First, I have argued that coherentism faces a number of conceptual problems. An initial conceptual problem concerns the apparent obscurity of the concept of coherence itself, which troubles both proponents and opponents of coherentism alike. In his attempt to overcome this problem, BonJour commits a methodological mistake (highlighted in the recent work of Stephen Pethick), conflating the concept's *intension* and *extension*, and mistakenly assigning the characteristics of some coherent objects to the concept of coherence itself. Relieved of this error, I have suggested that the literature presents three initially plausible descriptions of coherence: hanging together, sticking together, and fitting together. The first two, however, have been shown to be inadequate in describing the notion of coherence in our thinking; thus, I have argued that coherence, properly understood, is a matter of fitting together, that is, of

matching or agreement. Further conceptual problems arise from BonJour's assertion that 'coherence is obviously, on any reasonable view, a matter of degree'.⁹⁰ Applying Peter Unger's distinction between *absolute* and *relative* concepts, I have argued that, contrary to popular belief, coherence is an *absolute* concept, offering the "unreasonable" view that coherence is not a matter of degree and that some thing or set of things is either coherent *simpliciter*, or it is not coherent.

Second, I have suggested that BonJour's coherentism faces a number of epistemic problems. I have argued that BonJour fails to provide any non-arbitrary basis on which to select *one* belief or small set of beliefs to accept as true where two or more incompatible alternatives exist within a putatively justified system of beliefs. At this local level of epistemic justification, BonJour's reliance on observation provides no support, for, in many instances, such an observational check is simply unavailable to the epistemic actor. A more fundamental problem concerns BonJour's claim that coherence implies probable truth. Drawing on the arguments of Luc Bovens and Erik Olsson, I have argued that coherence, properly understood as simply fitting together, appears to provide a necessary but not sufficient condition for probable truth and, therefore, epistemically justified belief.

In the chapters that follow, I turn to consider the application of coherence and coherentism within the context of law, in the attempts of both Neil MacCormick and Amalia Amaya to solve the "problem of proof" in legal fact-finding. As I will demonstrate, however, the importation of coherence into legal theory brings with it many of the problems that plague its epistemological use, and the criticisms raised in this chapter reemerge in the process of legal proof.

⁹⁰ SEK, 170.

3

MacCormick on Narrative Coherence

In a series of works since the late-1970s, Neil MacCormick presents a theory of law and legal reasoning that holds coherence at its centre, drawing a distinction between two discrete tests for coherence in law: *normative* and *narrative* coherence. In this chapter I examine the latter of these tests, “narrative coherence”, which MacCormick argues provides the solution to the problem of proof, justifying beliefs about unperceived past facts in law.

As well as being one of the most eminent thinkers in contemporary legal theory, MacCormick has been perhaps the most significant figure in the advancement of coherence in law, and his work is the subject of a vast secondary literature. His early work in legal philosophy represents one of the earliest arguments for a coherence-based theory of law and legal reasoning, while his distinction between normative and narrative coherence has been widely acclaimed and accepted throughout the literature on coherence in law. An early-advocate for the use of coherence in the process of legal proof, MacCormick’s account of coherence exemplifies the characteristics of an established legal coherentist literature in which he has long played a leading role.

Narrative coherence has played a relatively minor, though increasingly significant, role in much of MacCormick’s work on legal reasoning. Indeed, in 1978, in his *Legal Reasoning and Legal Theory*, MacCormick offered little more than ‘a few brief and sketchy remarks on the subject’,¹ suggesting that, ‘the only type of test which we have available to us for verifying contested assertions about the past is this test of “coherence”’.² Shortly after, MacCormick built on these brief remarks, publishing a paper dedicated to ‘The Coherence of a Case

¹ Neil MacCormick, *Legal Reasoning and Legal Theory* (Oxford: Oxford University Press, rev edn, 1994), 88; see: 86-93.

² *ibid*, 90.

and the Reasonableness of Doubt' in 1980,³ just six pages long. Later, in his 1984 paper entitled 'Coherence in Legal Justification',⁴ in which MacCormick first set out the distinction between his two tests for coherence, his discussion of narrative coherence forms less than five of seventeen pages.

In MacCormick's final major contribution to the study of legal reasoning, *Rhetoric and the Rule of Law* (2005),⁵ narrative coherence plays a more significant role. MacCormick dedicates two chapters to the discussion of coherence, which features heavily throughout.⁶ In chapter 10, 'Coherence, Principles, and Analogies',⁷ MacCormick discusses the meaning of coherence, before setting out his account of normative coherence. In chapter 11, 'Legal Narratives',⁸ MacCormick seeks to solve the 'fundamentally important' problem of proof, arguing that narrative coherence is 'essential to the process of proving what was done or what happened'.⁹

In the interests of clarity, and to avoid any mistakes that may have been made throughout the extensive secondary literature, this chapter begins with a relatively lengthy explanation of MacCormick's position. Having clearly established MacCormick's view, I examine his claim that narrative coherence plays a central role in legal fact-finding, focusing on *Rhetoric and the Rule of Law*, where MacCormick's most developed account of narrative coherence is found.

³ Neil MacCormick, 'The Coherence of a Case and the Reasonableness of Doubt' in *The Liverpool Law Review*, Vol. 2, No. 1 (1980), pp. 45-50.

⁴ Neil MacCormick, 'Coherence in Legal Justification' in Aleksander Peczenik, Lars Lindahl and Bert Van Roermund (eds), *Theory of Legal Science* (Dordrecht: D. Reidel, 1984) [republished with changes in Werner Krawietz et al. (eds), *Theorie der Normen* (Berlin: Duncker and Humblot, 1984)].

⁵ Neil MacCormick, *Rhetoric and the Rule of Law: A Theory of Legal Reasoning* (Oxford: Oxford University Press, 2005) ("*Rhetoric*" hereinafter).

⁶ The importance of coherence in MacCormick's legal theory is also observed by Twining, who suggests that MacCormick might have explored the notions of coherence and narrative further were he still alive. See: William Twining, 'Donald Neil MacCormick' in Ron Johnston (ed), *Biographical Memoirs of Fellows of the British Academy*, XI (Oxford: Oxford University Press for the British Academy, 2012), 460.

⁷ *Rhetoric*, 189-213.

⁸ *Rhetoric*, 214-236. 'Legal Narratives' is based on a paper entitled 'Time, Narratives, and Law', presented at a Nordic symposium held at Sandbjerg Gods, Denmark (May 1994) and published in Jes Bjarup and Mogens Blegvad (eds), *Time, Law and Society* (Stuttgart: Steiner, 1995).

⁹ *Rhetoric*, 214.

The criticisms presented here can be suitably divided into two categories. The first is conceptual; suggesting that MacCormick's division of coherence into normative and narrative coherence arises from a methodological mistake that also gives rise to his erroneous description of coherence as "making sense", and arguing that his position suffers from the misguided view that coherence exists as a matter of degree. The second is epistemic; contending that MacCormick's claim that narrative coherence justifies beliefs about past facts is unfounded, affording too weak a test to provide epistemic or prudential justification. Following its failure in the *justification* of beliefs, I present the novel view that narrative coherence may be better placed in the more limited context of discovery and theory-formulation.

I. Coherence in *Rhetoric and the Rule of Law*

In *Rhetoric and the Rule of Law*, Neil MacCormick builds on much of this earlier work (most notably *Legal Reasoning and Legal Theory*)¹⁰ in an attempt to set out a theory of legal argumentation through which to distinguish good arguments from bad, reconciling "the arguable character of law" and the legal certainty that the Rule of Law demands.¹¹

MacCormick asserts that legal rules (set out in statutes, judicial precedents, etc.) take the form of *universals*, and the application of legal rules involves the "selection" of *particulars* that instantiate those universal rules.¹² He suggests that legal reasoning takes a syllogistic form, where the application of legal rules to individual cases takes the standard form:

If *operative fact* (*OF*) then *normative consequence* (*NC*).

Operative fact,

Therefore, *normative consequence*.¹³

'All you have to do', then, 'in any case is establish that the fact situation *OF* obtains, and then *NC* must follow.'¹⁴ Of course, in practice, the application of

¹⁰ MacCormick describes *Rhetoric* as a revision of his position in *Legal Reasoning and Legal Theory* (see: *Rhetoric*, 1) and a response to the debates that it provoked (*Rhetoric*, v).

¹¹ See, generally: 'The Rule of Law and the Arguable Character of Law', ch 2 in *Rhetoric*.

¹² *Rhetoric*, 36.

¹³ See, generally: 'On the Legal Syllogism' and 'Defending Deductivism', ch 3-4 in *Rhetoric*.

¹⁴ *Rhetoric*, 32.

legal rules in a given case is rarely this straightforward. Legal rules often involve a number of operative facts, including qualifications and exceptions,¹⁵ and “problem cases” may arise where the identification and interpretation of the operative facts in question is unclear.¹⁶

In these problem cases ‘the scope of the syllogism is restricted’¹⁷ by problems of interpretation, qualification, classification or evaluation, relevancy and proof.¹⁸ MacCormick argues that these problems can be overcome through a combination of “the three Cs”:¹⁹ consistency, coherence and consequences. A judicial decision, he argues, is justified where it is consistent (that is, free from contradiction)²⁰ and coherent (“makes sense”)²¹ with existing, validly established rules and principles of law, and (should the tests of consistency and coherence leave the case open) rests on consequentialist reasoning²² grounded in “The Law’s Values”.²³

Of these “three Cs”, the concept of coherence appears to hold a special place in MacCormick’s theory. He suggests, as the following sections demonstrate, that coherence represents ‘a desirable feature of a system of law’,²⁴ as well as forming a fundamental criterion of the soundness of reasoning in relation to the justification of legal rulings and findings of fact.²⁵ It seems, then, that coherence lies at the very heart of MacCormick’s theory of legal reasoning.

¹⁵ Thus, the syllogism is altered, e.g. “if *OF*, therefore *NC*, unless *x, y and/or z*.” See: *Rhetoric*, 91-95.

¹⁶ MacCormick adopts the terminology of “clear cases” and “problem cases” instead of Ronald Dworkin’s “easy cases” and “hard cases” (see: ‘Hard Cases’, ch 4 in his *Taking Rights Seriously* (London: Duckworth, 1977)) on the basis that many “easy cases” (in which there is little difficulty in the application of the universal law to the particular case) are hugely complex. See: *Rhetoric*, 51.

¹⁷ Neil MacCormick, ‘MacCormick on MacCormick’ in Agustín José Menéndez and John Erik Fossum (eds), *Law and Democracy in Neil MacCormick’s Legal and Political Theory* (Dordrecht: Springer, 2011), 21.

¹⁸ *Rhetoric*, 51.

¹⁹ This expression is Siltala’s. He describes MacCormick’s approach as the ‘Theory of the Three C’s in Legal Reasoning’. See: Raimo Siltala, *Law, Truth, and Reason: A Treatise on Legal Argumentation* (Dordrecht: Springer, 2011), 249-251.

²⁰ *Rhetoric*, 190.

²¹ *ibid.*

²² *Rhetoric*, 104.

²³ See: *Rhetoric*, 114-120. This puts MacCormick in ‘something like the same camp as Ronald Dworkin after all’ (*Rhetoric*, 120).

²⁴ *Rhetoric*, 203.

²⁵ *Rhetoric*, 189.

II. Normative and Narrative Coherence

MacCormick suggests that ‘there are two distinct sorts of test for coherence’ in legal justification: *normative* and *narrative* coherence.²⁶ *Normative* coherence ‘has to do with the justification of legal rulings or normative propositions more generally in the context of a legal system conceived as a normative order.’²⁷ *Narrative* coherence, on the other hand, ‘has to do with the justification of findings of fact and the drawing of reasonable inferences from evidence.’²⁸ That is, normative coherence is relevant to matters of *law*, while narrative coherence has to do with matters of *fact*.

Though the primary focus of this chapter concerns the role of narrative coherence in the process of legal proof, it is worth briefly considering MacCormick’s explication of normative coherence, in order to better understand the nature of the distinction that he draws between the two. And so, this section outlines each of MacCormick’s coherence tests in turn, beginning with his account of normative coherence in ‘Coherence, Principles, and Analogies.’

II.1 Normative Coherence

After supposedly “settling preliminaries” like the meaning of coherence, MacCormick begins his explication of normative coherence with a section inaptly entitled ‘The meaning of coherence’. There, he imagines a statute which sets out ‘different speed limits for different cars according to the colour they were painted.’²⁹ Of this imaginary law and others like it,³⁰ MacCormick remarks:

Do such laws fail to make sense? And if they so fail, why do they so fail? My answer is that they fail to make sense if there is no common value or value-cluster which the enactment of such laws serves.³¹

²⁶ *ibid.*

²⁷ *ibid.*

²⁸ *ibid.*

²⁹ *Rhetoric*, 190-191.

³⁰ MacCormick draws on the real-life example of an Italian law that set different speed limits for different types of car, which he suggests works ‘more or less to the same effect’ as his imaginary statute (*Rhetoric*, 191; see: Ruggero J. Aldisert, ‘[Review:] *Legal Reasoning and Legal Theory*’ in *Duquesne Law Review*, Vol. 21 (1982), pp. 383-398, 395). In fact, this law is plainly distinguishable from MacCormick’s statute since the size of a car’s engine (unlike its colour) is not simply a matter of taste, but rather affects its performance, arguably providing good reason (see: text to n 32) to impose varying limits.

³¹ *Rhetoric*, 191.

MacCormick suggests that,

there are three ends which statutes limiting driving speeds may promote, all of which we may suppose to be of serious social value: the safety of road users; economy in the use of fuel; and prevention of excessive wear and tear of road surfaces.³²

Where these values are the only relevant values and where the colour of cars is simply a matter of taste, there can be no value-based justification of the varying speed limits imposed, and, moreover, it would be unfair to enforce such a law *ex post facto* against those people who chose the colour of their car *before* notice of the law was provided.³³ Thus, MacCormick's imaginary statute fails to make sense and is, therefore, incoherent.

MacCormick observes, however, that '[i]t is doubtless possible to imagine circumstances in which the colour laws would be coherent.'³⁴ He suggests that if, for example, all cars were painted or repainted in accordance to weight and fuel consumption, or to determine each driver's level of experience, the laws could turn out to be coherent after all. Yet, in the absence of some such circumstances, MacCormick's statute remains incoherent.

MacCormick takes this example to have sufficiently illustrated that 'at least one aspect of normative coherence is a matter of the common subservience by a set of laws to a relevant value or values' and that another 'involves an absence of avoidable conflict with other relevant values', like justice,³⁵ and principles providing 'broad guidance about the pursuit of value in a context of rule-regulated activity.'³⁶ MacCormick suggests that, for these values and principles, 'to be coherent requires that in their totality they can be conceived as expressing a satisfactory form of life.'³⁷ Thus, for MacCormick,

the coherence of norms (considered as some kind of a set) is a matter of their 'making sense' by being rationally related as a set, instrumentally or intrinsically, to the realization of some common value or values. This is also expressible as a matter of

³² *ibid.*

³³ *ibid.*

³⁴ *ibid.*

³⁵ *Rhetoric*, 192.

³⁶ *Rhetoric*, 193.

³⁷ *ibid.*

fulfilling some more or less clearly articulated common principle or principles.³⁸

This neat summary is, however, problematic. Indeed, MacCormick suggests that the coherence of a set of norms is a matter of their being rationally related as a set to the realisation of some common value(s) or principle(s). Yet, surely, the coherence of a set of norms is a matter of the norms within that set having a rational relation of coherence *with one another*. Though this relation *may* arise in some cases *as a result of* subservience to some common value(s), it does not arise as a result of the set being related to the realisation of such values. That is to say, any coherence relation between a set of norms and some external set, say, a set of values, is a matter of its being coherent with that set. In contrast to the passage quoted, this external relation of coherence says nothing of the internal coherence of the set of norms in question.³⁹

Nonetheless, MacCormick provides four reasons to ascribe normative coherence justificatory force.⁴⁰ First, 'it is agreeable to a certain conception of rationality in practical life, that which requires both universality and the greatest possible degree of generality in practical principles'. Second, since laws must be detailed, such detailed rules will be 'arbitrary if they are not also instances of more general rules, fewer in number than the number of detailed rules, and more general in their terms'. Third, 'since few people can know much of the detail of the law, they are more likely to find it intelligible in its effects and predictable in its application if it does instantiate a reasonably small range of general principles that can be regarded as part of the common sense of the community'. And, finally, since a legal order represents an 'ideal order' in that it 'is taken to set a pattern at least for aspiration in the actual conduct of affairs', 'it seems not enough that it should constitute merely an aggregate of non-contradictory but apparently arbitrary propositions'.

³⁸ *ibid.*

³⁹ To be clear: the internal/external distinction drawn here is between coherence in one-place use (i.e. of *being coherent*, as in "the set of norms is coherent") and two-place use (i.e. *cohering with*, as in "the set of norms coheres with the set of values").

⁴⁰ See: *Rhetoric*, 201-202.

Despite acknowledging that '[c]oherence as a purely internal value of the law [...] is not enough in itself to guarantee justice',⁴¹ MacCormick maintains that arguments from coherence remain 'justifying reasons' on the basis that 'coherent law is preferable to incoherent'.⁴² For MacCormick, the coherence of a decision with pre-existing law, principles and values does not render that decision deductively derivable. Rather, coherence establishes "weak derivability", representing 'a desirable ideal feature of a system of law' and a minimal requirement in any given ruling or decision.⁴³

II.2 Narrative Coherence

In 'Legal Narratives', MacCormick 'deals with some of the matters that arise under the "problem of proof"'.⁴⁴ In an attempt to determine 'how it is possible to establish true or at least acceptable accounts of past events',⁴⁵ he provides an account of narratives and their central role in making our world intelligible, before proceeding to argue that 'a certain conception of coherence is essential to proving what was done or what happened, namely "narrative coherence"'.⁴⁶

MacCormick begins the chapter with a lengthy discussion of time, activity and narratives,⁴⁷ the full details of which have little bearing on the present discussion. In short, he suggests that events can only be understood in "real" time (that is, past, present, future) to the extent that they are understood in "analytical time" (before-simultaneously-after). Thus, the present "now" is necessarily embedded in the larger project of analytical time.⁴⁸ MacCormick explains that narratives, be they fictional novels or true histories, are located in analytical time ('they have a beginning, a middle, and an end'),⁴⁹ and that the role of the narrator is to make her narrative intelligible, utilising 'principles of selection, of emphasis in accordance with the relative importance of different

⁴¹ The different forms of racial prejudice pursued under the Nazi regime and South African apartheid, for example, were coherent in this way, despite being unjust (*Rhetoric*, 202).

⁴² *Rhetoric*, 203.

⁴³ *ibid.*

⁴⁴ *Rhetoric*, 214.

⁴⁵ *ibid.*

⁴⁶ *ibid.*

⁴⁷ See: *Rhetoric*, 214-219.

⁴⁸ *Rhetoric*, 215.

⁴⁹ *Rhetoric*, 216.

events, and of ordering.⁵⁰ For MacCormick, the last of these stands out in importance, underpinning our understanding of the world around us. He observes:

always a key element in intelligibility is temporal ordering. Always, we want to know why things happened as they did, and at least a part of the answer to the ‘Why?’ question is a causal explanation. Causes cannot succeed effects, so we need to know, within the given framework of explanation, which events were earlier, which later, which simultaneous.⁵¹

Legal practice presents a paradigmatic example of the role narratives play in human understanding. As MacCormick explains, a legal case, read after the event, represents a kind of story or narrative,⁵² which encapsulates and depends upon *further* narratives.⁵³ For those involved, the task is to determine what that narrative – “the story” – is to be.⁵⁴ In court, opposing parties utilise the narrative accounts provided by witnesses to present their own narrative; the lawyer for one party presents a narrative of how events took place, highlighting the evidence that favours her client, while her opponent presents an alternative account that favours his own. For the legal fact-finder, these narrative accounts provide the only basis on which many operative facts can be determined; after all, ‘[c]ourts of law can never enter into the raw history of facts and events they decide upon’.⁵⁵ The task for legal fact-finders, then, is to settle upon the narrative that is to be accepted; the challenge is how to select the one that represents a true or at least acceptable account of the events in question.

MacCormick observes that the partiality of the legal process (particularly clear in adversarial systems), in which each lawyer presents a story that suits her own client, often leads to the “cynical” view that,

the law has nothing really to do with truth, only with a competitive system of technical proof. It can lead to acceptance of such discouraging put-downs as that ‘Juries are twelve

⁵⁰ *Rhetoric*, 216-217.

⁵¹ *Rhetoric*, 217.

⁵² *Rhetoric*, 219.

⁵³ *Rhetoric*, 220.

⁵⁴ *Rhetoric*, 221.

⁵⁵ *ibid.*

people chosen at random to decide who has hired the better lawyer.⁵⁶

He suggests, however, that we must be careful to avoid a form of scepticism 'that is self-defeating if taken in an absolute sense.'⁵⁷ Once we accept the truisms that 'not all memories are false', 'not all records are misleading', and 'not all statements are dishonest or insincere',⁵⁸ the adversarial legal process emerges as a 'highly effective [...] instrument for systematic critical testing of evidence.'⁵⁹

Alongside these truisms, MacCormick asserts that fact-finders must rely on 'two vital principles of explanation and understanding':⁶⁰ the principle of *universal causation*, 'according to which all that happens is prima facie capable of being explained in terms of some cause occurring not later than the event to be explained'; and the principle of *rational motivation*, which stipulates that '[i]f an event is explicable in terms of a rational decision to bring it about, there is no need to explain that decision in terms of causes rather than in terms of reasons.'⁶¹ These basic explanatory principles, 'together with an ever-growing body of scientific theories which in a way count as specialist elaborations of the basic principle, make our world an intelligible world for us.'⁶² In illustration of this, MacCormick examines the famous English case of *R v Smith*,⁶³ to which I now turn.

⁵⁶ *Rhetoric*, 221-222.

⁵⁷ *Rhetoric*, 222.

⁵⁸ *ibid.*

⁵⁹ *ibid.*

⁶⁰ *ibid.*

⁶¹ *ibid.* These basic principles echo the relations of *contiguity* and *priority in time* in Hume's conception of causation as 'some relation among objects' [original emphasis]. Perhaps, MacCormick intends narrative coherence to constitute the third, and most problematic, of Hume's relations: the *necessary connection* between those objects. See: David Hume, *A Treatise of Human Nature* (first published 1748, L. A. Selby-Bigge and P. H. Nidditch (eds), Oxford: Clarendon-Oxford University Press, 2nd edn, 1978), esp. 75 [book I, section III, part II]; and, Harold Noonan, *Hume on Knowledge* (London: Routledge, 1999), 99-102.

⁶² *Rhetoric*, 225.

⁶³ *R v Smith* [1914-15] All ER Rep 262 ("Smith" hereinafter).

In 1915, Mr George Joseph Smith was tried at the Old Bailey and, following a three-week trial, found guilty of the murder of his wife, Bessie Munday (M).⁶⁴ MacCormick adopts the short summary of the facts provided in the headnote of Mr Smith's appeal, which, he says, 'is sufficient for our purpose':

The appellant was indicted for the murder of M. who had been discovered dead in her bath after having gone through a ceremony of marriage with him. At the trial evidence was given that subsequently to the death of M. two other women had died in their baths in similar circumstances after having gone through marriage ceremonies with the appellant. Evidence was also given of a consultation between the appellant and a solicitor concerning, *inter alia*, the effect in law of a voluntary settlement made by M., and whether the trustees could buy an annuity without M's permission.⁶⁵

Mr Smith appealed to the Court of Appeal on the grounds that evidence regarding the deaths of the two other women, Alice Burnham (B) and Margaret Lotty (L), and Mr Smith's privileged talks with his solicitor was wrongfully admitted, and that the judge erred in presenting a new theory to the jury in summing up.⁶⁶ Giving the lead judgment, Lord Reading CJ dismissed the appeal; Mr Smith was hanged.

'But why was this evidence so damaging?'⁶⁷ MacCormick reasonably asserts that Mr Smith's lawyers sought the exclusion of evidence about his wives' deaths and his talks with his solicitor because it damages the plausibility of his being innocent. Thus, MacCormick offers *Smith* as an example of how pieces of evidence 'can fit together to form a real and convincing pattern',⁶⁸ and an illustration of the central role played by universal causation and rational motivation in our understanding of the world.

⁶⁴ The trial proceedings are recorded in Eric R. Watson (ed), *The Trial of George Joseph Smith* (London: William Hodge and Co., 1922). For an accessible, though perhaps partial, overview of Mr Smith's life and trial, see: Eric R. Watson, 'Introduction' in *ibid*; and, Eric R. Watson, 'George Joseph Smith (1915)' in Harry Hodge (ed), *Famous Trials: Second Series* (West Drayton, UK: Penguin Books, 1948).

⁶⁵ *Smith*; *Rhetoric*, 220.

⁶⁶ In the course of summing up to the jury, the trial judge, Scrutton J, proposed a theory of how M was drowned that had not previously been suggested by counsel.

⁶⁷ *Rhetoric*, 223.

⁶⁸ *Rhetoric*, 219; quoting Lord Justice General Cullen in *Megrahi v HM Advocate* 2002 JC 99 (the *Lockerbie* trial).

MacCormick separates the facts of *Smith*, as outlined above, into the following propositions:

- (1) The first Mrs Smith (M) died in her bath, and Smith was nearby at the time.⁶⁹
- (2) The second Mrs Smith (B) died in her bath, and Smith was nearby at the time.
- (3) The third Mrs Smith (L) died in her bath, and Smith was nearby at the time.
- (4) Before the first Mrs Smith (M) died, Mr Smith checked up on the probability of his inheriting her money.⁷⁰

According to the principles of universal causation and rational motivation outlined above, these propositions must be explained in terms of some cause or motivation. Thus, from these propositions, MacCormick generates two potential hypotheses that might explain propositions (1) to (4), *viz.*:

- (5) All the Mrs Smiths died by sheer accident, or
- (6) Mr Smith wilfully killed all the Mrs Smiths in their baths.⁷¹

MacCormick observes that propositions (1) to (4) are consistent with both of the potential explanations, (5) and (6). Of course, (5) and (6) are contradictory, competing explanations; only one of them (if either) can be accepted as the true causal explanation of (1) to (4). MacCormick suggests that 'we have less reason to doubt (6) than to doubt (5)', because it '*coheres with* (1) to (4) in a way that (5) does not.'⁷²

The reason for MacCormick's conclusion can be found in his principles of universal causation and rational motivation, 'coupled with more detailed scientific theories and common-sense generalizations about probability.'⁷³

⁶⁹ In fact, the case report makes no reference to Mr Smith's location at the time of Mrs Smith's death. Though it is reported elsewhere (see: *R v Smith* (1915) 11 Cr App Rep 229, 80 JP 31) that he was in the house at the time the body was *found*, the report does not suggest that Mr Smith was nearby at the *time of death*, as MacCormick does.

⁷⁰ *Rhetoric*, 223.

⁷¹ *Rhetoric*, 224.

⁷² *ibid* [emphasis added].

⁷³ *ibid*.

Applying these basic explanatory principles alongside common-sense generalisations about probability, he infers that three events so similar in nature (that is, (1) to (3)) are likely to have a common cause. Since three accidental deaths by drowning are unlikely to happen to three subsequent Mrs Smiths, MacCormick observes that the common cause is probably an action of the unchanging Mr Smith,⁷⁴ thus “weakly deriving”⁷⁵ that Mr Smith’s actions are the probable cause of the untimely deaths of M, B and L.

But what *caused* Mr Smith’s actions? Recalling the principle of rational motivation, his actions may be explicable in terms of a rational decision or motivation. Proposition (4), concerning Mr Smith’s enquiry into the potential financial rewards of M’s death, provides evidence of a rational decision or *motivation* that explains Mr Smith’s action to bring about M’s death. Thus, in the absence of further evidence or further explanatory hypotheses, the fact-finder is justified in accepting proposition (6) (“Mr Smith wilfully killed all the Mrs Smiths in their baths”) as true on the basis that ‘[(6) plus (1) to (4)] belongs within a single rational scheme of explanation of events; whereas [(5) plus (1) to (4)] does not.’⁷⁶

MacCormick concludes that, ‘[n]arrative coherence so illustrated is our only basis for upholding conclusions, opinions, or indeed verdicts about matters of past fact.’⁷⁷ However, he acknowledges that such coherence forms

a necessary but not sufficient condition of real-world credibility. For, as noted, fictional narratives share narrative coherence with historical and forensic and other non-fictional ones. Non-fictional ones have to be somehow ‘anchored’ in reality. The essential anchoring point of non-fictional narratives to the real world lies in the truisms about perception, memory, record-keeping, and honesty.⁷⁸

⁷⁴ *Rhetoric*, 223.

⁷⁵ *Rhetoric*, 224.

⁷⁶ *ibid.*

⁷⁷ *ibid.*

⁷⁸ *Rhetoric*, 227.

Once we accept the supposition that what we perceive is real⁷⁹ and the truisms that not all memories, records and statements are false, misleading or dishonest, nonfictional narratives can be suitably anchored such that,

a claim to having perceived or remembered or to have referred to a record, together with any necessary element of interpretation, when honestly made, is a claim to be giving an account of the real world. Such an account, if the person who makes it is in fact honest and also accurate, is rationally acceptable as a probable account of things that have happened.⁸⁰

Thus, narrative coherence, once anchored in reality by observation, provides the legal fact-finder with justification to accept a given narrative as a probably true account of unperceived past events.

III. The Meaning(s) of Coherence

As was observed in Chapter 2, one of the major problems for coherence theories of justification surrounds the “elusive”, “slippery” nature of the notion of coherence. Thus, the success of MacCormick’s solution to the problem of proof depends, in part, on his ability to provide a satisfactory account of what coherence *is*.

MacCormick’s initial description of coherence comes negatively through his description of *incoherence*. Despite the differences between his two tests of coherence, MacCormick asserts that,

even from the outset we may allow this as a common feature of the two cases: either in normative or narrative contexts, a lack of coherence in what is said involves a failure to make sense.⁸¹

He continues:

An incoherent set of norms might be such that each could be fulfilled without infringing any other, yet the whole seems to make no sense as constituting or mapping out a reasonable order of conduct [...] Likewise, an incoherent story, though it may contain no proposition which directly contradicts or

⁷⁹ *Rhetoric*, 225.

⁸⁰ *Rhetoric*, 227.

⁸¹ *Rhetoric*, 189.

logically entails a contradiction of any other proposition in the story, yet in some way fails to make sense.⁸²

This initial explanation reveals two features of MacCormick's account of coherence, in need of further examination. First, MacCormick understands coherence as 'the property of a set of propositions which, taken together, "makes sense" in its entirety',⁸³ while incoherence involves a failure to make sense. Second, MacCormick assumes that coherence can be 'usefully distinguished' from consistency, where consistency is understood as freedom from contradiction, and asserts, in contrast with much of the literature, that consistency is *not* a necessary condition for coherence.⁸⁴

III.1 Coherence: *it just makes sense*

MacCormick's first claim is that coherence is a matter of "making sense". In illustration of incoherence, a failure to make sense, he provides the following example of some "crazy house rules":

imagine a house within which all inhabitants are to make their rooms as untidy as possible on Mondays, Wednesdays, and Fridays, then tidy them up to the highest perfection on Tuesdays, Thursdays, and Saturdays, Sundays being strictly observed as a day of rest. To have, and to observe, such house-rule is possible—but what sense does it make?⁸⁵

MacCormick suggests that this rule does not "make sense", or "hang together", and is therefore incoherent. Yet, this understanding of (in-) coherence, coupled with MacCormick's example, is unhelpful.

The problem is that "making sense" has two distinct meanings, neither of which is necessarily tied to the notion of coherence. The first is that to make sense is to be intelligible or comprehensible.⁸⁶ This understanding of making sense is, however, at odds with MacCormick's supposedly incoherent rule. Indeed, the example he provides is perfectly intelligible, stipulating in the clearest possible

⁸² *ibid.*

⁸³ *ibid.*

⁸⁴ *Rhetoric*, 190. This claim is explored at III.3, below.

⁸⁵ *Rhetoric*, 189.

⁸⁶ Similarly, where used as a verb (i.e. "to make sense of"), "making sense" denotes the activity of comprehending or understanding.

terms that inhabitants are to make their rooms as untidy as possible on certain specified days, then to tidy them to the highest perfection on others.

Perhaps, then, MacCormick intends to employ making sense in its second sense: to be prudent or advisable. MacCormick's rule may fail to make sense insofar as the continuous tidying and untidying seems to amount to a waste of time and effort, but there is little in his illustration to suggest that the rule is in some way *incoherent*. Indeed, many things fail to make sense in just this way: it doesn't make sense, for example, to jump out of a moving vehicle; nor does it make sense for a footballer to deliberately miss in the cup final penalty shootout. Of course, just like MacCormick's rule, it is doubtless possible to imagine circumstances in which these activities *could* make sense: it *does* make sense to jump out of the vehicle if you need to escape quickly, and it could make sense to miss the penalty if you're throwing the game – just like it could make sense to impose MacCormick's rule in order to discipline or punish the inhabitants in question. Yet, even in the absence of any further considerations, none of these examples can be meaningfully described as *incoherent*; just like MacCormick's rule, they are simply ill-advised.

III.2 Making Sense of Coherence

The introductory remarks presented at section II, above, reveal a further point for confusion in MacCormick's theory, which perhaps goes some way to explaining MacCormick's conception of coherence as making sense. MacCormick begins by presenting normative and narrative coherence as distinct sorts of *test for coherence*. Thus understood, the tests of normative and narrative coherence simply provide different methods through which to evaluate the coherence of different kinds of objects, in this case norms and narratives. Later, however, MacCormick describes narrative coherence as a *conception of coherence*.⁸⁷ There, he refers to normative coherence as 'another *kind of coherence*',⁸⁸ drawing a distinction between 'the kind of coherence' required by

⁸⁷ *Rhetoric*, 214.

⁸⁸ *Rhetoric*, 229 [emphasis added].

the diachronic character of narratives⁸⁹ and the ‘property ascribed to [...] normative systems viewed synchronically’.⁹⁰

These observations give rise to the possibility that rather than furnishing different *tests for* the property or relation of coherence, normative and narrative coherence *themselves* represent different properties or relations that may exist in or between an object or objects. It appears that each of the two different meanings of “making sense” (intelligibility and prudence) describes one of MacCormick’s two distinct kinds of coherence. Recalling his explication of normative coherence as ‘a desirable ideal feature’ in law, it seems that a ruling, decision or set of norms may be said to make sense insofar as it is a prudent with regard to pre-existing laws and the law’s values. Similarly, MacCormick’s account of narrative coherence as the requirement that a set of propositions ‘belongs within a single rational scheme of explanation of events’, grounded in the basic principles of explanation and understanding, suggests that narratives make sense insofar as they are intelligible and/or make events intelligible for us.

However, even if one accepts that different kinds of coherence make sense in these different ways, coherence as making sense fails to describe the ordinary use of coherence in a number of other contexts. Nonsense poetry, for example, is coherent precisely because it doesn’t make sense. The obvious answer to this problem is that the conception of coherence as making sense survives *only* in the context of norms and narratives. In other contexts where coherence is invoked, other *kinds* of coherence (defined in some other way) must be in play. However, this apparent solution simply gives rise to a bigger problem: the conflation between *intension* and *extension*, considered in Chapter 2. The problem, as Pethick observes, is that,

where MacCormick opens by identifying normative coherence as a discrete kind of coherence, another theorist might push analysis further and discover that normative coherence *in law* presents a further kind, and so on, *ad infinitum*.⁹¹

⁸⁹ *Rhetoric*, 233.

⁹⁰ *ibid.*

⁹¹ Stephen Pethick, ‘On the Entanglement of Coherence’ in *Ratio Juris*, Vol. 27, Issue 1 (2014), pp. 116-137, 127 [original emphasis].

And so, amidst the sea of different kinds of coherence, coherence itself goes missing, to be replaced by some other property or relation that just happens to exist in or between some ostensibly coherent objects in some particular context, such as “making sense” in legal reasoning.

III.3 Consistency and Coherence Distinguished

MacCormick’s second claim is that coherence can be ‘usefully distinguished’ from consistency. Thus, on the one hand, a set of norms or the parts of a story may be consistent with one another, but remain incoherent; on the other, inconsistency does not preclude coherence. On MacCormick’s account:

Complete consistency is not a necessary condition of coherence, since unlike consistency coherence can be a matter of degree.⁹²

The view that coherence exists as a matter of degree is reflected throughout the extensive literature on coherence. Igor Douven and Wouter Meijs, for example, observe that ‘one of our most basic intuitions about coherence’ is that it can be understood as a matter of degree.⁹³ In Chapter 2, I argued that coherence, properly understood as “fitting together”, does not admit of degrees, since coherence is an *absolute* concept. In other words, coherence does not exist on a spectrum; some thing or set of things is either coherent *simpliciter*, or it is not coherent. Yet, contrary to his claim, coherence remains an absolute concept within MacCormick’s description of narrative coherence as the requirement that a set of propositions belongs within a single rational scheme of explanation.

First, a note on degrees: the term “degree” is often used in this context to represent two different states, both of which can be seen in the passage above. The first sense of degree is plain in MacCormick’s use of “complete consistency”, followed by the ostensibly contradictory remark that consistency cannot be a matter of degree.⁹⁴ At first glance, MacCormick’s reference to completeness in *complete* consistency appears redundant, since his

⁹² *Rhetoric*, 190.

⁹³ Igor Douven and Wouter Meijs, ‘Measuring Coherence’ in *Synthese*, Vol. 156, No. 3 (2007), pp. 405-425, 406.

⁹⁴ Pethick also observes this apparent contradiction. See: Stephen Pethick, ‘Solving the Impossible: The Puzzle of Coherence, Consistency and Law’ in *Northern Ireland Legal Quarterly*, Vol. 59, Issue 4 (2008), pp. 395-409, 401.

explanation suggests that consistency is always necessarily complete. Here, MacCormick uses “complete consistency” to describe a set in which *all* of the set’s members are consistent with one another. This can be contrasted with a set in which only *some* of the members are consistent with one another. In our ordinary language, the first of these sets might be described as *completely* consistent, and the latter as merely *partially* consistent. Strictly speaking, however, the second set is not consistent at all; only those subsets that are actually consistent can be meaningfully described as consistent.⁹⁵ It is important to note here that the difference between completely and partially consistent sets is not the *degree* of consistency, but rather the *proportion* of consistent members in each set.

The second use of “degree” suggests that the concept in question is relative in that it may be predicated to varying extents among instances. MacCormick’s distinction between consistency and coherence observed above, as well as his references to the requirement that hypotheses be ‘satisfactorily’⁹⁶ and ‘adequately coherent’,⁹⁷ suggest that he believes coherence exists as a matter of degree in this second sense of the term. Thus, MacCormick’s distinction between the notion of coherence, which allegedly exists as a matter of degree, and that of consistency, which does not, rests on the distinction between relative and absolute concepts observed above.⁹⁸

However, belonging within a rational scheme of explanation cannot be understood as a matter of a degree, for a set of propositions simply belongs within such a scheme or it does not. Recalling the mystery of the missing coffee machine explored in Chapter 2, consider the following set S_1 of propositions:

- (A) The coffee machine is missing from the common room.
- (B) Luke was seen carrying the coffee machine away.

⁹⁵ Haack makes the same point in relation to “partial truths”, which are partial in the sense that ‘some conjunct (or conjuncts) of a conjunctive statement is (or are) true, and another (or others) false’. A partial truth in this sense ‘is, strictly speaking, just plain false.’ See: Susan Haack, ‘The Whole Truth and Nothing but the Truth’ in *Midwest Studies in Philosophy*, Vol. 32 (2008), pp. 20-35, 28-29.

⁹⁶ *Rhetoric*, 226 fn13.

⁹⁷ *Rhetoric*, 228.

⁹⁸ See: Chapter 2, section VI.1.

(C) Luke has taken the coffee machine.

Set S_1 appears to fulfil the requirements of MacCormick's narrative coherence, belonging within a single rational scheme of explanation. Now consider a fourth proposition, added to the original three to form set S_2 :

(D) Luke is known to be a thief.

The addition of (D) to the original set does nothing to disrupt or enhance its narrative coherence. Indeed, the propositions in set S_2 belong within a single rational scheme of explanation just like those in S_1 . It cannot be said that the members of set S_1 belong within a single rational scheme of explanation *more/less than* those of set S_2 – plainly, they do not. And so, the *only* relevant difference between these two sets is that of size, not coherence.

This does not, however, lead to the conclusion that coherence cannot be usefully distinguished from consistency. Indeed, the distinction remains on the basis that coherence and consistency *are different things*. Nor does it mean that consistency forms a necessary condition for coherence, simply because consistency is not a necessary condition for coherence. After all, coherent paradoxes, disputes and courtroom dramas *depend* on inconsistency for their coherence.⁹⁹

IV. Truth, Justification and Narrative Coherence

To recapitulate the story so far: MacCormick presents a theory of law and legal reasoning with coherence (“making sense”) at its core, suggesting, among other things, that a certain kind of coherence, “narrative coherence”, is the only basis on which to form justified beliefs about unperceived past events. The argument presented above has been conceptual, suggesting that MacCormick's division of coherence into “kinds” arises from a methodological oversight, that his description of coherence as making sense is unhelpful, and that his reliance on degrees of coherence is misguided. Notwithstanding these conceptual problems, questions remain as to *how* narrative coherence justifies beliefs and

⁹⁹ Pethick, (n 94), 403.

what justificatory *force* narrative coherence exhibits. These questions, rooted in epistemology, form the subject matter of this section.

IV.1 Truth and Justification

As explained at II.2, MacCormick presents narrative coherence as ‘a test as to the truth or probable truth of propositions about unperceived things and events’,¹⁰⁰ which ‘justifies beliefs, and thus justifies decisions about matters of past fact’,¹⁰¹ forming ‘a necessary but not sufficient condition of real-world credibility’ in relation to accounts of a past event or events.¹⁰² However, as Pethick observes, ‘there is an important distinction to be made between a test that justifies beliefs and a test of truth.’¹⁰³ MacCormick appears to use both interchangeably, presenting narrative coherence as a test of truth and, therefore, justification, or vice versa; however, it is noteworthy that a proposition can be justified without being true, just as a proposition can be unjustified and remain true. To adopt Pethick’s example,

someone who reasons that it is raining outside (it sounds like rain; it was looking very overcast earlier) may go outside to check and find that it is not raining.¹⁰⁴

In the example, the belief may be justified, despite being false. Equally, that same person may toss a coin to determine whether to believe it is raining or not, deciding that if it lands on heads he will believe that it is raining, but if it lands on tails he will believe it is not. If the coin should land on tails and it is, in fact, not raining, the belief is unlikely to be justified, despite being true. Furthermore, as Pethick observes,

a test that ‘justifies beliefs’ is normative, whereas ‘a test of truth’ is not, on the face of it, normative at all. That is, there is nothing in ‘a test of truth’ itself that indicates what we ought to do or believe; a ‘test of truth’ contains no normative value or dimension.¹⁰⁵

¹⁰⁰ *Rhetoric*, 226.

¹⁰¹ *ibid.*

¹⁰² *Rhetoric*, 227.

¹⁰³ Stephen Pethick, ‘MacCormick: Coherence in Legal Justification’ in *An Investigation of Coherence and Coherence Theory in Relation to Law and Legal Reasoning* (DPhil Thesis, University of Oxford, 2000), 130.

¹⁰⁴ *ibid.*, 125.

¹⁰⁵ *ibid.*, 130.

Despite his confusing, interchanging use of truth and justification, MacCormick's account of narrative coherence, as presented in *Rhetoric and the Rule of Law*, appears to be a theory of justified belief, rather than a test of truth. Indeed, in the introduction to 'Legal Narratives', MacCormick explains that the 'issue mainly concerned [in the chapter] is how it is possible to establish true *or at least acceptable accounts* of past events.'¹⁰⁶

Thus, it seems that MacCormick presents narrative coherence as a theory of justified belief about past events. A belief is justified where the acceptance of that belief as true is permissible under the circumstances. Such permissibility is therefore normative, in that it establishes whether a proposition *ought* to be accepted as true. The question, then, is on what basis MacCormick founds his claim that fact-finders ought to build their beliefs on his account of narrative coherence.

IV.2 Narrative Coherence as "Weak" Inferential Reasoning

In his analysis of *Smith*, MacCormick's derivation of (6) from the combination of (1) to (4) suggests that narrative coherence presents a method of inferential reasoning, where inference can be defined as the method of reasoning through which one passes from a proposition or set of propositions to a proposition which appears to be true if the former proposition or set of propositions is true.¹⁰⁷ He continues, however:

This is not a deductive derivation of (6) from the other set. Rather it is the case that [(6) plus (1) to (4)] belongs within a single rational scheme of explanation of events; whereas [(5) plus (1) to (4)] does not.¹⁰⁸

In light of MacCormick's elimination of the possibility that such an inference is *deductive*,¹⁰⁹ Pethick has convincingly shown that MacCormick's narrative

¹⁰⁶ *Rhetoric*, 214 [emphasis added].

¹⁰⁷ As in the example presented at Chapter 2, section I, where A believes P on the basis that Q. It should be noted, however, that the nature of inference is 'a hard and by no means nearly solved philosophical problem'; see: Robert S. Tragesser, 'Inference' in Jonathan Dancy, Ernest Sosa and Matthias Steup (eds), *A Companion to Epistemology* (Chichester, UK: Wiley-Blackwell, 2nd edn, 2010), 444.

¹⁰⁸ *Rhetoric*, 224.

¹⁰⁹ Deduction involves the derivation of a conclusion that is *necessarily* true if the premises from which it is inferred are true. For example:

coherence may be understood as an instance of *inductive* inference.¹¹⁰ *Induction* is a method of reasoning by which one passes from one proposition or set of propositions to another proposition that does not follow *necessarily* from the former, in contrast with deduction, but is *probably* true if the former is. As Jonathan Dancy explains:

A successful inductive argument is one which makes its conclusion probable, or more probable than any equally detailed alternative.¹¹¹

Thus, induction is a “weak”, non-demonstrative inference, in that it remains possible for the accepted proposition to be false even if the premises are true.

Gilbert Harman suggests that induction consists of two distinct kinds: *enumerative* induction, and *hypothetical* induction.¹¹² The first, *enumerative* induction, involves the inference of a generalisation from evidence about observed instances. For example, having examined a number of peaches to find that all of those peaches contain pips and that none are without pips, one might infer that all peaches have pips.¹¹³ On the other hand, *hypothetical* induction, or “inference to the best explanation”, involves the inference of the hypothesis that “best explains” the evidence. For example, having seen ‘the tips of a man’s shoes peeping out from under the curtain’, one might infer that a man is hiding behind the curtain.¹¹⁴ Both of these forms of induction appear to be of central importance in MacCormick’s narrative coherence.

First, MacCormick utilises *enumerative* inductive reasoning, relying on a number of “common-sense” generalisations. For example, examining *Smith*, MacCormick observes that similar events or effects are often the result of similar causes (or perhaps even the same cause). This then forms the

All men are mortal;
Socrates is a man;
Therefore, Socrates is mortal.

If the first two premises are true, the third must also be true.

¹¹⁰ Pethick, (n 103), 132-140.

¹¹¹ Jonathan Dancy, *Introduction to Contemporary Epistemology* (Oxford: Blackwell, 1985), 297.

¹¹² Gilbert Harman, ‘Induction: Enumerative and Hypothetical’ in Jonathan Dancy, Ernest Sosa and Matthias Steup (eds), *A Companion to Epistemology* (Chichester, UK: Wiley-Blackwell, 2nd edn, 2010), 438-439.

¹¹³ This example is Harman’s. See: *ibid*, 438.

¹¹⁴ *ibid*, 439.

generalisation which leads MacCormick to infer that the similar events surrounding the deaths of all three Mrs Smiths were probably caused by the same thing. Second, when presented with two contradictory hypotheses that might explain the evidence, MacCormick employs *hypothetical* inductive reasoning to determine which of the competing hypotheses “best explains” the evidence on his account of narrative coherence.

Notwithstanding the question surrounding the validity of induction as a form of reasoning,¹¹⁵ Pethick observes that a problem for theories of inductive inference concerns the formulation of the principles of induction.¹¹⁶ If MacCormick’s account can be understood as an instance of inductive reasoning, it seems that the central principle of induction is that belief in a set of propositions is justified where those propositions belong to a single rational scheme of explanation of events. However, this principle provides a devastatingly weak test for justification. Consider, for instance, Pethick’s example, based on the case of *Smith* considered above:

- (1) Mrs Brown died in the bath.
- (2) Mr Jones murdered Mrs Brown by drowning her in the bath.¹¹⁷

According to narrative coherence, the conclusion that (2) “Mr Jones murdered Mrs Brown by drowning her in the bath” is justified on the basis that [(1) plus (2)] forms a single rational scheme of explanation; after all, as Pethick observes, ‘it

¹¹⁵ The validity of inductive inference is called into question by the Humean problem of induction (‘often referred simply to as *the* problem of induction’; Laurence Bonjour, ‘Problems of Induction’ in Jonathan Dancy, Ernest Sosa and Matthias Steup (eds), *A Companion to Epistemology* (Chichester, UK: Wiley-Blackwell, 2nd edn, 2010), 639 [original emphasis]). In short, Hume suggests that, since inductive reasoning is not demonstrative, the only basis on which to accept inductive reasoning as valid is to rely on inductive reasoning itself, i.e. (1) Inductive reasoning has proved reliable in the past; (2) Therefore inductive reasoning is (generally) reliable (Dancy, (n 111), 202). Thus, Hume concludes that ‘inductive inferences are not rationally justified, but are instead the result of an essentially a-rational process, custom or habit’ (Bonjour, ‘Problems of Induction’, 639). See: David Hume, *Enquiries concerning Human Understanding and concerning the Principles of Morals* (first published 1777, L. A. Selby-Bigge and P. H. Niddich (eds), 3rd edn, Oxford: Clarendon-Oxford University Press), 32-39 [*An Enquiry concerning Human Understanding*, section IV, part II].

The problem of induction has been met with a number of responses (some of which are briefly outlined in Bonjour, ‘Problems of Induction’, 640-642); however, MacCormick completely overlooks both the problem and its potential solutions in *Rhetoric*. MacCormick’s failure to engage with the philosophical questions and literature that underpin his legal theory is a theme that seems to persist throughout his *Rhetoric*.

¹¹⁶ Pethick, (n 103), 136.

¹¹⁷ *ibid.*

fits the idea that people sometimes murder other people, and it also fits the idea that it is possible to commit murder by drowning someone in the bath.’¹¹⁸ Yet, one might easily imagine countless other sets of propositions that “cohere” in the same way, with little or no reason to suggest that those propositions can be justifiably accepted as true.¹¹⁹ Pethick argues, then, that MacCormick’s narrative coherence fails to represent an adequate standard of justification, because,

no general account has been given of what reasons are *sufficient* for justification, and no account has been given about what reasons are *relevant* to justification. The formulation as it stands presents (as MacCormick himself attests) certain ‘conditions of intelligibility’, but intelligibility is not justification, as the example illustrates.¹²⁰

The gravity of this problem can be seen in revisiting the case of *Smith*, which will by now be familiar to the reader. As has been explained, MacCormick sets out the evidence in *Smith* as a set of propositions (1) to (4), suggesting that the proposition “Mr Smith wilfully killed all the Mrs Smiths in their baths” is more justified than the proposition “All the Mrs Smiths died by sheer accident”, on the basis that the former exists alongside (1) to (4) within a single rational scheme of explanation, while the latter does not.

MacCormick offers just two, directly opposed, simplistic explanations of how these deaths were caused, with one clear winner on his account. Yet, it is easy to generate a number of further hypotheses which *do*, in fact, belong to a single rational scheme of explanation alongside (1) to (4). Consider, for example:

- (7) Mr Smith wilfully killed one (or two) Mrs Smiths, but the other(s) died by sheer accident.
- (8) The first Mrs Smith died by sheer accident in her bath, giving Mr Smith the idea to wilfully kill the other Mrs Smiths in their baths.
- (9) There was a fourth Mrs Smith, to whom Mr Smith was married all along, who killed one, two or all three of his other wives.
- (10) Smith involuntarily (i.e. not wilfully) killed one, two, or all three Mrs

¹¹⁸ *ibid*, 137.

¹¹⁹ *ibid*.

¹²⁰ *Ibid* [original emphasis].

Smiths through insanity, automatism or intoxication.

And so, MacCormick's narrative coherence faces a fundamental problem which echoes that posed against Bonjour's epistemic coherentism, in Chapter 2 (at section V). This problem, which Harman calls, 'the basic riddle' of induction,¹²¹ asks: how are people to decide which hypothesis, among competing hypotheses that are compatible with the evidence, to accept? More specifically for MacCormick: how are legal fact-finders to choose one hypothesis to accept as true from any number of hypotheses that fulfil his standard of narrative coherence? MacCormick fails to provide an answer.¹²²

IV.3 *The Scope of Justification*

The view that MacCormick's primary focus is that of mere justification, rather than truth, is confirmed as he remarks, summing up on narrative coherence:

So the propositions which satisfy truth conditions set within our schemes of explanation could be true about the reality of things. But we could never be sure that they are.¹²³

However, the basis of this permissibility may take a variety of forms, which may be incompatible in any given case. For example, it may be *morally* permissible to believe that a dear and loyal friend is innocent of a crime that he denies committing, despite the lack of any *epistemic* reason to do so.¹²⁴ Similarly, though it may be *epistemically* impermissible to believe that lobsters do not feel pain when cooked alive in boiling water, it may be *pragmatically* or *prudentially*

¹²¹ Harman, (n 113), 439.

¹²² Pethick considers two potential tiebreakers that emerge in MacCormick's account (*Rhetoric*, 226). First, he suggests that MacCormick invokes a "principle of simplicity" meaning that where reasoning by narrative coherence leaves two or more plausible explanatory hypotheses, that which is the simplest is to be accepted as the best explanation (see: Pethick, (n 103), 140-145). However, his examination of MacCormick's use of the Sherlock Holmes story 'Silver Blaze' as providing 'ample illustration of the force of "narrative coherence"' (*Rhetoric*, 225 fn12) demonstrates that, in fact, MacCormick's application of narrative coherence seems to lead to his inferring the least simple of the hypotheses presented. Second, Pethick considers the possibility that MacCormick takes probability to be the deciding factor, inferring the most probably of those hypotheses deducible by narrative coherence (see: Pethick, (n 103), 146-151). Pethick argues, however, that by "probability" here MacCormick describes *epistemic*, rather than *physical*, probability, that is, MacCormick uses probability to mean no more than "degree of justification" (ibid, 150); cf section V, below.

¹²³ *Rhetoric*, 226.

¹²⁴ Laurence Bonjour, *The Structure of Empirical Knowledge* (Cambridge, MA: Harvard University Press), 6.

permissible on the basis that 'otherwise one would deprive oneself of the gustatory delight of eating boiled lobsters.'¹²⁵

The first, and perhaps most obvious, possibility is that MacCormick's theory of narrative coherence furnishes a theory of *epistemic* justification, which is characterised by its essential relation to the goal of truth. This interpretation of MacCormick finds support in the continual references to truth throughout his 'Legal Narratives', where MacCormick repeatedly describes narrative coherence as "a test of truth or probable truth".

However, MacCormick offers no justification for the suggestion that narrative coherence increases the likelihood of truth, and the requirement that an explanatory hypothesis belongs with the evidence it explains in a "single rational scheme of explanation" appears too weak a test to allow *epistemic* justification, permitting a number of beliefs that are otherwise wholly implausible, as the examples above show. A further problem comes from the possibility of coherence-ties. It is easy to imagine any number of contradictory hypotheses that meet MacCormick's minimal requirement in a given case, but 'since the *world* does not, as do most puzzle-magazines and detective stories, have a last page to check the solution by',¹²⁶ there must be some measure by which to choose between two or more possible conclusions. MacCormick's theory provides no measure (epistemic or otherwise) to choose which *one* should be accepted as true.

A final problem for narrative coherence as a theory of epistemic justification concerns the incompleteness of the set of propositions under evaluation.¹²⁷ This gives rise to a certain tentativeness, whereby the acceptance of any hypothesis must be open to potential revision or rejection, unless the set of propositions

¹²⁵ John L. Pollock and Joseph Cruz, *Contemporary Theories of Knowledge* (Lanham, MD: Rowman and Littlefield, 2nd edn, 1999), 11.

¹²⁶ Letizia Gianformaggio, 'Legal Certainty, Coherence and Consensus: Variations on a Theme by MacCormick' in Patrick Nerhot (ed), *Law, Interpretation and Reality: Essays in Epistemology, Hermeneutics and Jurisprudence* (Dordrecht: Kluwer Academic Publishers, 1990), 425 [original emphasis].

¹²⁷ See: Pethick, (n 103), 144-145.

under consideration is *complete*.¹²⁸ This tentativeness is not, in itself, a problem. The problem, as Pethick observes, is that, in the absence of completeness, MacCormick fails to establish any clear account of the point at which a proposition *becomes* justified.¹²⁹ In other words, it is unclear how many possible explanations must be considered before the acceptance of one as true is justified.¹³⁰

It seems, then, that narrative coherence is insufficient to carry epistemic justificatory force. Yet,

the possibility also exists that ‘narrative coherence’ is not epistemic (concerning knowledge and justified belief *per se*), but is (merely) a normative or judgmental heuristic or device, whose use MacCormick considers justified in legal proceedings.¹³¹

This second possibility is that MacCormick’s theory of narrative coherence may be intended to provide (and may fare better as) *prudential* justification. Unlike epistemic justification, prudential justification makes no appeal to the goal of truth. Rather, prudential justification is pragmatic, accepting a belief as true, or *as if* it were true, on the basis that it is *useful* to do so. For example, it may be prudentially justified to believe that one will win a sports tournament, even where that belief is not *epistemically* permissible, on the basis that such self-confidence is likely to improve one’s performance in each match.¹³² The possibility under consideration here, then, is that MacCormick presents

¹²⁸ Such tentativeness can be seen in *R v Cannings* [2004] EWCA Crim 1, to which MacCormick refers in a footnote (*Rhetoric*, 224 fn11). The facts of *Cannings* are ostensibly similar to those of *Smith*. The defendant, Mrs Cannings, was treated with ‘*Smith*-like suspicion’ following the death of three of her children in like circumstances and was convicted of their murder – as it stood, the proposition “Mrs Cannings killed all three children” was coherent in a way that the proposition “All three children died by accident” was not. The conviction was later quashed following the discovery of further evidence suggesting that the deaths came as a result of a genetic defect in the Cannings family. This new evidence was incoherent with the original hypothesis, giving rise to a new, coherent hypothesis: “All three children died as the result of a genetic defect”. *Cannings* plays an important role in Amalia Amaya’s theory of “optimal coherence”, discussed in Chapter 4, below.

¹²⁹ Pethick, (n 103), 145.

¹³⁰ Pethick suggests that in the context of MacCormick’s Sherlock Holmes example, we might imagine a “super-detective” whose investigation is even wider than Holmes’, adding further evidence and explanatory hypotheses to the set under consideration. See: *ibid*, 144.

¹³¹ *ibid*, 117.

¹³² Matthias Steup uses a similar example; see his ‘Epistemology in the Twentieth Century’ in Dermot Moran (ed), *The Routledge Companion to Twentieth Century Philosophy* (Abingdon, UK: Routledge, 2008), 475.

narrative coherence as a form of prudential justification in law, whereby propositions are treated as *if* they are true in law because it is pragmatically advantageous to do so.

The interpretation of narrative coherence as a means of prudential justification has been scarcely considered throughout the literature. Quickly dismissing the possibility, Pethick argues that ‘MacCormick’s claims for narrative coherence do not accord with this limited application’, since narrative coherence is ‘clearly intended to be used in the justification of matters beyond the adversarial courtroom’.¹³³ However, a wider look at MacCormick’s *Rhetoric and the Rule of Law* suggests that MacCormick may, in fact, intend narrative coherence to form a theory of *legal justification*, rather than more general *epistemic* justification. In chapter 4, ‘Defending Deductivism’, MacCormick draws on Zenon Bankowski’s suggestion that the process of legal fact-finding can be understood as a “truth certifying procedure”, where “that which an authorized fact-determiner determines to be true, or certifies as true, has to be deemed true or accepted as the conclusive truth of the matter.”¹³⁴ This, he suggests, is the case in law as well as in other disciplines (science, for example) where finality of decision requires this kind of *conclusive* “truth”.

MacCormick’s explanation of the implications of this view provides strong support for the possibility under consideration, and is worth quoting at length:

In effect, legal fact-finding processes transform brute facts into institutional facts. Whatever may have happened in the world, a jury’s determination that *a* hit *b* on the head and caused *b*’s death makes that count as a legal truth, a proposition counted as true in a certain legal process. It is true given certain legal conventions of truth-ascription. That does not, of course, make it true for all purposes. Indeed one way of justifying or criticizing legal procedures is to try to form an estimate of the degree to which the things that are legally held true actually match the

¹³³ Pethick, (n 103), 152.

¹³⁴ *Rhetoric*, 72; referring to Zenon Bankowski, ‘The Value of Truth: Fact Scepticism Revisited’ in *Legal Studies*, Vol. 1, No. 3 (1981), pp. 257-266. See also: Zenon Bankowski, ‘The Jury and Reality’ in Patrick Nerhot (ed), *Law, Interpretation and Reality: Essays in Epistemology, Hermeneutics and Jurisprudence* (Dordrecht: Kluwer Academic Publishers, 1990), esp. 234-238.

world as it really is, however one thinks it appropriate to judge that.¹³⁵

This, I suggest, provides reason to believe that MacCormick may actually be concerned with *prudential*, not epistemic, justification. To emphasise the point: for MacCormick, the process of legal fact-finding establishes “*legal truth*”, whereby a proposition is counted *as true in a certain legal process*. Legal truth, however, may not be true for all purposes; in other words, a legal truth may not actually be true, in that it may not ‘actually match the world as it really is’. Though this interpretation appears to contradict MacCormick’s comments as to the justificatory force of narrative coherence as a test of truth about unperceived past facts in general, it may be compatible with MacCormick’s description of *legal truths*, as well his introductory remarks as to the issue of establishing ‘truth or at least *acceptable* accounts of past events.’¹³⁶ And so, it seems MacCormick’s narrative coherence may, in fact, be intended to perform a limited role in the finding of *legal truth*.

However, Giuseppe Zaccaria argues that a number of further limitations must be placed on MacCormick’s coherence-based legal theory. Of those, two are of particular importance in the analysis of narrative coherence presented here. Zaccaria argues, first, that narrative coherence must be confined to common-law legal systems, suggesting that,

[i]t is much more applicable to a legal system like the English one, based on the concept of proof as *argumentum* and on the primacy of testimony (the memories and perceptions even of honest witnesses may very well be erroneous or untrustworthy), that to legal systems like the Continental ones based on the primacy of the written document and on subordination of the interpreter to the text.¹³⁷

He continues:

narrative coherence is too bound up with the techniques of trial in English-speaking countries and the principles, characteristic of common law, of restricting testimony solely to perceptions of

¹³⁵ *Rhetoric*, 72.

¹³⁶ *Rhetoric*, 214 [emphasis added].

¹³⁷ Giuseppe Zaccaria, ‘Hermeneutics and Narrative Comprehension’ in Patrick Nerhot (ed), *Law, Interpretation and Reality: Essays in Epistemology, Hermeneutics and Jurisprudence* (Dordrecht: Kluwer Academic Publishers, 1990), 268.

the witness (opinion rule) and of subjecting it, as a check on veracity, to cross-examination.¹³⁸

Yet, Zaccaria's claim is wholly unfounded. Indeed, though MacCormick's primary example is an English trial, there is little in his formulation of narrative coherence to suggest that the same test of belonging within a single rational scheme of explanation, built upon the principles of universal causation and motivation, could not be applied to fact-finding in *any* legal system (notwithstanding the general criticisms presented in this chapter).

Second, Zaccaria suggests that the notion of narrative coherence is 'better and more specifically applicable to one field of law only, criminal law.'¹³⁹ Once again, however, his reasoning is unclear. He suggests that 'the problem of deriving empirical inferences from evidential facts is undoubtedly more acute' in criminal law, and that the "specificity" of MacCormick's notion means that 'a view that treats the law as a whole on the model of criminal law alone' remains unconvincing.¹⁴⁰ This criticism is plainly problematic. Again, it remains unclear why Zaccaria takes MacCormick's approach to be specifically applicable to criminal law, particularly in light of MacCormick's decision to "put aside" the issue of standard of proof in *Smith*, while his suggestion that the problem of proof is of little significance outside of criminal law is tenuous at best.

Conversely, Pethick presents the opposing view that the limited role of narrative coherence may be best-suited to civil litigation. Presenting a constructive interpretation of narrative coherence, Pethick suggests that narrative coherence may maintain justificatory force where 'the only objective in employing narrative coherence is to determine which is the *better* justified of two rival propositions'.¹⁴¹ Though such an objective cannot pertain in civil-law adjudication or common-law criminal trials, where proof must be made to a standard "beyond reasonable doubt",¹⁴² it seems well-suited to common-law

¹³⁸ *ibid.*, 269.

¹³⁹ *ibid.*

¹⁴⁰ *ibid.*

¹⁴¹ Pethick, (n 103), 152 [original emphasis].

¹⁴² In contrast to the common-law tradition, in civil-law jurisdictions, the standard of proof in civil litigation is the same as in criminal trials: beyond reasonable doubt. For a review and

civil adjudication, where the opposing factual hypotheses are measured “on a balance of probabilities”.

Though unlikely to fulfil MacCormick’s intentions, the idea that narrative coherence may represent a theory of legal justification is at once appealing, avoiding many of the obstacles faced by the epistemic interpretation considered above. As a theory of prudential, legal justification narrative coherence is not problematised by the appeal to truth, thereby allowing a lower standard of justification (particularly in the context of civil litigation) and, thus understood, the problems surrounding completeness are avoided, as the legal fact-finder need only consider the hypotheses presented, which form a *complete* set for the purposes of the legal process. However, a number of problems remain.

At a basic level, MacCormick offers no explanation as to why narrative coherence, rather than some other test or method of reasoning, is of particular value in the pursuit of acceptable legal truths. More problematically, the problem of coherence-ties remains unanswered. That is, even in this limited role, MacCormick’s account fails to provide any method through which to distinguish between explanatory hypotheses in the (not unlikely) event that two or more narratively coherent accounts exist. Perhaps most troublingly for MacCormick, narrative coherence as legal prudential justification inevitably leads to the “cynical” view he so forcefully rejects: that ‘the law has nothing really to do with truth, only with a competitive system of technical proof.’¹⁴³

V. Narrative Coherence in the Process of Discovery

In the preceding sections, I have shown that narrative coherence, understood as a method of reasoning, is neither deductive nor inductive, failing to overcome Harman’s “basic riddle” regardless of whether it is taken to hold epistemic or prudential justificatory force. As it stands, narrative coherence appears a hopeless endeavor. Yet, a further possibility remains, not yet considered here or in the wider literature.

explanation of the stark differences in standards of proof between common-law and civil-law jurisdictions, see: Kevin M. Clermont and Emily Sherwin, ‘A Comparative View of Standards of Proof’ in *The American Journal of Comparative Law*, Vol. 50 (2002), pp. 243-275.

¹⁴³ *Rhetoric*, 221. Observed at n 56, above.

It may be that MacCormick presents in narrative coherence an instance of *abductive* reasoning, understood in the Peircean sense.¹⁴⁴ Thus understood, abductive inference is ‘the first step’¹⁴⁵ of reasoning whereby one ‘seeks a theory’¹⁴⁶ that explains a set of unexplained facts. Thus, abductive inference takes something like the following form:

The surprising fact, C, is observed;
But if A were true, C would be a matter of course,
Hence, there is reason to suspect that A is true.¹⁴⁷

Plainly, abduction in this sense is insufficient in itself to justify beliefs in many circumstances. Rather, abductive inference provides a process of discovery, through which initially plausible hypotheses are found before being tested through the operation of induction.¹⁴⁸ Though MacCormick acknowledges elsewhere that the process of discovery ‘is not obscure to us’ and can be understood in terms of ‘reasonable procedures’,¹⁴⁹ this interpretation of his theory of narrative coherence remains unlikely. After all, MacCormick presents narrative coherence as ‘a test as to the truth or probable truth of propositions about unperceived things and events’,¹⁵⁰ which ‘justifies beliefs, and thus justifies decisions about matters of past fact’.¹⁵¹ Indeed, it is clear that MacCormick intends narrative coherence to present a theory that *justifies conclusions*, rather than an account of preliminary discovery. Yet, a revisit to MacCormick’s application of narrative coherence in *Smith* soon increases the weight of this novel interpretation.

¹⁴⁴ Also known as “retroduction”. The name “abduction” or “abductive reasoning” is also commonly ascribed to “inference to the best explanation” (or “hypothetical induction”), but I use it here to describe the process of discovery outlined below. On “abduction” as “inference to the best explanation”, see, for example: Gilbert H. Harman, ‘The Inference to the Best Explanation’ in *The Philosophical Review*, Vol. 74, No. 1 (1965), pp. 88-95, 88.

¹⁴⁵ Charles Sanders Peirce, ‘Scientific Method’ in *Collected Papers of Charles Sanders Peirce Vol. VII* (Arthur W. Burks (ed), Cambridge, MA: Harvard University Press, 1958), 136.

¹⁴⁶ *ibid*, 137.

¹⁴⁷ Charles Sanders Peirce, ‘Pragmatism and Abduction’ in *Collected Papers of Charles Sanders Peirce Vol. V and VI* (Charles Hartshorne and Paul Weiss (eds), (Cambridge, MA: Belknap-Harvard University Press, 1960), 117.

¹⁴⁸ See, for example: Charles Sanders Peirce, ‘Hume on Miracles’ in *ibid*, 358.

¹⁴⁹ For MacCormick’s discussion of discovery and justification (in relation to analogies), see: *Rhetoric*, 208-209.

¹⁵⁰ *Rhetoric*, 226 [emphasis added].

¹⁵¹ *ibid* [emphasis added].

As the reader will recall, MacCormick suggests that having considered propositions (1) to (4), the legal fact-finder is justified in concluding (at least for now) that proposition (6), “Mr Smith wilfully killed all the Mrs Smiths in their baths”, is probably true. MacCormick explains:

As things stand, we are able to hold that the story [(1) to (4) plus (6)] is coherent in a way that [(1) to (4) plus (5)] is not. Why is this so, and how can that justify concluding that (6) is the probable truth of the matter?

The principles of universal causation and of rational motivation as outlined above supply the basic answer to this, coupled with more detailed scientific theories and common-sense generalizations about probability.¹⁵²

He continues:

The probability of the conjoint occurrence of the necessary causal conditions for any person’s drowning in a bath is low. Even lower is the probability of these conditions occurring three times in the case of three persons successively enjoying the same relationship with a given fourth party. But the probability that a human agent can intentionally bring about the realization of these necessary conditions is so high as to approach certainty. And the probability that someone who has a strong motive would do this intentionally is much greater than the probability of the ‘sheer coincidence’ hypothesis.¹⁵³

On this basis, MacCormick “weakly derives” that Mr Smith (probably) wilfully killed all the Mrs Smiths in their baths. In the first passage, MacCormick suggests that his conclusion is justified by coherence, which rests upon the combination of the causal explanatory principles, scientific theories and common-sense generalisations about probability. The inclusion of probability is noteworthy here. It is striking that the second passage, in which MacCormick carefully outlines his reasoning process, deals *entirely* with probability and coherence (be it narrative or otherwise) is dropped completely. In short, his inference that (6) is more justified than (5) is based *entirely* on the relative probability of those propositions, built upon MacCormick’s causal explanatory principles and scientific theories. Thus, it seems that, as Bernard Jackson

¹⁵² *Rhetoric*, 224.

¹⁵³ *ibid.*

observes, MacCormick's method provides 'no more than one or more coherent theories' which 'we must hand over to the analyst of probabilities'.¹⁵⁴

Put briefly, I suggest that MacCormick's inferential method takes the form:

The unexplained facts (1) to (4) are observed;

But if either (5) or (6) were true, (1) to (4) would be explicable,
Hence, there is reason to suspect that either (5) or (6) is true.

(6) is more probable than (5),
Therefore, (6) is probably true.

Thus understood, narrative coherence plays a limited role in the process of legal proof. Rather than providing a justificatory test as to the probable truth of a given explanatory hypothesis, MacCormick's narrative coherence sets out the minimal level of plausibility required for a hypothesis to be entertained in the process of discovery. This interpretation plainly cuts against MacCormick's intentions for narrative coherence in the process of legal proof; but, in this more limited role, there may be hope for narrative coherence yet.

VI. Conclusion

In his *Rhetoric and the Rule of Law* and elsewhere, Neil MacCormick suggests that coherence, that is, "making sense", plays a fundamental role in legal argument and legal fact-finding, as well as forming a desirable ideal within a legal system as a whole.

However, the close examination of MacCormick's theory afforded here has revealed a number of conceptual problems surrounding his use of coherence. I have argued that MacCormick's conception of coherence as making sense proves inadequate and, building on the argument made in Chapter 2, that narrative coherence does not exist as a matter of degree, but rather as an absolute concept, whereby a narrative is simply coherent or not.

This chapter has also highlighted a number of epistemological problems surrounding MacCormick's claim that narrative coherence justifies beliefs about

¹⁵⁴ Bernard S. Jackson, *Law, Fact and Narrative Coherence* (Roby, UK: Deborah Charles, 1988), 19 [original emphasis]. cf n 123.

unperceived past facts. Taking narrative coherence as an instance of inferential reasoning, I have suggested that MacCormick's presentation of narrative coherence proves incapable of overcoming Gilbert Harman's basic riddle of induction, failing to provide any basis on which to distinguish between two or more narratively coherent hypotheses. I have further argued that narrative coherence provides too weak a test to afford *epistemic* justification, lacking the truth-conduciveness that such justification requires, and that an interpretation of narrative coherence as *prudential* justification remains problematic, falling victim once again to Harman's basic riddle, as well as leading to the "cynical" conclusion that law has nothing to do with truth after all.

Departing from the literature, I have suggested that narrative coherence may perhaps be better understood as an instance of *abductive* inference in the process of discovery, providing a method by which initially plausible hypotheses can be shortlisted before being tested through the operation of induction. Though this interpretation is at odds with MacCormick's *intentions* for narrative coherence, I have shown that, in fact, it seems to be consistent with its *application* in his account. In this more limited role, narrative coherence (or something like it) may remain a useful tool in the process of legal fact-finding. However, this leaves us without a sufficient account of how beliefs about unperceived past facts are justified, and the problem of proof remains unsolved.

4

Amaya's Theory of Optimal Coherence

Despite extensive use in contemporary thought, the analysis presented thus far shows that coherence theories of justification face a number of serious problems. Mirroring much of the foregoing discussion, legal theorist Amalia Amaya suggests that these problems stem from a number of factors, including the vagueness surrounding what coherence *is*, the lack of any clear account of the inference patterns decision-makers may use, and the need for a detailed account of why coherence ought to be pursued in law.¹

In a number of recent publications,² Amaya presents a coherentist theory of legal reasoning which she contends is able to overcome, or at least 'significantly diminish the import of',³ these challenges. In sum, Amaya proposes that,

a belief about the law and the facts under dispute is justified if it is "optimally coherent," that is, if it is such that an epistemically responsible legal decision-maker might accept it as justified by virtue of its coherence in like circumstances.⁴

In her most recent publication, 'Coherence, Evidence, and Legal Proof',⁵ Amaya provides her most developed account of the role coherence plays in justifying

¹ Amalia Amaya, 'Legal Justification by Optimal Coherence' in *Ratio Juris*, Vol. 24, No. 3 (2011), pp. 304-329 ("Justification" hereinafter), 311-313.

² See, for example: Amalia Amaya, 'Formal Models of Coherence in Legal Epistemology' in *Artificial Intelligence and Law*, Vol. 15 (2007), pp. 429-447; 'Justification, Coherence, and Epistemic Responsibility in Legal Fact-Finding' in *Episteme*, Vol. 5, Issue 3 (2008), pp. 306-319; *Justification*, (n 1); and, 'Ten Theses on Coherence in Law' in Michał Araszkiwicz and Jaromír Šavelka (eds), *Coherence: Insights from Philosophy, Jurisprudence and Artificial Intelligence* (Dordrecht: Springer, 2013) ("Ten Theses" hereinafter). Amaya's theory is due to be defended in her forthcoming book, expected December 2014: *The Tapestry of Reason: An Inquiry into the Nature of Coherence and its Role in Legal Argument* (Oxford: Hart Publishing).

³ *Justification*, 325.

⁴ *Justification*, 306.

⁵ Amalia Amaya, 'Coherence, Evidence, and Legal Proof' in *Legal Theory*, Vol. 19 (2013), pp. 1-43 ("Proof" hereinafter).

beliefs about past facts in the process of legal proof.⁶ Modifying Paul Thagard's conception of coherence as constraint satisfaction, she contends that a legal fact-finder is justified in his belief if and only if he infers the most "factually coherent" explanation of the evidence, fulfilling the epistemic duties and displaying the intellectual virtues required by the context in which he finds himself. This coherence-based theory of legal fact-finding is the subject of the present chapter.

In contrast to MacCormick's classical account of coherence in legal fact-finding, Amaya's approach characterises a recent change in contemporary legal coherentism that has capitalised on the developments made by researchers in a number of disciplines, including psychology and formal epistemology. Yet, the critical examination presented here reveals that, despite its differences, Amaya's theory of optimal coherence falls victim to variations of the same conceptual and epistemological problems that emerged in BonJour's coherence theory of epistemic justification and recurred in MacCormick's account of narrative coherence in law.

These criticisms, once again, can be understood under two heads. First, I argue that Amaya errs in her elucidation of the concept of coherence, leading to the proliferation of infinite *kinds* of coherence in which the central notion itself is lost, and mistakenly suggesting that coherence exists as a matter of degree. The effects of the latter argument can be felt under my second strand of criticism, for the observation that coherence is an absolute concept leaves Amaya's account of inference to the best explanation incapable of solving the basic riddle of induction, while her responsibility-supplement is too inexact and underdeveloped to offer any justificatory support.

I. Coherence as Constraint Satisfaction

Amaya observes that a common problem for coherence theories, with which the reader will by now be familiar, arises from the absence of any clear definition of

⁶ Amaya presents a similar, albeit less detailed, account in the earlier 'Justification, Coherence, and Epistemic Responsibility in Legal Fact-Finding', (n 2). The key difference in *Proof* lies in Amaya's adoption of the irenic, rather than aretaic, approach to epistemic responsibility. See: Section III, below.

what coherence amounts to.⁷ In an attempt to avoid this problem, Amaya presents a detailed account of coherence 'modeled upon'⁸ Paul Thagard's conception of coherence as "constraint satisfaction".⁹ Modifying Thagard's account for the legal context, Amaya constructs "factual coherence", the kind of coherence relevant to judgments about questions of legal fact. I, therefore, begin in this section with an outline of Thagard's position, before considering Amaya's development of it within the legal context and the implications this has for coherence in legal fact-finding.

In his *Coherence in Thought and Action* and elsewhere, Thagard develops a theory of coherence in human understanding. Seeking to provide a 'general and precise account of coherence',¹⁰ Thagard presents a conception of coherence as constraint satisfaction,¹¹ where '[c]oherence can be understood in terms of maximal satisfaction of multiple [positive and negative] constraints'.¹²

He sets out six distinct "kinds" of coherence: explanatory, analogical, deductive, perceptual, conceptual and deliberative,¹³ each made up of a set of principles or constraints which set out the conditions for coherence. For example, explanatory coherence (that is, the kind of coherence present in explanation) can be understood in terms of the following principles:

Principle E1: Symmetry Explanatory coherence is a symmetric relation, unlike, say, conditional probability. That is, two propositions p and q cohere with each other equally.

Principle E2: Explanation (a) A hypothesis coheres with what it explains, which can be either evidence or another hypothesis. (b) Hypotheses that together explain some other proposition cohere with each other. (c) The more hypotheses it takes to explain something, the lower the degree of coherence.

Principle E3: Analogy Similar hypotheses that explain similar pieces of evidence cohere.

⁷ *Justification*, 311.

⁸ *Justification*, 313.

⁹ See, for example: Paul Thagard and Karsten Verbeurgt, 'Coherence as Constraint Satisfaction' in *Cognitive Science*, Vol. 22, No. 1 (1998), pp. 1-24; and, Paul Thagard, *Coherence in Thought and Action* (Cambridge, MA: MIT Press, 2000) ("*Coherence*" hereinafter).

¹⁰ *Coherence*, xii.

¹¹ See: *Coherence*, ch 2.

¹² *Coherence*, 17.

¹³ *Coherence*, 63.

Principle E4: Data Priority Propositions that describe the results of observation have a degree of acceptability on their own.

Principle E5: Contradiction Contradictory propositions are incoherent with each other.

Principle E6: Competition If p and q both explain a proposition and if p and q are not explanatorily connected, then p and q are incoherent with each other (p and q are explanatorily connected if one explains the other or if together they explain something).

Principle E7: Acceptance The acceptability of a proposition in a system of propositions depends on its coherence with them.¹⁴

Meanwhile, deductive coherence (that is, the kind of coherence used in deductive reasoning) can be understood as follows:

Principle D1: Symmetry Deductive coherence is a symmetric relation among propositions, unlike, say, deductive entailment.

Principle D2: Deduction (a) An axiom or other proposition coheres with propositions that are deducible from it. (b) Propositions that together are used to deduce some other proposition cohere with each other. (c) The more hypotheses it takes to deduce something, the less the degree of coherence.

Principle D3: Intuitive Priority Propositions that are intuitively obvious have a degree of acceptability on their own. Propositions that are obviously false have a degree of rejectability on their own.

Principle D4: Contradiction Contradictory propositions are incoherent with each other.

Principle D5: Acceptance The acceptability of a proposition in a system of propositions depends on its coherence with them.¹⁵

Thagard explains that there is a positive constraint or constraints between two elements where those elements cohere, while there is a negative constraint or constraints between those elements where they incohere.¹⁶ For example, if one axiom is deducible from another, there is a positive constraint between those axioms, while, on the other hand, there exists a negative constraint between contradictory propositions.

He then explains that in order to 'make [a set E of elements] as coherent a whole as possible' we must divide E into two subsets, a subset A of accepted elements and R of rejected elements, based on 'the local coherence and

¹⁴ *Coherence*, 43.

¹⁵ *Coherence*, 53.

¹⁶ *Coherence*, 17.

incoherence relations'.¹⁷ Thus, where two elements e_1 and e_2 cohere (e.g. where e_2 is deducible from e_1), the positive constraint can be satisfied by either accepting or rejecting both elements. In contrast, where e_1 is, for example, inconsistent with e_3 , the negative constraint can be satisfied by accepting one and rejecting the other.¹⁸ Coherence is then maximised through a connectionist algorithm,¹⁹ where the weight W of the partition ('that is, the sum of the weights of the satisfied constraints') of E into A and R is the greatest it can be.²⁰

Having established these six kinds of coherence, where coherence is understood in terms of constraint satisfaction and computable through a connectionist algorithm, Thagard proceeds to consider the role of coherence in relation to philosophical and psychological problems in knowledge and reality, ethics and politics, emotional judgments, consensus and probability theory.

Most significant for present purposes is Thagard's contribution to knowledge and ethics. He presents coherentist theories of *epistemic* and *ethical* justification, arguing that,

[k]nowledge involves at least five different kinds of coherence—explanatory, analogical, deductive, perceptual, and conceptual—each requiring different sorts of elements and constraints.²¹

And that,

[l]ike epistemic justification, [...] ethical justification involves the interaction of several kinds of coherence, with the major addition being the role of deliberative coherence in decision making.²²

Thagard's account of coherence, as outlined here, has become 'the object of interest'²³ for many theorists in coherence, law and formal models of legal

¹⁷ *Coherence*, 18.

¹⁸ *Coherence*, 17-18.

¹⁹ *Coherence*, 32.

²⁰ *Coherence*, 19.

²¹ *Coherence*, 41.

²² *Coherence*, 125.

²³ Michał Araszkievicz, 'Limits of Coherence Satisfaction Theory of Coherence as a Theory of (Legal) Reasoning' in Michał Araszkievicz and Jaromír Šavelka (eds), *Coherence: Insights from Philosophy, Jurisprudence and Artificial Intelligence* (Dordrecht: Springer, 2013), 217.

reasoning.²⁴ The most notable development of Thagard's position in the context of legal proof comes from Amaya's recent research, to which I now turn.

I.1 Coherence in Law

Amaya suggests that there exists 'a symbiotic relationship between formal and informal approaches to legal coherentism', asserting that formal coherentist theories, like Thagard's conception of coherence as constraint satisfaction, 'can help us make coherentism a solid theory of justification for law.'²⁵

Using Thagard's account as the starting point, Amaya sets out two further kinds of coherence, *viz.* "factual coherence" ("that is, the kind of coherence that is relevant to the justification of evidentiary judgments *in law*')²⁶ and "normative coherence" ("the kind of coherence that is relevant to the justification of conclusions about disputed questions of law').²⁷ These two new kinds of coherence are 'modeled upon Thagard's theory of the justification of epistemic and moral beliefs, respectively',²⁸ which Amaya suggests must be modified in order to be applicable to the process of *legal* justification.

First, she suggests:

Normative coherence requires the integrated assessment of the same kinds of coherence that are involved in moral justification (i.e., conceptual, perceptual, explanatory, deliberative, analogical, and deductive coherence) with one major addition, namely, "interpretative coherence."²⁹

Interpretative coherence, Amaya argues, is the most important contributor to normative coherence. The principles of this novel kind of coherence are, she

²⁴ As well as the work of Amaya discussed here, see, for example: Michał Araszkiwicz, 'Balancing of Legal Principles and Constraint Satisfaction' in Radboud G. F. Winkels (ed), *Legal Knowledge and Information Systems* (Amsterdam: IOS Press, 2010); Sindhu Joseph and Henry Prakken, 'Coherence-Driven Argumentation to Norm Consensus' in *Proceedings of the 12th International Conference on Artificial Intelligence and Law* (New York: ACM Press, 2009); Jaap Hage, 'Three Kinds of Coherentism' in Michał Araszkiwicz and Jaromír Šavelka (eds), *Coherence: Insights from Philosophy, Jurisprudence and Artificial Intelligence* (Dordrecht: Springer, 2013); and, Jaromír Šavelka, 'Coherence as Constraint Satisfaction: Judicial Reasoning Support Mechanism' in the same volume.

²⁵ Amaya, 'Formal Models of Coherence in Legal Epistemology', (n 2), 445.

²⁶ *Proof*, 9 [emphasis added].

²⁷ *Justification*, 313.

²⁸ *ibid.*

²⁹ *Justification*, 314.

suggests, 'structurally analogous to those of explanatory coherence, with positive and negative constraints holding between interpretative (rather than factual) hypotheses and "normative elements".'³⁰

Second, and more pertinently for the present endeavor, she contends that, in order to appreciate the practical (i.e. non-truth) goals of the legal trial, Thagard's sixth kind of coherence, "deliberative coherence" ('the kind of coherence that is relevant to practical inference'),³¹ must also be added to the original five kinds of coherence involved in Thagard's theory of epistemic justification. Thus,

[f]actual coherence involves the integrated assessment of explanatory coherence (fit between hypotheses and the evidence at trial); analogical coherence (fit between mapping hypotheses); conceptual coherence (fit between concepts); perceptual coherence (fit of visual interpretations and nonverbal representations); deductive coherence (fit between general principles and particular judgments); and deliberative coherence (fit between deliberative factors and the goals of adjudication).³²

Amaya also argues that a coherentist theory of legal proof must be tailored to fit the institutionalised nature of legal reasoning. Thus, Thagard's principles of explanatory coherence must be modified, taking account of the required standard of proof in legal trials and the institutional constraints surrounding the forms of evidence that can be considered at trial (i.e. admissible evidence);³³ and so, principles E4 and E7 become:

Principle E4': Data Priority a) Propositions that describe admissible evidence at trial have a degree of acceptability on their own; b) factual hypotheses that are compatible with innocence have a degree of acceptability on their own.

Principle E7': Acceptance The acceptability of a proposition in a system of propositions (i.e., a theory of the case) depends on its coherence with them; b) the guilt hypothesis may be accepted only if it is justified to a degree sufficient to satisfy the reasonable doubt standard.³⁴

³⁰ *ibid.*

³¹ *Proof*, 11; see also: *Coherence*, 127-132.

³² *Proof*, 12.

³³ *Proof*, 11.

³⁴ *Proof*, 13.

1.2 Disentangling Coherence

In Chapter 2, I introduced Pethick's recent argument that the apparent difficulty surrounding what coherence is does not arise from (or, at least, is not *entirely* caused by) the concept of coherence itself, but rather comes as a result of the erroneous conflation of the concept's *intension* and *extension*.³⁵ Pethick contends that in their attempts to articulate the notion of coherence, those writing on coherence in legal theory, philosophy and elsewhere have mistakenly identified characteristics of some coherent object or objects as characteristics of coherence. He suggests that this universal mistake explains why those writing on coherence typically draw the conclusion that there must be a number of distinct *kinds* or *types* of coherence.³⁶

Thagard's conception of coherence provides one of the clearest examples of this mistake. Suggesting that there are six distinct kinds of coherence, *viz.* explanatory, analogical, deductive, perceptual, conceptual and deliberative, each of which can be understood in terms of a number of principles or constraints and are 'distinguished from each other by the different kinds of elements and constraints they involve',³⁷ Thagard appropriately observes:

the reader might now be worried about the proliferation of kinds of coherence: just how many are there?³⁸

Indeed, one might easily imagine other, more specific, kinds of coherence. However, Thagard asserts that, as far as he knows,³⁹ there are *only* six kinds of coherence, suggesting that other potential kinds of coherence, like coherence in emotional matters,⁴⁰ are not further *kinds* of coherence, but merely provide 'an expanded way of considering the six basic kinds of coherence'.⁴¹ Yet, this argument may have implications in the opposite direction, too, for it seems that these basic kinds of coherence are not different *kinds* of coherence at all, but merely *narrower* ways of considering the one basic concept of coherence. This

³⁵ See: Stephen Pethick, 'On the Entanglement of Coherence' in *Ratio Juris*, Vol. 27, Issue 1 (2014), pp. 116-137.

³⁶ *ibid.*, 119.

³⁷ *Coherence*, 60.

³⁸ *ibid.*

³⁹ *Coherence*, 66.

⁴⁰ That is, "emotional coherence"; see: ch 6 in *Coherence*.

⁴¹ *Coherence*, 66.

gives rise to a more fundamental issue that subsists throughout Thagard's approach: what does it mean to have different *kinds of coherence*, or *kinds of anything*?

A reflection on Thagard's earlier work on scientific knowledge provides the opportunity to better understand his use of "kinds". In his *Conceptual Revolutions*,⁴² Thagard suggests that concepts are "complex structures" which can be understood within the following frame-like structure:

CONCEPT:
A kind of:
Subkinds:
A part of:
Parts:
Synonyms:
Antonyms:
Rules:
Instances:⁴³

And so, the concept of a whale, for example, can be understood as follows:

WHALE:
A kind of: cetacean, mammal, sea-creature.
Subkinds: humpback, blue, killer, sperm, white, beluga, etc.
Parts: fins, blubber, bone, blowhole, tail.⁴⁴

These concepts can then be understood within 'conceptual systems', in which they are organised into "kind-" and "part-hierarchies" and linked to one another by "rules".⁴⁵ Thagard illustrates how this conceptual system might look with a diagram (below),⁴⁶ and a slightly different example: Tweety, a canary.

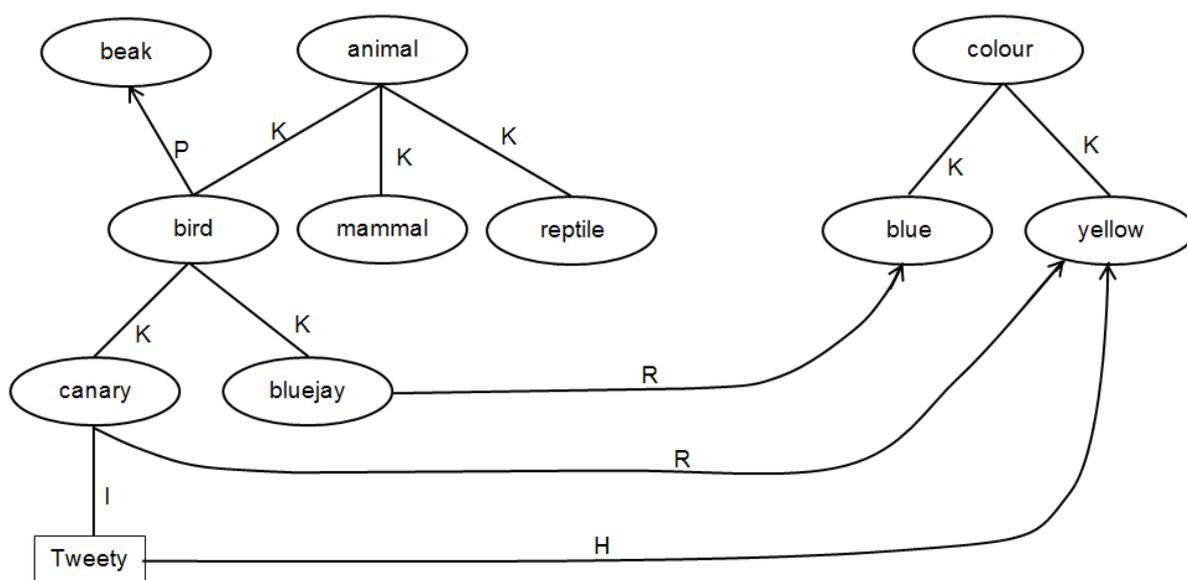
⁴² Paul Thagard, *Conceptual Revolutions* (Chichester, West Sussex: Princeton University Press, 1992).

⁴³ *ibid*, 29-30.

⁴⁴ *ibid*.

⁴⁵ *ibid*.

⁴⁶ See: *ibid*, 31.



He explains that ‘this network uses five kinds of links’:

1. *Kind* links, [...] labeled “K.” These links indicate that one concept is a kind of another: for example, canary is a kind of bird and bird is a kind of animal.
2. *Instance* links, [...] labeled “I.” These indicate that some particular object [...] is an instance of a concept: Tweety is a canary. The chain of links in the network shows that Tweety is also an animal.
3. *Rule* links, [...] labeled “R.” These express general (but not always universal) relations among concepts, for example that canaries have the color yellow.
4. *Property* links, [...] labeled “H” for “has property” [...] such as: Tweety is yellow.
5. *Part* links, [...] marked “P.” These indicate that a whole has a given part: a beak is a part of a bird.⁴⁷

But despite this talk of kind-links and kinds of links, Thagard provides no indication as to what “kinds” *are*. Indeed, despite widespread (and often casual) use of kinds, the discussion of what kinds *are* has been largely neglected throughout the philosophical literature. Even within the extensive literature on natural kinds, the primary focus is what makes some kinds *natural*, and the

⁴⁷ *ibid*, 30-31.

significance of their being *kinds* appears to go unnoticed. Commenting on the nature of kinds, though limiting himself to matters directly relevant to his discussion of art works and kinds (suggesting that there may be different kinds of kinds), Nicholas Wolterstorff observes:

No doubt what comes first to mind when we think of kinds is natural kinds—the species, the genera, the phylla, of the botanical and zoological taxonomist. But I see no reason for denying that there is also the kind (type, sort): Chair In This Room.⁴⁸

There is, in fact, good reason for denying the kind: Chair In This Room, for it rests on the proposition that instances of Chair In This Room have '[t]he property of being a chair in this room'.⁴⁹ Yet, the "property" (and/or relation) of being a chair in this room is *extrinsic*; that a chair might happen to be *in this room* or that an object in this room might happen to be *a chair* says nothing of Chair In This Room's intension or of a given object's intrinsic properties. The "kind" Chair In This Room can be better understood as a set, grouping objects that happen to be chairs and happen to be in this room.

Continuing with Wolterstorff's example of the chairs in the room,⁵⁰ it is easy to understand the concept "chair" as a complex structure within a conceptual system, where chair is a kind of furniture and kinds of chair include armchairs (with subkinds such as club chair, wingback, etc.), deckchairs, stools, and so on. These different kinds of chair are distinguished by their *intrinsic* properties, for example armchairs necessarily have the property "arms", while deckchairs necessarily have the property "being foldable". Indeed, one might consider many other examples of concrete concepts (whose instantiation is tangible) that can be understood in this way. Consider, for example, the concepts: car (kinds include 3-door, 5-door, hatchback, saloon, etc.), shoe (formal, informal, boot, open-toe, heeled, training shoe, etc.), and so on.

⁴⁸ Nicholas Wolterstorff, *Works and Worlds of Art* (Oxford: Clarendon-Oxford University Press, 1980), 47.

⁴⁹ *ibid.*

⁵⁰ After all: 'If anything can be pursued in an armchair, philosophy can.' See: Timothy Williamson, 'Armchair Philosophy, Metaphysical Modality and Counterfactual Thinking' in *Proceedings of the Aristotelian Society*, Vol. 105 (2005), pp. 1-23, 1.

Abstract concepts, on the other hand, are more problematic. There are not kinds of truth, happiness, consistency, completeness, and so on. For example, Susan Haack observes that,

though there are many truths, many theories of truth, and many conceptions, and misconceptions, of truth, there is just one truth: that *what it is for a claim to be true is the same, regardless of what the claim is about.*⁵¹

Similarly, there are not different *kinds* of symmetry; it is only the object in which symmetry is instantiated that may vary. Thus, there are not *different groups* of symmetry whose members are made up of distinct properties of symmetry or symmetric relations. Though the relation of symmetry may exist in or between⁵² a number of different things, *there is only one kind of symmetry*, and what it is to be symmetrical is the same regardless of what thing or things are symmetrical. Concepts of this nature (including symmetry) are rife throughout Thagard's coherence constraints. Like symmetry, there are not different *kinds* of contradiction, just as there are not different *kinds* of acceptability. Different objects may contradict one another in different ways, and acceptability may be built on a number of different reasons, but these concepts exist in only one kind, for any apparent variation is that of the object(s) in which the concept is instantiated (e.g. the propositions that contradict one another, or the proposition that is acceptable), not of the concept itself.

Pethick argues that this is the case for the concept of coherence, too. Thus, he suggests that Thagard's different *kinds of coherence* are not kinds at all; they are just different *cohering objects*.⁵³ Though Thagard accepts that there are *similarities* between some kinds of coherence, he "prefers" to keep distinct kinds of coherence because of 'important differences between their fundamental coherence relations and the associated principles.'⁵⁴ Of the important difference between deductive and explanatory coherence, Thagard says:

⁵¹ Susan Haack, 'The Whole Truth and Nothing but the Truth' in *Midwest Studies in Philosophy*, Vol. 32 (2008), pp. 20-35, 24 [original emphasis].

⁵² Symmetry may exist as a one- or two-place predicate, for example: "the circle is symmetric about the diameter" (one-place), or "points (x, y) and (-x, -y) are symmetric about the origin" (two-place).

⁵³ Pethick, (n 35), 122.

⁵⁴ *Coherence*, 65.

Deductive coherence is based on purely deductive relations between propositions, as for example when "All cities have roads" implies "Toronto has roads." In contrast, although explanation may sometimes involve deduction [...] it is fundamentally a matter of there being a causal relation between what is explained and the representations that do the explaining [...].⁵⁵

Yet, Pethick suggests that this passage exemplifies the methodological mistake that he picks out. He argues that Thagard's commentary supports this view, since,

his assessment of "deductive coherence" seems to be an assessment just of deduction (to italicise the point, "Deductive coherence is based on *purely* deductive relations between propositions"), and [...] his subsequent and contrasting view of "explanation" drops attention to coherence altogether.⁵⁶

Indeed, the existence of a *purely deductive relation* between a set of propositions says nothing of any *coherence relation*. As in the case of the Wolterstorff's supposed kind: Chair In This Room, the "property" of deduction is *extrinsic* to the notion of coherence; that coherence might happen to be instantiated by a set of deductively related propositions says nothing of the *intrinsic* nature of coherence. And so, these supposedly distinct "kinds" of coherence are better understood as distinct sets, grouping instances of coherence that just happen to hold deductive relations, explanatory relations, and so on.

This mistake is intensified in the work of Amaya, who appears to adopt a conception of kinds that is yet broader still, adding three *additional* kinds to Thagard's original six: interpretative, normative and factual coherence. Amaya suggests, for example, that "interpretative coherence", the seventh kind of coherence, is much like explanatory coherence, but 'with positive and negative constraints holding between interpretative (rather than factual) hypotheses and "normative elements".'⁵⁷ In other words, the only difference between explanatory and interpretative coherence is the *objects* to which it applies.

⁵⁵ *ibid.*

⁵⁶ Pethick, (n 35), 122.

⁵⁷ *Justification*, 314.

It is notable that in setting out his theories of ethical and epistemic justification, Thagard does not suggest that ethical and epistemic coherence form two additional kinds of coherence, for they involve the mere integration of the existing kinds. Yet, Amaya suggests that normative and factual coherence (that is, ethical and epistemic justification in the legal context) form new *kinds* of coherence. Unlike that of Thagard, it seems that Amaya's account of the many kinds of coherence is not intended to be exhaustive. Rather, Amaya appears to allow for the further proliferation of kinds of coherence.

Indeed, it is initially unclear whether Amaya presents normative and factual coherence as exclusively legal kinds of coherence (i.e. to be used in *and only in* the legal context). Her original description of normative and factual coherence as "the kind of coherence that is relevant in law" does not preclude its being relevant to other, non-legal contexts too. But it soon becomes clear that Amaya intends factual coherence to be used *solely* in the legal context, leaving open the possibility that one might establish further kinds of factual coherence that would be relevant in other, non-legal, contexts (e.g. the kind of coherence relevant to the justification of evidentiary matters *in science*, or *in history*, and so on).

Yet, the problem worsens as Amaya proceeds to limit the scope of factual coherence further still. In tailoring Thagard's principles of explanatory coherence to fit the context of evidentiary judgments *in law* (though it seems that the other five kinds of coherence need no adjustment), Amaya drastically limits the scope of her factual coherence, as the modified Principles E4' and E7' demonstrate:

Principle E4': Data Priority a) Propositions that describe *admissible evidence at trial* have a degree of acceptability on their own; b) factual hypotheses that are *compatible with innocence* have a degree of acceptability on their own.

Principle E7': Acceptance The acceptability of a proposition in a system of propositions (i.e., a theory of the case) depends on its coherence with them; b) *the guilt hypothesis* may be accepted only if it is justified to a degree sufficient to satisfy *the reasonable doubt standard*.⁵⁸

⁵⁸ *Proof*, 13 [emphasis added].

Factual coherence, in light of Amaya's modification of principles E4 and E7, now appears solely concerned with *criminal* matters, as the italicised sections show. Indeed, her references to "innocence", "guilt" and the "reasonable doubt standard" preclude any meaningful application in the context of civil legal adjudication, for example, where innocence plays no part and (in common-law systems) the standard of proof is much lower than that of reasonable doubt.

Thus, Amaya's factual coherence seems purpose-built solely for the *criminal* legal context, rather than the legal context more generally. Factual coherence, then, is not "the kind of coherence that is relevant to the justification of evidentiary judgments *in law*"; rather it is merely "the kind of coherence that is relevant to the justification of evidentiary judgments *in the criminal trial*", which seems to be a *subkind* of the "the kind of coherence that is relevant to the justification of evidentiary judgments in law" alongside, perhaps, the kind that is relevant in *civil adjudication*. One might then imagine new, more specific subkinds of normative and factual coherence: "common law adversarial criminal-trial coherence", "criminal appellate court due-process coherence", and so on.⁵⁹

Pethick further contends that the conflation of the intension and extension of coherence, which he argues exists throughout the literature, 'has led legal theorists to make substantive claims for coherence in which coherence itself is either superfluous in part or redundant in its entirety.'⁶⁰ Addressing Amaya specifically, he argues that,

the varying qualities imputed by Amaya to various kinds of [coherence] are (and are demonstrably) simply qualities of the various objects [...] that are actually and expressly under inspection. Scattered this far out from the concept or nature of coherence at the beginning, the significance of coherence becomes increasingly difficult to perceive, particularly as, imperceptibly, attention to analogical coherence, perceptual coherence, [...] and so on, can simply be replaced with

⁵⁹ See: Stephen Pethick, 'Coherence: The Phantom Presence', presented at the Artificial Intelligence, Coherence and Judicial Reasoning workshop at The Fourteenth International Conference on Artificial Intelligence and Law (Rome, 10 June 2013), 11.

⁶⁰ Pethick, (n 35), 134.

attention to analogy, perception, [...] and so on, without any apparent loss.⁶¹

Indeed, the mistake that Pethick picks out is particularly clear in Amaya's modified principles (E4' and E7'), which, on closer inspection, are not concerned with coherence at all. The first, Data Priority, is concerned with *acceptability*, not coherence. Second, the principle of Acceptability describes the *result* of coherence, rather than coherence itself. The institutional constraints that Amaya adds are, therefore, *extra-coherence* considerations, to be had before or after (but, crucially, not *during*) any evaluation of the coherence of a proposition or set of propositions.

I remarked at the outset that coherence theories are often criticised for their apparent inability to determine what coherence amounts to. Amaya calls this the "problem of vagueness" and contends that the conception of coherence as constraint satisfaction overcomes this problem, presenting 'a set of clear criteria against which the coherence of different decision alternatives may be compared and evaluated.'⁶²

I have shown, however, that Amaya's theory of optimal coherence fails to provide such criteria. Though Amaya's use of constraint satisfaction may be said to set out clear criteria against which different explanations, analogies, etc., may be compared and evaluated, the relevance and significance of *coherence* in these evaluations remains unclear. In her attempts to more clearly elucidate the meaning of coherence, Amaya's resort to distinct *kinds of coherence*, themselves made up of still further kinds of coherence, leads us further away from any clear conception of the central notion of coherence itself. In short, despite, or rather as a result of, its painstaking detail and specificity, Amaya's conception of coherence is guilty of the very fault she claims to address: it leaves the notion of coherence undefined.

⁶¹ *ibid*, 135.

⁶² *Justification*, 318.

1.3 Limits of Coherence as Constraint Satisfaction

Though generally well-received, Thagard's conception of coherence as constraint satisfaction is not without its critics, the most notable of which is Jaap Hage. Comparing Amaya's Thagardian coherence theory of legal justification to his own abstract theory of "integrated coherentism", Hage considers a set E containing the following elements:

- (a) John is a thief.
- (b) John is a minor.
- (c) John is punishable.
- (d) John is not punishable.⁶³

'There is', Hage says, 'a positive constraint between the elements a and c',⁶⁴ such that grouping a and c in subset A or R provides a positive value. He takes this value to be 2.⁶⁵ There is also, according to Hage, a negative constraint between elements b and c, so that the acceptance of one and rejection of the other provides a value of 4. Finally, he suggests that there is a negative constraint between a and d (with a value of 1), a positive constraint between b and d (valued at 2), and a 'very strong' negative constraint between the inconsistent elements c and d (valued at 1,000).⁶⁶ (Hage appears to overlook the value of any constraints between a and b, which are presumably valued at 0.) Therefore, the maximum weight of coherence (1,007) can be achieved by accepting b and d, and rejecting a and c.

Hage argues that this example illustrates the drawbacks of coherence as constraint satisfaction. One such drawback, according to Hage, is that constraints are bidirectional: 'If a supports c then c supports a (to the same degree)'.⁶⁷ He suggests that this is problematic because one direction of reasoning ("John is a thief, so he is punishable") is more plausible than the other ("John is punishable, so he is a thief"). This criticism, however, is not of Thagard's coherence *as constraint satisfaction*, but of coherence *as a*

⁶³ Jaap Hage, 'Three Kinds of Coherentism', (n 24), 26.

⁶⁴ *ibid.*, 27.

⁶⁵ *ibid.*

⁶⁶ *ibid.*

⁶⁷ *ibid.*

symmetrical relation. The same “problem” arises in many instances of coherence. Consider, for example, a coherent explanation where x , “John is fast”, explains y , “John won the race”. Here, just as before, one direction of reasoning, “John won the race because he is fast”, is more plausible than the other, “John is fast because he won the race”. However, the apparent problem that Hage identifies is mistaken, arising simply because of his failure to properly distinguish between coherence in one- and two-place use. The point here is that $[x \text{ therefore } y]$ forms an internally coherent explanation, but the *internal* (i.e. one-place) coherence found in the set $[x \text{ therefore } y]$ says nothing of the *external* (two-place) coherence between x and y more generally. That is to say, that $[x \text{ therefore } y]$ is a coherent explanation does not mean that the explanation $[y \text{ therefore } x]$ is also coherent, or that x and y cohere in all circumstances, though this may happen to be the case in some instances.

Although Hage's criticism of Thagard and Amaya is not in itself damaging, it illustrates a number of fundamental problems in Thagard's conception of coherence as constraint satisfaction that have been largely overlooked. Hage's example shows that (on Thagard's account) computing coherence requires the allocation of a numerical value to a given constraint, allowing the mathematical calculation of the set's overall coherence in order to settle upon the most coherent formulation of its subsets A and R ; but no indication as to the basis on which these numerical values are determined is provided by Thagard or Hage. Hage's ascription of values to constraints (and his ignorance of any potential constraints between a and b) seems wholly arbitrary. Indeed, as Michał Araszkievicz briefly remarks:

[...] the procedure of assignment of these weights is not encompassed in constraint networks: it must be at least to some extent predetermined (at least, the algorithm of assigning weights must be known before the process of computation starts).⁶⁸

⁶⁸ Araszkievicz, (n 23), 228. Araszkievicz comments only briefly on what he calls the “weight assignment problem” because he considers it to have been ‘convincingly addressed’ by Hage. Yet, despite unintentionally illustrating the weight assignment problem, Hage does not address this problem, nor does he acknowledge that this is, in fact, a problem.

This reveals a major problem in Thagard's theory, for he fails to determine any such algorithm or measure through which to assign weights or values. This criticism detracts little from Amaya's theory, who proposes an informal theory of coherence as constraint satisfaction, centred on "inference to the best explanation" rather than computational algorithms. However, Amaya's theory is not immune from a second, more basic problem that Hage's example (accidentally) highlights.

Both Thagard and Amaya suggest, as I have explained, that epistemic and ethical justification or factual and normative coherence "involve" the "integration" of different kinds of coherence. However, Hage does not explain which kind or kinds of coherence are involved in his example, or how he integrates them to determine the value of the constraints between the different pairs of elements. Yet these mistakes come not (entirely) as a result of some oversight in Hage's explanation, but rather from a significant problem within the conception of coherence as constraint satisfaction, *viz.* the failure by both Thagard and Amaya to provide any indication as to how each kind of coherence is involved and how the integration of those kinds takes place.

This problem is deepened by the suggestion, made by both Thagard and Amaya, that explanatory coherence is the most important kind of coherence in epistemic justification and factual coherence.⁶⁹ Neither Thagard nor Amaya offer any explanation as to how important explanatory coherence is, how this importance is reflected in the process of integration, or whether there exists a more general hierarchy of kinds.

The gravity of this problem can be seen in a simple hypothetical situation. In the context of epistemic justification or factual coherence, if the principles of analogical coherence suggest that one set of propositions is more coherent than another, but perceptual coherence suggests the opposite, how do we determine the coherence of each set?

⁶⁹ See: *Coherence*, 48; *Proof*, 6.

Indeed, Amaya acknowledges that the problem of integrating the different kinds of coherence is a shortcoming of her theory,⁷⁰ but makes no attempt whatsoever to provide a solution. This is striking, for, as Amaya herself notes (discussing Alexy and Peczenik's criteria of coherence⁷¹ in a footnote):

without an account of how the different criteria may be balanced against each other, the theory remains in an important sense incomplete.⁷²

And so, in the absence of any guidance regarding the significance of different kinds of coherence, how they can be integrated and, therefore, how one can determine the coherence of a set, the conception of coherence as constraint satisfaction advocated by both Thagard and Amaya remains gravely unclear and, in an important sense, incomplete.

II. Maximising Coherence

Amaya seeks to fill a supposed gap in the literature by providing a clear account of the inference patterns that fact-finders may use, explaining why coherence is a value worth pursuing and suggesting that legal fact-finding can be understood in terms of "inference to the best explanation"⁷³ (or "hypothetical induction"). As was explained in Chapter 3, induction is a method of reasoning by which one passes from one proposition or set of propositions to another proposition that is *probably* true if the former is. Inference to the best explanation is one form of inductive reasoning,⁷⁴ whereby '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.'⁷⁵

⁷⁰ *Justification*, 325.

⁷¹ See: Robert Alexy and Aleksander Peczenik, 'The Concept of Coherence and its Significance for Discursive Rationality' in *Ratio Juris*, Vol. 3 (1990), pp. 130-147.

⁷² *Justification*, 311 fn8.

⁷³ *Proof*, 16.

⁷⁴ The other, *enumerative* induction, involves the inference of a generalisation from evidence about instances of that generalisation. For example, I might infer that since all the dogs I've observed bark at strangers, all dogs probably bark at strangers.

⁷⁵ Gilbert H. Harman, 'The Inference to the Best Explanation' in *The Philosophical Review*, Vol. 74, No. 1 (1965), pp. 88-95, 89.

II.1 *Inference to the Most Coherent Explanation*

Amaya explains that the process of inference to the best explanation consists of three main stages: *generation*, where a shortlist of hypotheses is presented; a *context of pursuit*, in which the shortlist 'is subjected to a preliminary assessment and developed in further detail'; and *selection*, where the "best" hypothesis is 'accepted as justified'.⁷⁶ She suggests that coherence is crucial in all three stages of this process. First, Amaya argues that 'coherence with background knowledge helps legal fact-finders narrow down the range of plausible candidates' when generating the shortlist of hypotheses.⁷⁷ Second, each candidate is preliminarily assessed and developed (through the subtraction, addition or reinterpretation of beliefs) to enhance its coherence.⁷⁸ Third, fact-finders select the candidate that is 'best on a test of coherence'.⁷⁹

Yet, in 'Coherence, Evidence, and Legal Proof', Amaya offers no explanation as to why *coherence* is important in any, let alone all, of these stages. Indeed, she does not explain why fact-finders ought to limit the range of plausible candidates to those that cohere with background beliefs rather than, say, those that are merely *consistent* with background beliefs, or those that are *internally* coherent, or simple, and so on. Moreover, the preliminary assessment and development of each candidate's coherence seems to exist only because the third stage involves the selection of the *most coherent* explanation; but, again, Amaya provides no argument (beyond some brief introductory remarks) as to why fact-finders ought to seek coherence rather than, say, consistency, simplicity, probability or comedic value. In her earlier work,⁸⁰ Amaya provides a number of arguments to suggest that coherence is worth pursuing in legal reasoning. However, these arguments, which I will now examine, provide little reason to believe that coherence is worth pursuing in the process of legal proof.

⁷⁶ *Proof*, 15.

⁷⁷ *ibid.*

⁷⁸ *ibid.*

⁷⁹ *Proof*, 16.

⁸⁰ See: *Justification*; and, *Ten Theses*.

II.2 Why Coherence?

Amaya has described her defence of the value of coherence in legal reasoning in terms of 'three kinds of reasons':⁸¹ constitutive, practical and epistemic, though arguments falling under the first two headings can be quickly disregarded for present purposes.

First, Amaya suggests that '[c]oherence is constitutive of individual and political identity.'⁸² She argues that a degree of coherence is necessary in individual and collective deliberation about the 'values and objectives' relevant to a particular case in order to be a 'unified agent and part of a distinctive political community.'⁸³ Yet, this argument concerns the role of coherence in the justification of decisions about questions of law, not fact.

Second, Amaya suggests that coherence is of *practical* value to legal reasoning. Drawing on the work of a number of legal theorists, she argues that coherence facilitates coordination and promotes effectiveness, legal certainty and social stability, 'which are surely fundamental values in the legal context.'⁸⁴ Notwithstanding potential arguments as to the ability of coherence to promote these values and whether they really *are* fundamental values in law, Amaya's arguments here are, once again, directed to the value of coherence when making decisions about law, not findings of fact.

Third, Amaya presents two *epistemic* arguments for the value of coherence in law. These arguments are pertinent to the present investigation. Amaya observes that coherence theories across a number of domains have been unable to present a conclusive argument that coherence is truth-conducive. However, she argues that this does not render the prospects of such an argument 'doomed to failure',⁸⁵ for, indeed, there exist a number of strategies for connecting coherence among empirical beliefs with truth as

⁸¹ *Ten Theses*, 257.

⁸² *Ten Theses*, 259; *Justification*, 322.

⁸³ *Ten Theses*, 259.

⁸⁴ *Justification*, 322. See also: *Ten Theses*, 259.

⁸⁵ *Ten Theses*, 258. See also: *Justification*, 321.

correspondence.⁸⁶ 'These strategies', Amaya suggests, 'provide a useful starting point for mounting an argument to the effect that accepting factual propositions in law by virtue of their coherence is likely to advance the goal of truth.'⁸⁷

However, Amaya mounts no such argument beyond the bare assertion that 'there are good reasons for supporting the desirability of coherence methods from the perspective of advancing the goal of truth in law.'⁸⁸ Despite these "good reasons", whatever they may be, Amaya accepts that the argument that coherence is truth-conducive is not compelling. She contends that this does not, however, significantly undermine the value of coherence in the process of legal proof, for,

although truth-conduciveness is, to be sure, a crucial standard for assessing the adequacy of a theory of justification, other criteria are also relevant.⁸⁹

These criteria, she suggests, include fairness, the protection of family relations, privacy, due process and conflict resolution.⁹⁰ However, Amaya appears to unreasonably downplay the importance of *truth* in her theory of *epistemic* justification. Indeed, as she notes earlier in the same paper:

the constraint-satisfaction approach to coherence aims to be a theory of "epistemic" justification. *The distinctive feature of epistemic justification*, as opposed to other kinds of justification, *is its essential connection with truth*. [...] Thus the constraint-satisfaction approach to the epistemic justification of evidentiary judgments in law is meant to provide an account of truth-conducive criteria [...].⁹¹

As Amaya observes, a theory of epistemic justification *must* be truth-conducive; yet, she presents a theory of epistemic justification in which truth-conduciveness is little more than a secondary concern.

⁸⁶ As well as BonJour's coherentism considered in Chapter 2, see, for example: Keith Lehrer, *Theory of Knowledge* (Boulder, CO: Westview Press, 2nd edn, 2000).

⁸⁷ *Justification*, 321.

⁸⁸ *ibid.*

⁸⁹ *Proof*, 38.

⁹⁰ *Proof*, 39.

⁹¹ *Proof*, 13 fn29 [emphasis added].

Nonetheless, Amaya highlights that coherentist theories of justification, to their credit, encounter fewer difficulties than their main competitor, foundationalism.⁹²

After all, foundationalism [...] has not succeeded either in conclusively refuting the skeptical hypotheses.⁹³

Thus, Amaya's first epistemic argument is that coherence ought to be sought because it is at least as truth-conducive as (that is, it isn't any worse than) the main alternative – foundationalism. In other words, Amaya contends that coherence is the best of the lot, albeit a pretty bad lot.

Amaya's second epistemic argument comes from her view that legal philosophy must be "naturalised".⁹⁴ Methodological naturalism, broadly speaking, is the doctrine derived from the view of Willard Van Orman Quine that philosophy is not prior to science, but rather that philosophy must be continuous with the empirical sciences, acting as 'a wing of science where aspects of method are examined more deeply or in a wider perspective than elsewhere' and 'where the objectives of a science receive more than average scrutiny'.⁹⁵ And so, Quine suggests, for example, that '[e]pistemology, or something like it, simply falls into place as a chapter of psychology and hence of natural science.'⁹⁶ Few contemporary philosophers have gone so far as to fully adopt Quine's stance, but his influence has been widespread,⁹⁷ leading Brian Leiter to suggest that the so-called "naturalistic turn" has been '*the* distinctive development in philosophy' since the late twentieth century.⁹⁸ Many, including Amaya, promote a weaker form of naturalism, whereby philosophical claims must be 'supported

⁹² *Justification*, 320; *Ten Theses*, 258.

⁹³ *Ten Theses*, 258.

⁹⁴ *ibid*, 263.

⁹⁵ W.V. Quine, 'Philosophical Progress in Language Theory' in *Metaphilosophy*, Vol. 1, No. 1 (1970), pp. 2-19, 2. See, for example: W.V. Quine, 'Things and Their Place in Theories' in his *Theories and Things* (Cambridge, MA: Belknap-Harvard University Press, 1981).

⁹⁶ W.V. Quine, 'Epistemology Naturalized' in his *Ontological Relativity and Other Essays* (New York: Columbia University Press, 1969), 82.

⁹⁷ For an overview of the post-Quine naturalistic approach, see, for example: Philip Kitcher, 'The Naturalists Return' in *The Philosophical Review*, Vol. 101, No. 1 (1992), pp. 53-114; and, Hilary Kornblith, 'Naturalized Epistemology' in Jonathan Dancy, Ernest Sosa and Matthias Steup (eds), *A Companion to Epistemology* (Chichester, UK: Wiley-Blackwell, 2nd edn, 2010). For the argument that jurisprudence ought to be naturalised, see: Brian Leiter, *Naturalizing Jurisprudence: Essays on American Legal Realism and Naturalism in Legal Philosophy* (Oxford: Oxford University Press, 2007).

⁹⁸ Brian Leiter, 'Naturalism and Naturalized Jurisprudence' in Brian Bix (ed), *Analyzing Law: New Essays in Legal Theory* (Oxford: Clarendon-Oxford University Press, 1998), 79 [original emphasis].

or justified by the result of the sciences'.⁹⁹ And so, on the basis that a number of empirical studies suggest that coherence already plays a central role decision-making, Amaya argues that,

a coherentist theory of justification, insofar as it builds upon ordinary reasoning processes, is well placed to advance the project of ameliorating the legal practice, which is [...] a central one in legal theory.¹⁰⁰

Indeed, psychological research by Dan Simon and others shows that jurors appear to utilise coherence-based reasoning,¹⁰¹ while experiments by Nancy Pennington and Reid Hastie suggest that jurors determine which story of the case is best by reference to coverage, coherence and, to a lesser extent, uniqueness.¹⁰² However, what "coherence" amounts is unclear in the work of Simon, while Pennington and Hastie take "coherence" to express three components: consistency (i.e. freedom from internal contradiction), plausibility (correspondence to background knowledge) and completeness.¹⁰³ Such a conception of coherence bears little resemblance to Amaya's account of factual coherence, as outlined above. How, then, can it be said that Amaya's account 'builds upon ordinary reasoning processes'? The psychological studies do not suggest that jurors' reasoning involves the integration of six kinds of coherence understood as constraint satisfaction. Moreover, Pennington and Hastie's study, for example, shows that jurors also make decisions based on completeness and uniqueness,¹⁰⁴ but Amaya does not suggest that fact-finders ought to seek completeness and uniqueness, too.

Yet, the problems for Amaya's argument are more basic still. A common criticism of the naturalistic approach is that its reliance on empirical investigation

⁹⁹ *ibid*, 82. For examples of this strain of naturalism in epistemology and ethics, see (respectively): Alvin Goldman, *Epistemology and Cognition* (Cambridge, MA: Harvard University Press, 1986); Michael Slote, 'Ethics Naturalized' in *Philosophical Perspectives*, Vol. 6, Ethics (1992), pp. 355-376.

¹⁰⁰ *Ten Theses*, 263. See also: *Justification*, 321-322.

¹⁰¹ Dan Simon, 'A Third View of the Black Box: Cognitive Coherence in Legal Decision Making' in *The University of Chicago Law Review*, Vol. 71 (2004), pp. 511-586

¹⁰² Nancy Pennington and Reid Hastie, 'The Story Model for Juror Decision Making' in Reid Hastie (ed), *Inside the Juror: The Psychology of Decision Making* (Cambridge: Cambridge University Press, 1993), 198.

¹⁰³ *ibid*, 198-199.

¹⁰⁴ *ibid*, 217. Completeness seems to feature as both a part of coherence and a factor in its own right.

leads to the provision of merely *descriptive* accounts of what people do, failing to account for philosophy's *normative* role. This criticism is particularly pertinent in the context of epistemology, for, as Henri Lauener observes,

the epistemological task is not to *explain* (psychologically) our confidence in particular scientific methods, but to *evaluate* or to *assess* them, which is a typically normative activity not captured within natural science.¹⁰⁵

In the present case, the observation that coherence *does* play a role in legal decision-making provides no reason to suggest that it *ought* to play a role in legal decision-making and, therefore, that a normative theory of legal reasoning should give an account of that role. Though Amaya anticipates that she may be accused of committing this “naturalistic fallacy”,¹⁰⁶ she fails to provide a convincing response, arguing that there is a particularly strong case for naturalism in the context of legal theory, for the following reason:

The main objective of theories of legal reasoning is to ameliorate the legal practice. [...] Now, if this is so, then, even though the theory of legal reasoning should involve a great deal of idealization, given its normative character, it is important that it does not idealize away of our cognitive capacities so much as to make it ill-suited to guide and regulate legal practice. The naturalist principle that ‘ought’ implies ‘can’ constrains the kinds of theories of legal reasoning that one should aim at developing.¹⁰⁷

Yet, Amaya fails to observe a clear distinction between what fact-finders *can do* and what they *actually do*. The strength of Amaya's argument here lies in her claim that legal theorists must avoid the over-idealisation of normative theories. After all, we are all limited by our cognitive capacities, and so a normative theory that expects any (human) fact-finder, for example, to work beyond her cognitive capacity will be, as Amaya observes, ill-suited to guide practice. This means that normative theories of what people *ought to do* must be limited by

¹⁰⁵ Henri Lauener, ‘Holism and Naturalized Epistemology Confronted with the Problem of Truth’ in Robert B. Barrett and Roger F. Gibson (eds), *Perspectives on Quine* (Oxford: Basil Blackwell, 1990), 215 [original emphasis]. Quine responds that ‘[t]he normative is naturalized, not dropped.’ He argues that the normative principle of naturalised epistemology is empiricism, for natural science tells us that all of our information about the world is sensory, advising us to ‘mistrust soothsayers and telepathists’; see: W.V. Quine, ‘Comment on Lauener’ in the same volume, 229.

¹⁰⁶ *Ten Theses*, 262.

¹⁰⁷ *ibid*, 263.

what people *can do*; to do otherwise would remove any practical usefulness from those theories. It does not mean, however, that a normative theory must follow from what people *actually do*. "Ought" implies "can", not "does". Though there is good reason to limit normative theory to that which people can do, there is no reason to limit it to what people already do. And so, in the absence of any conclusive arguments as to its epistemic value, we are left with little reason to consider the "best" explanation that which is most coherent.

II.3 The Process of Coherence Maximisation

Notwithstanding the above, having established the *three* stages of coherence maximisation (*generation, a context of pursuit and selection*) outlined above, Amaya explains that the process of coherence maximisation in legal fact-finding consists of the following *five* stages:

- (i) The *specification of a base of coherence*, that is, the set of factual hypotheses and relevant evidence over which the coherence calculation proceeds;
- (ii) The *construction of a contrast set* that contains a number of alternative theories of the case from which the most coherent one is to be selected;
- (iii) The *pursuit* of the alternative theories of the case by means of a number of coherence-making mechanisms;
- (iv) The *evaluation* [of] the coherence of the alternative theories of the case against the criteria of coherence that have been stated above;
- (v) The *selection as justified* of the most coherent of the alternative theories of the case, that is, the theory of the case that best satisfies the criteria of factual coherence.¹⁰⁸

Applying these five stages, Amaya uses the well-known criminal case of *R v Cannings*¹⁰⁹ to illustrate how this process can be used in legal fact-finding.¹¹⁰ It is to this case, and Amaya's analysis of it, that I now turn.

¹⁰⁸ *Proof*, 16.

¹⁰⁹ *R v Cannings* [2004] EWCA Crim 1 ("*Cannings*" hereinafter). The facts are set out in the judgment of Judge LJ, [1]-[5].

¹¹⁰ *Proof*, 7-9. Amaya's use of a criminal case provides further support for the view expressed above that her theory is intended primarily, if not exclusively, for use within the context of the criminal trial.

Mrs Angela Cannings had four children, three of which died in infancy while in the sole care of their mother. At least two of the children, including the fourth child, who survived, suffered an "Acute/Apparent Life Threatening Event" (ALTE)¹¹¹ while in the sole care of Mrs Cannings. In 2002, she was tried on two counts of murder at Winchester Crown Court (the third did not proceed). The prosecution argued that Mrs Cannings had smothered her children, intending to kill or cause serious bodily harm, suggesting that the three deaths formed a pattern;¹¹² the defence contended that these incidents were natural, to be classed as "cot death" (Sudden Infant Death Syndrome). Though Mrs Cannings was considered a loving mother and there was no evidence of her having any personality or psychiatric disorder, it was observed that apparently loving parents do sometimes kill their children.¹¹³

Mrs Cannings was found guilty of murder on both counts. However, her convictions were quashed on appeal, in light of new evidence regarding Mrs Cannings' unknown half-sister. Evidence was presented that two of her half-sister's three children also suffered ALTEs,¹¹⁴ giving rise to the possibility that the deaths of Mrs Cannings' children were caused by a genetic defect, not her actions.

Thus, according to Amaya, the legal fact-finder must begin the process of coherence maximisation in *Cannings* by specifying a *base* of coherence. They might consider, for example, the following theories and evidence:

H₁ Angela Cannings killed her babies.

H₂ The babies' deaths were natural.

H₃ Someone else killed the babies.

H₄ Angela Cannings was a loving mother.

H₅ There is a genetic defect in the Cannings family.

¹¹¹ *Cannings*, [2].

¹¹² This "pattern" of deaths is closely analogous to the case of *R v Smith* used in MacCormick's account of narrative coherence, discussed in Chapter 3, above. See: Neil MacCormick, *Rhetoric and the Rule of Law: A Theory of Legal Reasoning* (Oxford: Oxford University Press), 224 fn 11; and, Chapter 3, n 128.

¹¹³ *Cannings*, [25].

¹¹⁴ *ibid*, [34].

And so on.¹¹⁵

As Amaya explains, the fact-finder must then *construct a contrast set* of theories of the case,¹¹⁶ determining the relations of coherence and incoherence between the evidence and hypotheses.¹¹⁷ In the absence of any evidence that someone other than Mrs Cannings killed the children, the fact-finder might establish the following hypotheses:

H₆ Angela Cannings killed her babies (the “Cannings did it” or “guilt” theory).

H₇ The babies' deaths were natural (the “natural deaths” theory).¹¹⁸

The “Cannings did it” theory ‘coheres with expert evidence as to the rarity of three infant deaths in one family’,¹¹⁹ while the “natural deaths” theory coheres with the hypothesis that there is a genetic defect in the Cannings family.¹²⁰

Then, after developing the hypotheses and “ironing out” possible inconsistencies by adding to, subtracting from or reinterpreting the theories,¹²¹ the fact-finder ‘assesses the coherence of the alternative theories of the case by examining the extent to which they satisfy the coherence constraints.’¹²² Amaya explains, first, that the fact-finder will ‘consider whether the guilt theory explains the evidence at trial or whether, to the contrary, the natural-deaths theory better explains the evidence available.’¹²³ Second, she explains that the fact-finder ‘will also consider which of the theories is simpler and examine whether they fit with background knowledge about analogous cases.’¹²⁴ Amaya concludes: ‘The outcome of this evaluation is to arrive at comparative judgments of explanatory coherence.’¹²⁵

¹¹⁵ *Proof*, 16.

¹¹⁶ *Proof*, 16-17.

¹¹⁷ *Proof*, 17.

¹¹⁸ See: *ibid.*

¹¹⁹ *ibid.*

¹²⁰ *ibid.*

¹²¹ *ibid.*

¹²² *Proof*, 18.

¹²³ *ibid.* It is noteworthy that ‘the guilt theory explains the evidence’ and ‘the natural-deaths theory *better* explains the evidence’ are not, as Amaya suggests, contradictory statements.

¹²⁴ *ibid.*

¹²⁵ *ibid.*

Thus, despite insisting on the inclusion of *all six* kinds of coherence in “factual coherence”, Amaya focuses solely on (her altered version of) *explanatory* coherence. In particular, she focuses on simplicity and analogy, found in principles E2 and E3:

Principle E2: Explanation (a) A hypothesis coheres with what it explains, which can be either evidence or another hypothesis. (b) Hypotheses that together explain some other proposition cohere with each other. (c) *the more hypotheses it takes to explain something, the lower the degree of coherence.*

Principle E3: Analogy *Similar hypotheses that explain similar pieces of evidence cohere* [emphasis added].

This observation supports the view, expressed above, that “factual coherence”, far from being a discrete *kind* of coherence, is no more than the application of explanatory coherence in the legal context, and illustrates the vagueness surrounding how different kinds of coherence are involved and integrated in the process of justification.¹²⁶

At the final stage, Amaya explains, ‘the most coherent theory of the case is selected, provided that its degree of justification (on this account, its degree of coherence) is high enough to satisfy the applicable standard of proof.’¹²⁷ Thus, Amaya contends that the “Cannings did it” theory is not justified because ‘there was a reasonable possibility that the deaths were natural’, the evidence that Mrs Cannings was a loving mother is *best* explained by the “natural-deaths” theory, and the introduction of new evidence regarding Mrs Cannings’ half-sister increased the overall factual coherence of the “natural-deaths” theory.¹²⁸ Yet, this conclusion runs contrary to any assessment of coherence on Amaya’s own account. Though there was a *possibility* that the deaths were natural, the overwhelming majority of analogous cases supports the “Cannings did it” theory, or at least stand against the “natural-deaths” theory; while the “natural-deaths” theory is plainly *less* simple than the “Cannings did it” theory, relying on the introduction of *new* evidence. And so, on Amaya’s account, it seems that, in

¹²⁶ See: Section I.

¹²⁷ *Proof*, 18.

¹²⁸ *ibid.*

fact, the "Cannings did it" theory is the most coherent explanation, and its rejection rests squarely on extra-coherent institutional constraints.

II.4 Choosing the Most Coherent Explanation

In Chapter 3, I suggested that the non-demonstrative nature of inductive reasoning is potentially problematic, since it may be possible in some cases to draw a number of different inferences from a proposition or set of propositions. If it is to be an adequate theory of evidentiary justification, Amaya's account must offer a solution to this problem, which Harman calls the basic riddle of induction, by explaining how fact-finders ought to choose which explanatory hypothesis should be accepted as true where two or more coherent explanations are available. Relying on the intuitive assumption that coherence is a matter of degree, her account of inference to the best explanation responds by suggesting that one ought to choose the explanation which is the most coherent. However, where coherence is understood in terms of constraint satisfaction, Amaya's resort to the extent to which a hypothesis is coherent can be interpreted in two quite different ways, both of which prove untenable.

On the first interpretation, Amaya may mean that a hypothesis is more coherent where more of the coherence constraints are satisfied. For example, one might say that a set of propositions *A* is *more* coherent than another set *B* because *A* fulfils a wide range of constraints making it explanatorily, analogically and deductively coherent, while *B* is only explanatorily coherent. However, Amaya's approach, thus understood, is problematic, for if coherence is to be determined by the *number* of constraints fulfilled, one must first determine which constraints are *necessary and sufficient* for coherence. Indeed, a set of propositions that merely satisfies *one* criterion of factual coherence (say, non-contradiction (E5)) cannot surely be considered coherent (it is merely non-contradictory).

A further problem arises where some kinds of coherence are considered more important than others, as both Thagard and Amaya suggest.¹²⁹ Thus understood, Amaya's theory would require some hierarchy of coherence

¹²⁹ Both describe explanatory coherence as the most important kind of coherence in epistemic justification or factual coherence. See: *Coherence*, 48; and, *Proof*, 6.

constraints, demonstrating the importance afforded to each kind. Indeed, if this is the case, it may mean that a set of propositions B may be more coherent than A because it fulfils *more important* constraints than A, despite fulfilling fewer constraints. Amaya provides no indication as to how many constraints must be satisfied to allow coherence or the extent to which some constraints are more important than others.

A second reading is that coherence and its constituent constraints can be satisfied *to a degree*, that is, that coherence is a *relative* concept.¹³⁰ It may be that the set of propositions A is *more* explanatorily coherent than another set B because A fulfils the relevant constraints *to a higher degree* than B does. This second interpretation appears the most plausible, as Amaya speaks explicitly of the most coherent theory being that which '*best satisfies* the criteria for factual coherence',¹³¹ rather than that which satisfies *most* of the criteria. In contrast to my argument in Chapter 2, this approach assumes that coherence exists as a matter of degree. Yet, a reassessment of Thagard's coherence constraints reveals that the concepts "involved" in his conception of *coherence* (rather than acceptability), such as symmetry and consistency, are absolute concepts, that is, they simply *are* or *are not*. Thus, even on Thagard's account, coherence remains an absolute concept.

Amaya attempts to shrug off the claim that coherence theories of justification are incapable of adjudicating between two or more equally coherent systems, explanations, etc.¹³² She contends that this objection is 'not a major one',¹³³ since the possibility of there existing two, equally coherent, contradictory hypotheses is too remote to pose a serious problem.¹³⁴ However, if, as I suggest, coherence *cannot* exist as a matter of degree, the problem of coherence-ties comes to the very fore.

¹³⁰ See: Chapter 2, section VI.1.

¹³¹ *Proof*, 17 [emphasis added].

¹³² *Proof*, 37.

¹³³ *ibid.*

¹³⁴ *ibid.*

Amaya asserts that, where coherence-ties do exist, legal institutional constraints (e.g. the presumption of innocence in criminal trials) act as a tiebreaker.¹³⁵ Thus, outside of the legal context, it seems that coherentism offers no response. *Within* the legal context, Amaya's retort hugely reduces the role of coherence in criminal trials, where a fact-finder that considers two or more coherent hypotheses must rely *solely* on institutional constraints to choose which *one* to accept as true. Indeed, in such cases coherence appears to provide little more than a preliminary test, dramatically reducing the role of coherence in Amaya's *coherentist* theory of justification. More problematically, on Amaya's account, fact-finders may have no grounds to make a decision in common-law civil cases, where institutional constraints (e.g. the balance of probabilities standard of proof and the absence of a presumption of innocence) are unlikely to lean in favour of either party.

III. Epistemic Responsibility in Like Circumstances

Amaya observes two further problems that may exist in the process of coherence maximisation that I have not yet explored. The first problem concerns the "base" of coherence, that is, 'the set of factual hypotheses and relevant evidence over which the coherence calculation proceeds.'¹³⁶ Amaya explains that the base of coherence may be problematised where,

the input to coherence-based reasoning, that is the set of relevant evidence and hypotheses over which the calculation of coherence proceeds, is the result of defective inquiry.¹³⁷

Understandably, if the *base* of coherence is defective, the process of coherence maximisation is flawed from the outset. Amaya explains that if fact-finders fail to properly determine the set of hypotheses and evidence where, for example, they ignore relevant evidence, are biased, lack imagination, etc., their eventual selection of the best theory as justified will be *unjustified*, for it will be no more than the 'best of a "bad lot"'.¹³⁸

¹³⁵ *ibid.*

¹³⁶ *Proof*, 16.

¹³⁷ *Proof*, 19.

¹³⁸ *ibid.*

Second, problems may arise where the fact-finder performs the coherence *calculation* defectively.¹³⁹ The coherence calculation is the penultimate stage in the process of coherence maximisation, in which fact-finders evaluate the coherence of the competing theories within the base before, finally, accepting that which is most coherent as justified. Where this calculation is defective, it may be the case that a theory appears to satisfy the criteria of coherence, but only because the quality of its evaluation is deficient. Using the *Cannings* case in illustration, Amaya explains that this may occur where, for example, a biased fact-finder manipulates, restructures or misrepresents the evidence to support his own preferred view,¹⁴⁰ making his eventual decision unjustified.

Amaya claims that to overcome these problems, a coherence theory of justification 'needs to be supplemented with a responsibility constraint',¹⁴¹ such that 'the justification of evidentiary judgments in law is a matter of coherence provided that the standards of epistemic responsibility are properly respected.'¹⁴²

Amaya proposes an "irenic" approach that combines both the deontic and aretaic accounts of epistemic responsibility, requiring both the fulfilment of epistemic duties *and* the exercise of intellectual virtues.¹⁴³ She explains that legal fact-finders have a number of duties, including, but not limited to: a duty to believe only that which is supported by evidence; to gather additional evidence where the existing evidence is insufficient; to actively search for alternative theories of the case; and, more generally, to increase their chances of finding truth.¹⁴⁴ Moreover, the responsible legal fact-finding displays a number of intellectual virtues, such as: thoroughness; sensitivity to detail; an ability to recognise salient facts; perseverance; diligence; courage to question deeply

¹³⁹ *Proof*, 20.

¹⁴⁰ *ibid.* My examination of Amaya's analysis of *Cannings* (at II.3, above) suggests that she may have made this very mistake.

¹⁴¹ *Proof*, 22.

¹⁴² *Proof*, 24.

¹⁴³ *ibid.* For a brief overview of virtue epistemology, see: John Greco, 'Virtues in Epistemology' in Paul K. Moser (ed), *The Oxford Handbook of Epistemology* (Oxford: Oxford University Press, 2002); and, Jonathan L. Kvanvig, 'Virtue Epistemology' in Sven Bernecker and Duncan Pritchard (eds), *The Routledge Companion to Epistemology* (Oxford: Routledge, 2011).

¹⁴⁴ *Proof*, 26.

held beliefs; an ability to recognise reliable authorities; open-mindedness; impartiality; self-criticism; sobriety; and, intellectual autonomy and humility.¹⁴⁵

This illustrative, though not exhaustive,¹⁴⁶ list of epistemic duties and virtues demonstrates that reaching an epistemically responsible decision in legal fact-finding is certainly a tall order; it seems '[c]oherence (and, therefore, justification) does not come for free, it is something that has to be earned.'¹⁴⁷

At first glance, Amaya's responsibility-supplement appears capable of overcoming the potential problems she identifies. Intellectual virtues such as perseverance, diligence, open-mindedness and impartiality alongside the duty to believe only that which is supported by evidence encourage fact-finders to move beyond prejudices, to be imaginative, and so on, so that they might avoid constructing a "bad lot". Meanwhile virtues like impartiality and self-criticism work alongside duties, like that to base beliefs on sufficient evidence, in order to prevent the improper manipulation of the coherence calculation. If this responsibility-supplement is to meet its potential, however, Amaya's account must first answer a number of questions.

First, Amaya must be able to show that the duties and virtues she identifies are, in fact, worth pursuing in the context of legal fact-finding. Second, if her responsibility-supplement is to provide a useful response to problems with the base of coherence, it must specify the point at which a "bad lot" becomes a "good lot". That is, the fact-finder must be able to determine the point at which he has done enough to continue on the path to justification. Third, if Amaya's supplement is to prevent the miscalculation of coherence, responsibilities such as the duty to gather additional evidence where the existing evidence is insufficient require much greater clarification. Indeed, without some guidance as to how much evidence is *sufficient* to justify a belief, the duty imposed on the legal fact-finder is plainly unattainable.

¹⁴⁵ *Proof*, 26-27.

¹⁴⁶ *Proof*, 25 fn59.

¹⁴⁷ *Proof*, 24.

At present, Amaya fails to answer the first of these questions, providing no justification for the selection of these values, nor any indication as to how long the full list of duties and virtues might be. With regard to the second and third questions for her responsibilist approach, Amaya suggests the answer can be found in the final component of her “optimal coherence”: context.

III.1 Contextualising Coherentism

Amaya suggests that ‘the severity of the standards of justification [...] shifts with context’,¹⁴⁸ avoiding appeal to the psychologically implausible holism which, she suggests, troubles much of the coherentist literature.¹⁴⁹ She contends that the degree of coherence, number of alternatives and domain of coherence¹⁵⁰ required for justification vary according to a number of contextual factors, such as: the *stakes* (i.e. the cost of being wrong); the *role* of the decision-maker (e.g. police, trial judge, juror, etc.); the *goals* of enquiry (truth, natural justice, etc.); and the *resources* available.¹⁵¹

Thus, Amaya contends that the number of alternative theories required, in forming the base of coherence, for a “bad lot” to become a “good lot” is determined by contextual factors. For example, in a criminal trial, the stakes are typically higher than in civil proceedings. A wrong decision in criminal proceedings may mean fining, imprisoning or even, in some jurisdictions, executing an innocent person; or, on the contrary, that a criminal goes unpunished. The stakes are high and, therefore, so too are the standards of justification – the fact-finders beliefs must *strongly* cohere, and few alternative explanations can be left unexplored.¹⁵² Indeed, the standard of justification will become clearer still once we consider further contextual factors, such as time constraints and any limitations on resources.

Similarly, when calculating coherence, fact-finders can determine just how much evidence is sufficient to justify a belief by considering the context within

¹⁴⁸ *Proof*, 28.

¹⁴⁹ *Justification*, 311.

¹⁵⁰ That is, the breadth of the domain within which coherence ought to be sought.

¹⁵¹ See: *Proof*, 28-31.

¹⁵² *Proof*, 29.

which that belief formed. Where, for example, the stakes are higher, the resources are better and/or the fact-finder's role is more senior, the necessary amount of evidence increases accordingly.

Yet, these brief and sketchy remarks provide little support to specific legal fact-finders in specific cases. Indeed, though it is plain that Amaya expects legal fact-finders to perform to a higher level in, say, criminal trials than in civil proceedings, this comparative tool is only useful where one begins from a clear starting-point and understands the impact that certain changes in context will have on the standards of justification required. However, Amaya's provides no such guidance. Fact-finders are told that the standards of justification are higher in criminal proceedings than in civil proceedings, but they are given no indication as to what standards are required in either criminal or civil proceedings in the first place. For this reason, Amaya's responsibility-supplement is simply too vague to fulfil its purpose and, in the end, fact-finders are left to determine for themselves what the stakes are, what their goal is, what resources they are to make use of and how these factors affect what is expected of them.

More troubling for Amaya, her account of epistemic responsibility is at odds with her naturalistic defence of the value of coherence, discussed above. There, Amaya warned against the over-idealisation of normative theory; yet, here, Amaya 'assumes a more active view of jurors than the one that is currently in place in most jury systems',¹⁵³ requiring that legal fact-finders fulfil a seemingly unreachable number of duties and display an immeasurable number of exceptional intellectual virtues.

IV. Conclusion

In an attempt to overcome or at least diminish a number of problems facing coherence theory in law, Amalia Amaya presents a theory of "optimal coherence", adopting Paul Thagard's conception of coherence as constraint satisfaction. In the context of legal proof, Amaya argues that a legal fact-finder

¹⁵³ *Proof*, 26 fn62.

is justified in making an inference to the most factually coherent explanation, acting in accordance with the duties and intellectual virtues dictated by the context, where factual coherence is understood as involving the integrated assessment of six distinct kinds of coherence. However, the analysis presented here shows that her account of legal fact-finding fails to overcome many of the problems she identifies for a number of reasons.

First, I have argued that Amaya's Thagardian conception of coherence as constraint satisfaction is problematic, leading to an infinite proliferation of "kinds" of coherence without providing any indication as to what coherence itself amounts to or how the different kinds and constraints it contains can be integrated. Second, the examination presented here has also shown that Amaya's account of legal fact-finding as inference to the most coherent is also inadequate, failing to overcome Gilbert Harman's basic riddle of induction and providing no convincing argument to the effect that coherence *ought* to play a role in legal fact-finding. Finally, I have suggested that while Amaya's responsibilist approach *could* go some way to diminishing potential problems in the process of inference, she fails to provide a clear and detailed account of what is expected of fact-finders in real-life cases.

Interestingly, Amaya has acknowledged that her theory of "optimal coherence" faces many of these difficulties.¹⁵⁴ Yet, far from presenting minor hurdles to the success of "optimal coherence" or mere avenues for further research, these difficulties present *major* problems in Amaya's theory, undermining its usefulness in the process of legal proof. For in the absence of any sufficient reason as to *why* coherence ought to be pursued in legal fact-finding, and without any clear account of *how* coherence ought to be invoked, Amaya's theory of "optimal coherence" remains gravely incomplete.

¹⁵⁴ *Proof*, 42; *Justification*, 325-326.

5

Concluding Remarks

In this thesis I have examined the concept of coherence and its role in the process of legal proof. The concept of coherence plays a particularly significant role in contemporary thought and, together with its popularity in some of the central areas of philosophy, a number of legal philosophers have found themselves drawn towards this concept that often seems to promise so much, but proves so difficult to truly grasp. Among the many claims that have been made for the desirability, or even *requirement*, of coherence in law and legal reasoning, some have argued that coherence provides the solution to a longstanding theoretical problem in legal evidence: the problem of proof. This problem concerns the difficulty in establishing a justifiable basis on which legal fact-finders might come to select one theory of a case, among competing theories, as the true (or most probably true) account of unperceived past events.

I. The Current State of the Coherence Theory in the Process of Legal Proof

Despite its focus in law, my investigation began in epistemology, where the notion of coherence is widely believed to provide the answer to the problem of justified belief in the ongoing race to establish an adequate theory of knowledge. In Chapter 2, I considered Laurence BonJour's *The Structure of Empirical Knowledge*, one of the most significant works in contemporary epistemology, in which he sets out the plan for a coherence theory of epistemic justification.

The analysis presented in that chapter highlighted a number of conceptual and epistemological problems for BonJour's theory which are common among coherence theories of justification. Drawing on recent research by Stephen

Pethick, I argued, first, that Bonjour's conception of coherence commits a basic conceptual error by conflating the *intension* of coherence with its *extension*, leading to the mistaken belief that "coherence" is somehow tied to belief systems.¹ Second, I suggested that Bonjour's account proves incapable of providing a suitable method by which one might choose non-arbitrarily between alternative coherent sets of beliefs about unobservable facts.² Third, I demonstrated that Bonjour fails to show the connection between coherence and truth that *epistemic* justification demands and that, fourth, his attempt to do so reveals a further mistake in his claim that coherence exists as a matter of degree.³

In so doing, I have presented a number of conceptual claims which have ramifications far beyond the context of the present investigation, contributing to current discussions about the nature and usefulness of coherence more generally. Most significantly, I have asserted that the "elusive" notion of coherence is best understood as simply "fitting together"⁴ and argued, contrary to much of the extensive literature, that coherence does not exist as a matter of degree, but rather that some thing or set of things is either coherent *simpliciter*, or it is not coherent.⁵

In Chapters 3 and 4 I turned from epistemology to legal proof and the writings of Neil MacCormick and Amalia Amaya, respectively, which exemplify much of the coherentist literature in law, ranging from its origins through to the present day. The in-depth analysis undertaken in these chapters reveals that the theories of both MacCormick and Amaya fall victim to variants of the very same problems highlighted in Chapter 2.

In Chapter 3, I have shown that MacCormick's requirement of narrative coherence, that is, of belonging within a single rational scheme of explanation, is insufficient to justify beliefs about unperceived past facts. As well as

¹ See: Chapter 2, section II.

² See: Chapter 2, section V.

³ See: Chapter 2, section VI.

⁴ See: Chapter 2, section II.3.

⁵ See: Chapter 2, section VI.1.

committing the conceptual mistakes outlined above, MacCormick's theory of narrative coherence proves too weak a test to provide the epistemic justification he appears to intend it to, failing to provide adequate evidence that adherence to its standards leads to the acceptance of true propositions. Understood as a means of prudential justification, MacCormick's narrative coherence remains problematic, failing to provide any basis on which to distinguish between competing narratively coherent hypotheses and leading to the "cynical" view that law has nothing to with truth.

In Chapter 4, I have demonstrated that Amaya's theory of optimal coherence, built on a Thagardian conception of coherence as constraint satisfaction, is equally problematic. Her unsupported reliance on detailed "kinds" of coherence (made up of *further* kinds of coherence) leads Amaya to describe some of the many circumstances in which coherence can be found, whilst failing to establish a clear account of the notion itself or, indeed, how these many kinds of coherence are intended to come together. Most notably, the argument that coherence is an absolute concept dramatically reduces the tenability of Amaya's theory, as her suggestion that legal fact-finders ought to responsibly infer the most coherent explanation available comes undone, leaving legal fact-finders without clear guidance as to the duties and virtues they must display, and little more than epistemically arbitrary institutional norms to guide their selection of a single hypothesis as a true account of unperceived past events.

These criticisms lead to the tentative conclusion that, as it stands, the role of coherence in the process of legal proof appears to have been overestimated. The coherence-based theories examined here show that claims that coherence holds the key to solving the problem of proof are unfounded, for coherence and coherentism prove too weak to justify beliefs about unperceived past facts, while failing to provide a sufficient basis on which to distinguish between competing theories of a case.

II. Prospects for Coherence in the Process of Legal Proof

This conclusion does not mean, however, that coherence has no role to play in the process of legal proof whatsoever. As well as presenting a number of

opportunities to develop a clearer, more accurate conception of coherence, the arguments presented here give rise to a potential avenue for further research into the essential process of reasoning that precedes justification in legal proof: the process of discovery.

In Chapter 3, I suggested that the role of narrative coherence is overstated throughout MacCormick's analysis of legal fact-finding, in which it appears that the true driving force is probability, not coherence. Drawing on Charles Sanders Peirce's discussion of "abductive reasoning", I presented a constructive interpretation of MacCormick's narrative coherence, suggesting that the role of narrative coherence in his analysis can be seen more clearly in the context of *discovery*, rather than *justification*.⁶ For MacCormick, I have argued, narrative coherence merely supplies a number of initially plausible hypotheses that could explain the events in question, which must then be subjected to the test of probability, thus taking the following inferential method:

The unexplained facts F are observed;

But if either P or Q were true, F would be explicable,
Hence, there is reason to suspect that either P or Q is true.

Q is more probable than P,
Therefore, Q is probably true.

This observation leads me to conjecture that, perhaps, coherence, properly understood as simply fitting together, may serve as a preliminary test in legal fact-finding, establishing the minimal level of plausibility that each theory of a case must meet in order to be worthy of closer consideration in the process of justification. In this role, many of the problems facing coherence-based theories of *justification* are avoided, since the context of discovery requires a far lower standard of evidence and does not seek to settle upon one hypothesis.

Of course, this does little to solve the problem of proof, and MacCormick's implicit suggestion that probability affords justification is likely to face a number of epistemological problems, including, perhaps, some of those encountered here. However, though merely evading these problems for the present, a

⁶ See: Chapter 3, section V.

Chapter 5: Concluding Remarks

coherence-based theory of discovery may go some way to determining the best role for coherence in legal proof, as well as prompting research into an area of reasoning that is largely overlooked in current legal thought.

To sum up: I have demonstrated that attempts to resolve the problem of proof with coherence-based theories of justification have failed on a number of conceptual and epistemological grounds, but that coherence, properly understood as the absolute notion of “fitting together”, may serve as a preliminary test of plausibility in the context of discovery and theory-formulation. A full investigation into the merits and limitations of this proposal is a matter for another occasion, but it appears that, in this capacity, coherence may have a role to play in the process of legal proof after all.

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