An Intellectual Biography of the Young David Lewis

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When David Lewis died in 2001 he left behind two unpublished book manuscripts, one which he had originally planned as a monograph, *The Paradoxes of Time Travel* (1971), and the other a text book, *Confirmation Theory* (1969). We have included both manuscripts in this volume of Lewis's posthumously published writings. To provide intellectual context for them, we supply here a biographical sketch of Lewis during his early years, drawing on Lewis's correspondence also to be found in his *Nachlass*.[1]

David Lewis was born to an academic family in Oberlin in 1941, Ohio, his father a professor of government at Oberlin College, his mother a medievalist and historian of ideas. Lewis was an undergraduate at Swarthmore College from 1957 to 1962, where he had originally intended to major in chemistry.[2] While at Swarthmore, Lewis received the encouragement and guidance of Jerome Shaffer, whose doubts about the identity of mental states and brain states were to serve as a foil to Lewis's development of his own version of the identity theory of mind, according to which mental states are brain states which occupy functional roles (Lewis 1966). Over thirty years later, when Shaffer retired, Lewis was to dedicate one of his papers to him as 'my first teacher in philosophy'.[3] Lewis had a year out at Oxford (1959–60) where he was supervised by Iris Murdoch on both the history of philosophy and contemporary philosophy, especially in relation to freedom of the will. Lewis returned to Swarthmore to be a philosophy major. Shaffer also encouraged Lewis's early interest in linguistics. Because there was no linguistics department at Swarthmore, Shaffer put Lewis in touch with the linguists Zellig Harris and Henry Hiż at the University of Pennsylvania where Lewis attended a summer seminar on structural linguistics in 1960, along with another Swarthmore student, Barbara Partee who was later to become an eminent figure in the field. He graduated with high honours in philosophy and election to Phi Beta Kappa in 1962.

[1] David Lewis's correspondence is now housed in the Princeton University Library, 'David Lewis Papers 1956–2014', Boxes B-000659–78. A two-volume collection of Lewis's letters, *Philosophical Letters of David K. Lewis* edited by Helen Beebee and Anthony Fisher has recently been published by Oxford University Press.

[2] For further information about Lewis's early life, see Stephanie Lewis's (2015) biography of Lewis.

[3] See Lewis (1995: 140).

While an undergraduate Lewis came across the idea which later became a key feature of his thinking, that causal claims should be analysed in terms of counterfactuals. Lewis wrote more than once on causation as an undergraduate; his final effort was an essay entitled 'Particular and General Causal Claims' (1961). Lewis later used a revised version of this essay when, we speculate, he applied for philosophy posts in 1965–6, the version which we include here. When he was nearing the completion of his famous paper 'Causation', published in 1973 in *Journal of Philosophy*, Lewis wrote to his friend and philosophical confidant J. J. C. Smart, 'Just now I'm nearing the end of a paper on how to analyze causation in terms of counterfactuals after analyzing counterfactuals in terms of similarity of worlds […] I've been working on it since 1959!' (Lewis to Smart, 2nd May 1973).

By 1961 Lewis had decided to do graduate work in philosophy, applying to Princeton and Harvard. His letter to the dean of the Graduate School at Princeton, Donald Hamilton, tells us about his philosophical outlook and his education, both casting light on his later intellectual development. Lewis described his school years in the following terms.

> In elementary school I skipped second grade because I had learned to read early; and therefore had some difficulties in writing and arithmetic for the next three or four years. I caught up by seventh grade, and became much interested in chemistry. This interest remained throughout high school; at first as a hobby and later as a field of learning. I maintained a laboratory in my basement, and spent a great deal of time hanging about the Oberlin College chemistry building. I was encouraged by the high school science teachers, the college department of chemistry, and my parents; and took for granted that I was going into chemistry.
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> My parents and I were concerned about the difficulty of getting a liberal education with a major in chemistry; the American Chemical Society requires a heavy program of people who are to be considered by the profession as properly trained, so most chemistry departments make extraordinary demands on their majors' time. I had managed to work at an unusual rate in high school, for various reasons, so in my senior year (third year) I was permitted to take introductory courses in mathematics, chemistry and German at Oberlin College; thus freeing time for social sciences and humanities in college. However, I was thus left at the end of high school more than adequately prepared for college but a little short of requirements for graduation from high school; so I am not a high school graduate.
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> Toward the end of high school I also became interested in mathematics. The sources of this interest are two: a well-taught high school course in geometry, and a Scientific American article on Gödel's theorem. A member of the Oberlin Mathematics Department helped me to pick up a certain amount of symbolic logic and set theory. By the time I went to Swarthmore I had no idea whether I would end up in chemistry or mathematics. But by the middle of my sophomore

> year, I had become disappointed with chemistry and dropped it. The theory seemed to me sloppy and chaotic, the experimental work seemed to be either cookbook-following or engineering, and the field seemed altogether too big and too rapidly growing for comfort. I had learned some history and political science, and regretted that I would not be able to go on with them. I expected to continue in mathematics and do some physics as well, but did not feel content with the prospect. (Lewis to Hamilton, 21st November 1961)

Lewis also explained to Hamilton that he had become, 'deeply interested in philosophy since 1959–60; I spent that year at Oxford', Lewis attached an academic statement which included the following description of his experience.

> In the academic year 1959–60 (which would otherwise have been my junior year at Swarthmore) my father went to Oxford as a Fulbright visiting professor. I had the opportunity of an extra year of undergraduate study at little cost, and decided to use it to study somewhat more philosophy and social science before concentrating entirely in mathematics. I took the Philosophy, Politics, Economics program ("P.P.E."), and soon found myself deeply absorbed in philosophy. Oxford is a center of one sort of analytic philosophy, and I had the chance to hear lectures by some people of the first rank in the field: J.L. Austin, Gilbert Ryle, A.J. Ayer, H.L.A. Hart, and Sir Isaiah Berlin. My tutor, Iris Murdoch, is one of those who are at home both in Oxford analytic philosophy and in European metaphysics; I am much indebted both to her teaching and to her articles. I read a good deal beyond the requirements of my tutorials; the books which taught me most would be: Ludwig Wittgenstein, Philosophical Investigations and The Blue and Brown Books; John Wisdom, Philosophy and Psychoanalysis; and Gilbert Ryle, The Concept of Mind. My present views and interests in philosophy are direct developments of those I had at the end of my year at Oxford.
>
> (Lewis to Hamilton, 21st November 1961)

Lewis confessed that 'My philosophical training so far is badly unbalanced in favor of contemporary British analytic philosophy'. Lewis elaborated upon where his intellectual sympathies lay in the following terms,

> philosophy is the study of the logical dependences relating concepts to other concepts which surround them in a working conceptual system, within which system alone they have meaning. I think this description fits all philosophy; but it applies obviously to that of the three philosophers to whose work I feel most in debt: the later Wittgenstein, John Wisdom, and Gilbert Ryle. I don't agree with those who think that our conceptual equipment is in a state of confusion and needs to be rebuilt. Still less do I care for the idea that only those concepts are worth studying, that all of us use everyday. I think that sometimes an artificial,

> composed construction, or a conceptual invention of some past philosopher, or a simplified, distorted variant of a concept from common usage, might be just the thing to make clear the "logical powers" of some concept (from whatever source) that interests and puzzles us. In this opinion, I fear that I differ from some of those with whom I otherwise most agree. (Lewis to Hamilton 21st November 1961)

Lewis received offers from both institutions and decided to go to Harvard rather than Princeton. Lewis wrote to explain to Carl Hempel at Princeton that he hadn't made his choice because one department of philosophy was better than another, 'The two seems to me very much on a level', but because 'In particular, I understand that it is possible for students at Harvard to take courses at M.I.T. with such people as Chomsky, Yngve, Putnam, and perhaps Grice' (Lewis to Hempel, 21st March 1962). While the others are well-known to philosophers, Victor Yngve is less so—he was a pioneering figure in computational linguistics then teaching at MIT. Evidently Lewis had already pushed beyond the boundaries of the British analytic philosophy that he had imbibed at Oxford. Lewis also wrote to Hempel that it was of some importance to him that Harvard was 'urban and co-educational'. (Princeton wasn't to admit women until 1969.)

Lewis went to Harvard University as a graduate student in 1962. In 1963 J. J. C. Smart visited Harvard from the University of Adelaide and Lewis attended the course on 'Philosophical Problems of Space and Time' that Smart gave during his visit. They became close friends and long-standing philosophical correspondents, and it was the beginning of Lewis's reciprocal relationship with Australian philosophy. Having written a paper entitled 'Meaning and Convention', Lewis asked Quine to be his thesis supervisor for the academic year 1965–6,

> I would be very grateful if you would permit me to name you as director for a thesis on tacit conventions of language. I would begin next summer, and I hope I would finish by September 1966. We have discussed the topic; I understood you to express favorable but noncommittal interest. I would attempt to develop my account of linguistic regularities by tacit convention (as discussed in my "Meaning and Convention" which you have seen. I enclose a copy in case it will help you decide). I would try to defend it against objections, and to show to what extent it serves to explain various sorts of analyticity or necessity. I might also apply it to Grice's account of meaning or Austin's account of illocutionary force; I might compare the way in which it asserts the essential publicity of language with the way in which Wittgenstein or Cavell asserts the same.
>
> (Lewis to Quine, 9th February 1965)

Quine agreed to direct and, having successfully completed and defended his thesis, Lewis took up an appointment as an assistant professor at the University of California, Los Angeles (UCLA) in 1966. While at UCLA, Lewis discussed

the material from his thesis in a philosophy of language course he gave in the fall of 1967 and he substantially revised his thesis. It was published with the title *Convention* in 1969, the work in which Lewis famously argued that one can make sense of language in terms of conventions, where conventions are understood as regularities in speech behaviour that solve co-ordination problems.

During this time, Lewis was also a part-time member of the Hudson Institute, a politically conservative think-tank founded by Hermann Kahn, that during the 1960s was primarily known for exploring policy issues surrounding nuclear deterrence and civil defence. The Institute was based in Croton-on-Hudson, New York, and Lewis recalled how he would sometimes stay with friends in Princeton and commute to Hudson. In October 1964, he wrote to Jerome Shaffer,

> I had a good summer at Hudson. Mostly worked on various problems about defense, in order to make up my mind whether or not I think it's safe to buy a big shelter and Nike-X program. As you probably know, many people are afraid that if we do it sets off more arms racing. (For instance Jay Stone says so in the September Bulletin of the Atomic Scientists; I may write them a letter criticising what he says.) I'm sure there is such a danger under some circumstances, but I think such circumstances might be avoided, and if they were it would be worthwhile to spend a much greater fraction of our strategic budget (at either a high or low level) on shelters and antimissile defense.
>
> (Lewis to Shaffer, 3rd October 1964)

Kahn had promoted the use of game theory in strategic planning and this led to Lewis becoming interested in game theory. Lewis was to put game theory to use in *Convention* towards an account of how co-ordination problems are solved.

But Lewis's graduate career wasn't all plain sailing. Back in 1965, Lewis was still seeking funding for his final year in the shape of a Woodrow Wilson Dissertation Fellowship for which he had been nominated by the Harvard department. Lewis sent to Smart the good news that Quine had agreed to supervise his thesis but reflected that there remained a further obstacle. He had still to pass his metaphysics preliminary examination which he'd already 'flunked' two years in a row, as Lewis reminisced in his 'Acceptance Speech for the Berhman Prize' from 1991 (included here in among the posthumously published papers (21)). Quine suggested Lewis might better switch to a PhD in philosophy of science to simply avoid the need to sit the exam and Smart had agreed with Quine. Nevertheless Lewis persevered at metaphysics. He wrote to Smart explaining how the Dissertation Fellowship still required him to pass,

> All this is contingent on the metaphysics prelim this May, of course. It's supposed to be more traditional this year; that would be good for me, though bad for some

> of the Cavell types. I'm going to Williams (his usual course minus the ontology part) Goodman at Brandeis (detailed course on *Structure of Appearance*) and Albritton's Aristotle course (shows signs of spending all term on the *Categories*). All good solid courses, and good for the exam—nobody believes I like such stuff, they all think it's just cramming for the exam! Of course the trouble last year was more in exam-writing than in knowledge, but that doesn't mean it couldn't be overcome by more knowledge. (Lewis to Smart, 18th February 1965)

Here 'Williams' refers to D. C. Williams, the Harvard metaphysician now famous for his views about tropes. Fortunately, in May 1965, Lewis did pass his metaphysics course and Quine wrote that he was much relieved because Lewis's funding was contingent upon his passing. Meanwhile Lewis wrote to Smart to tell him that one piece of good news had led to another. 'Things are going very well: Steffi and I are getting married early in September. Decided a week ago, after finding I'd passed the metaphysics prelim (with A-)—thus ensuring that I get the Wilson money, so almost certainly finish next year' (Lewis to Smart, 27th May 1965). Of course 'Steffi' was Stephanie Robinson Lewis and they were to remain together for the rest of Lewis's life.

In his 'Acceptance Speech', Lewis was later to recollect that while he had not deeply engaged with Williams' metaphysics when he took Williams' course, he had, over the course of twenty years, come to see the significance of the questions Williams raised and that he had come to think of these questions in the terms Williams had taught him. In a letter to Armstrong, Lewis explained his relationship to Australian philosophy and Williams' philosophy in the following terms,

> The Australian influence started years before I ever reached Australia: Jack's seminar at Harvard in 1963. The influence of Australia and of Donald Williams are of a piece, but had it been Williams alone it might never have taken hold. As it was, what I learned from Williams stayed in a compartment for years afterward. (Lewis to Armstrong, 3rd June 1991)

By contrast, we discover from another letter that Lewis looked back less respectfully on the ancient philosophy teaching he'd received,

> When I tried to study them, my up-to-date teachers thought it best to read the texts without benefit of commentaries, and to compare it all with the latest word from Kripke. (I owe a great deal to my study of metaphysics with D.C. Williams, and I wish it had been with him rather than with certain of his colleagues that I had tried to study the ancients.) (Lewis to Sprigge, 25th February 1994)

Of course Lewis was to find himself, indeed throughout his career, on the opposite side of the table from Kripke on a variety of metaphysical and semantical issues

and clearly Lewis recalled his younger self as wishing for more Aristotle and less Kripke.[4]

The letter to Smart (above) in which Lewis describes the metaphysics courses he was taking in 1965, also tells us that Lewis reveals his peers as reluctant to ascribe to him a native interest in metaphysics—they thought he was only 'cramming'. It is often claimed by subsequent commentators too that Lewis only really turned to metaphysics in later life. But, according to Lewis's own testimony, they were wrong. He was already a budding metaphysician. Or so Lewis himself conceived of his own intellectual development—as he later affirmed in correspondence with Armstrong. Armstrong explained to Lewis that he considered Quine as a philosopher who had helped create an environment hostile to systematic metaphysics. By contrast, according to Armstrong, D. C. Williams had played an important role in keeping metaphysics alive during the period Quine's star was in the ascendency. But Lewis didn't agree.[5] He replied to Armstrong,

> I don't see Quine as a part of a climate altogether hostile to systematic metaphysics. In fact, I see Quine as himself being, among other things a systematic metaphysician—with a system in some respects allied, in some respects opposed, to Williams'. This goes better for 1953 than for later: I'm thinking, above all, of the Quine of some of the less-known papers in *From a Logical Point of View*, and not of the Quine of the parts of *Word & Object* that argue for indeterminacy of translation and inscrutability of reference. When I took and failed my metaphysics exam as a Harvard graduate student in 1963, it was mostly Quine I'd studied in preparation. Certainly that was too narrow a plan of study. But I don't think I was studying the wrong subject altogether!
>
> (Lewis to Armstrong, 28th October 1994)

Lewis's recollections here about his early metaphysical influences, are borne out, we will explain shortly, by the *The Paradoxes of Time Travel*.

In March 1967 Smart wrote to Lewis, then in post at UCLA, to air the suggestion that Lewis might be invited to give the Gavin David Young Lectures, which had previously been given by Ryle, Quine, Flew, and Feigl—Quine, for example, had given early versions of the chapters of *Word & Object* as his lectures. Of course Lewis wasn't as established as they had been when they gave their lectures but Smart regarded Lewis as a big star of the future and thought it might be more fun

[4] It's plausible that here, in this letter, Lewis had Rogers Albritton in his sights, because Albritton taught a course on Aristotle's *Categories* that Lewis attended and Albritton had a high regard for several of Kripke's views. Kripke acknowledged Albritton's influence with regards to distinguishing metaphysical and epistemic questions about natural kinds and on essentially of origins in 'Naming and Necessity' (1972: 253 n.2).

[5] For further examination of the relationship between Lewis and Quine, drawing on correspondence, see Janssen-Lauret (2017); Janssen-Lauret and MacBride (2018); and Janssen-Lauret and MacBride (2020b).

to have someone promising than someone already established to give them. Lewis wrote back, 'I suppose I would read part of my thesis on conventions (summary on the way by surface mail). Some publishers are looking at it, but I think there's a great risk it will appear as a book before fall '68' (Lewis to Smart, 29th March 1967). *Convention* was accepted for publication in May 1967 and Lewis went so far as to suggest delaying publication until after he had given the lectures in Adelaide, but Smart dissuaded him, urging the merits of early publication.

In the event, Davidson was invited first, since he'd already been invited some years before but had been unable to come, and Davidson delivered his lectures in 1968. So Lewis's performance was postponed until 1971.The Gavin David Young Lectures were intended to be open to the public and were supposed to result in a publication, and Lewis took both demands seriously. Lewis had originally planned to give a version of his PhD thesis on convention. But since the lectures were now scheduled to take place after the publication of *Convention* in 1969, Lewis needed another topic. To understand his eventual choice we need to know what else Lewis had been doing in the late 1960s.

Having moved to UCLA to take up his post in 1966, Lewis began an extraordinarily productive period even by the standards of what had gone before. Lewis is often remembered as a Princeton philosopher who also spent a short period of his career at UCLA. But this doesn't do justice to how big this short period was. As well as revising *Convention*, Lewis attended Richard Montague's seminar on formal semantics and spent his time in discussion with (among others) Hans Kamp, David Kaplan, and Barbara Partee, now a member of the Linguistic Department at UCLA. Tragically, Montague was murdered in 1971. Lewis wrote at the time, 'We have been very upset, not only by the fact of murder, but because Richard had gradually become a good friend. He was kind to us, and we enjoyed his company, to say nothing of the fact that he taught me a lot about philosophy' (Lewis to Vlach, 21st March 1971). The upshot of Lewis's own work on linguistics and philosophy during his UCLA years was his landmark paper, 'General Semantics', in which he argued that reasonable categorically based transformational grammars can be given for all languages of interest to us and that recognizing this makes it possible to give simple general answers to such questions as: what sort of a thing is a meaning and how are the meanings of compounds built from the meanings of their constituents? The paper was delivered at the 'Third La Jolla Conference on Linguistic Theory' in March 1969 and then published in *Synthese* in 1970. But this is only one part of the story about what Lewis had been doing. In fact Lewis had had several other irons in the fire.

Lewis had earlier given a paper on conditionals at Montague's seminar in 1967 but become unsatisfied with what he'd written. He wrote to Stalnaker, 'You and I have proposed very similar theories of conditionals, as I learned from talking

to Thomason at Irvine, and from reading "A Theory of Conditionals" ' (Lewis to Stalnaker, 31st May 1968). Lewis also remarked that he found what he'd written for Montague's seminar 'rather clumsy, and not at all self-contained'. Lewis had initially envisaged developing these ideas about counterfactuals and conditionals for his lectures in Adelaide. But a number of other tasks prevented Lewis from developing his views on conditionals to a point where he felt happy presenting them. One task that occupied Lewis at the time, besides 'General Semantics', was completing 'Counterpart Theory and Quantified Modal Logic' (1968), in which Lewis argued that, contrary to prevailing opinion, quantified modal logic meets the high (extensional) standards Quine had set for the intelligibility of a logic, because it can be translated into Lewis's counterpart theory. Another was a talk delivered at Honolulu in March 1968, later published in the *Australasian Journal of Philosophy* as 'Psychophysical and theoretical identifications' (1972). In that talk Lewis applied ideas about how to understand theoretical terms in general to terms for mental states in particular. Lewis wrote to Smart that his plan was to complete the paper on mental states and then,

> write the stuff up as a paper called 'How to Define Theoretical Terms' with some new material, and only a passing mention of mental states [. . .] I'm working on the new paper; I want to have it duplicated for my ϕ science class by the middle of May, so I can send you a copy at that stage. (Lewis to Smart, 20th April 1968)

Smart was baffled by some of the details of the draft Lewis sent him. Lewis replied, 'Thanks for complaining about the many obscurities in the T-terms paper! It is hard, I agree; and I'm so close to it that I can't easily see where it's unnecessarily hard' (Lewis to Smart, 24th July 1968). Despite the difficulties the result was another celebrated paper, published as 'How to Define Theoretical Terms', in *Journal of Philosophy*, 1970. But Lewis was already preparing for his next task, concluding his letter to Smart, 'Next main project: Keith Gunderson's philosophy of language conference at the Minnesota center in August; I'll be there the last week'. In the event the paper, written in 1968, 'Languages and Language', which seeks to explain the relationship between language conceived as a formally described object and language conceived as a psychological-sociological reality, wasn't published in English until 1975 in the *Minnesota Studies in the Philosophy of Science*.

As a consequence of his many other labours, Lewis wrote to Smart in 1968 lamenting that he didn't yet have a theory of counterfactuals, only the hope of one. But Lewis told Smart he had an alternative proposal for the Gavin David Young Lectures, intended to improve upon Putnam's defence of time travel in 'It Ain't Necessarily So' which had appeared in the *Journal of Philosophy* in 1962. Smart

(1963) had already replied to Putnam but Lewis wanted to take the discussion to a more systematic level.[6]

> New topic: The Paradoxes of Time Travel. The idea would be to defend at length the consistency of some—of course not all—time travel stories; for instance, those by Heinlein. A time-traveler is simply a person whose world-line is abnormally shaped—broken, zig-zag, looped, or what-not. Cf. Hilary's [Putnam] defense of time travel in "It Ain't Necessarily So"; but this would be a much more lengthy performance. It's sort of a jazzy topic, at least students have found it so, and it makes for nice digressions into the topics of time, T-terms, personal identity, memory, causation, alternative worlds, fatalism.
>
> (Lewis to Smart, 31st July 1969)

By contrast, Lewis continued,

> The other topic—counterfactuals, causal explanation, and D-N explanation, is more risky. I don't now have a theory, only the hope of figuring one out. And if I did, it might be hard to present without either presupposing a lot that outsiders would find hard to buy or mixing new stuff of my own with canned elementary lectures, e.g. on Hempel, truth-functional vs. strict conditionals, and so on.

Lewis was also confident that the public would enjoy lectures on time travel because he'd already been giving evening lectures on the topic in Los Angeles.

> The time-travel routine I already have sort of worked out; I've done it as a long evening informal lecture to a bunch of undergraduates, and as tutorials with some of our graduate students. (They hear about it from each other, and come around and ask me to do it for again for a new audience—much as if I knew a good dirty song to sing them.)

In October 1969 Princeton made Lewis a job offer. This time Lewis thought that the Princeton department had the edge. He wrote to Smart to tell him he was considering the offer seriously.

[6] D. C. Williams, although like Quine, Smart, Putnam, and Lewis also an adherent of four-dimensionalism, had denied the possibility of time travel in 'The Myth of Passage' (1951: 463). But Williams had had a change of heart and embraced the possibility in the 1966 reprint of his paper in his collection *Principles of Empirical Realism* (1966: 302–3). Lewis does not cite the reprint here and there is no indication he was aware of it. Lewis does cite the earlier version of William's paper in his later 'Paradoxes of Time Travel' (1976: 147) but only to disagree with it. In fact Williams' 1966 discussion of time travel is closer to Putnam's 'It Ain't Necessarily So' because it describes time travel as involving systems that run backwards in time where every causal process runs in reverse. By contrast Lewis, as will see, envisaged cases of time travel involving broken world lines.

> I'd like a smaller university, where I could know a greater fraction of places and people. Princeton's size is about perfect. I'd also enjoy an older and more stable place than UCLA. I'd like to live in a small town, where I could walk or bicycle most places, at least in good weather—but a small town near a big city, which Princeton is. The prospect of Eastern winters and summers doesn't attract me, but real falls and spring do. (Lewis to Smart, 29th October 1969)

Lewis accepted the offer and was allowed to spend his first year (1970–1) taking up a visiting appointment in Oxford. The year before Lewis had explained to Quine the reason for visiting Oxford, 'The main purpose of going to Oxford is to let Steffi study philosophy of law with Ronald Dworkin and perhaps Hart; I could work almost as well in any pleasant place' (Lewis to Quine, 18th August 1969).

In fact, as civil unrest grew in the US over the Vietnam War and civil rights, Lewis found another reason to leave the country.

> We heard there was a lot of rioting in Harvard square; someone saw a news photo that "looked like Watts". But the LA Times this morning didn't yet have the story. We have a mass meeting going on right now, next door at the law school; lots of crowds, noise and helicopters but nothing worse. The Regents are meeting at this moment to make the final decision about Angela Davis. So even if there were no other grounds for looking forward to getting away to Oxford . . .
>
> (Lewis to Smart, 17th April 1970)

Angela Davis was, of course, the famous radical feminist and civil rights campaigner who had become a member of the UCLA philosophy department in 1969 but was suspended because she was a member of the Communist party. She had been appointed by Donald Kalish, chair of the department, a logician and an anti-war activist. Kalish, along with other members, campaigned on Davis's behalf, seeing the University Regents' actions against her as a threat to academic freedom—her dismissal was subsequently deemed illegal by a Californian court.

On 1st July 1970 David and Stephanie Lewis set sail on the Queen Elizabeth 2 to Southampton. Because Lewis already had the topic of time travel in hand, he was able to devote his leave in Oxford (1970–1) to resuming his work on counterfactuals—although he did present a paper entitled 'Could a Time Traveller Change the Past?' to the Jowett Society. Shortly after arriving in Oxford, Lewis wrote to Montague, 'So far I've mostly been catching up on reading, but soon I'll start—at last!—on the subjunctive conditionals project that's been waiting since 1967' (Lewis to Montague, 27th July 1970). By the following spring Lewis was able to proudly write to Smart that he had completed a 400-page manuscript on counterfactuals,

> I spent Hilary term working on counterfactuals. I can't show you the result until I bring it to Adelaide, though: it's almost 400 pages, so xeroxing and postage are extremely expensive. A decent sized paper became an overgrown paper, which became an under-sized book, which became a middle-sized book. I'm negotiating with publishers, though there's a bit more work yet to be done.
>
> (Lewis to Smart, 16th April 1971)

The book was subsequently published as *Counterfactuals* in 1973. It is also evident from Lewis's letters that he and Stephanie had enjoyed their time in Oxford,

> Oxford has become home, more than Los Angeles ever did. Los Angeles is too big to grasp, whereas Oxford is the right size: small enough to learn, but too big to learn perfectly. We've had a very good year here, and we regret that it will soon be time to leave. (Lewis to Williams, 12th May 1971)

But Lewis also reported that disagreement about the civil rights movement in the US had reached across to Oxford too. Angela Davis had campaigned for the release of the Soledad brothers, three African-American men charged with killing a white prison guard. When, in 1970, the brother of one of the men attempted to secure their release by taking a judge hostage, four men were killed in the shootout and Davis was charged with complicity. There was a mass international movement, including a song by John Lennon and Yoko Ono, to have her released. Lewis wrote to D. C. Williams,

> We also try not to tell casual acquaintances that we come from the UCLA philosophy department. If we do, it usually happens that a friendly conversation ends, and it is demanded that we either defend or attack Angela. I'm unwilling to attack (not out of any loyalty to Angela herself, but to my friends in the department), and quite unable to defend! Steffi can sometimes manage to divert the conversation into a discussion of the points of law at issue—the best solution, when it works. (Lewis to Williams, 12th May 1971)

By his friends in the department, Lewis presumably meant Kalish and others who had continued to support Davis. In April 1972 she was found not guilty of the charges against her and released.

The Lewises flew to Australia for a two-month visit and arrived in Adelaide at the beginning of July 1971. Lewis finally got to deliver his Gavin David Young Lectures, devoting them to establishing that time travel, as imagined in certain works of science fiction, is conceptually possible. He explained the upshot of his lectures in the following terms,

> I argue that time travel, as imagined in science fiction, is logically possible. (Not that you can't write an inconsistent time travel story—many SF writes have—but that you can write a non-trivial consistent one. Heinlein's, for instance, are logically perfect. Wells's is imperfect, but the blunders can be explained away.
>
> (Lewis to Harrison, 20th July 1971)

Lewis pursued his purpose true to promise. He began his lectures by undertaking 'to introduce the layman to various topics in metaphysics' and 'to show off several of my favorite doctrines and methods in metaphysics'. The metaphysics that emerges from these lectures shares many of the features of the metaphysics Quine had advanced in 'Identity, Ostension and Hypostasis', Essay IV in *From a Logical Point of View*, to which Lewis here refers (Quine 1953: 65–70).[7] Recall that *From a Logical Point of View* was Lewis's main metaphysical touchstone in the 1960s and early 1970s. Their shared metaphysics consists of a four-dimensional view of the world, whereby continuant objects, such as a river or a person, change by virtue of having different momentary parts or stages which while connected in such a manner as to stand in the relationship of river-kinship or person-kinship nevertheless differ in other respects. In *Word & Object* Quine had already reflected that a physical object conceived four-dimensionally may have kindred parts 'however dissimilar' or 'however disconnected' they may otherwise be. Quine remarked that conceiving physical objects four-dimensionally allows us to address the perplexities of personal identity (1960: §36). Lewis saw that the problem of time travel divided into a number of problems, including, centrally, the problem of the personal identity of a time traveller, because a time traveller has momentary stages that are either disconnected or ordered in an unusual way. So Lewis sought to develop Quine's view of physical objects conceived four-dimensionally to account for the possibility that momentary parts or stages of a time traveller, however disconnected, are nevertheless person-kindred. But Quine had only hinted at these ideas that Lewis develops here and Lewis added to what they shared to address the other problems of time travel, including the problem of backward causation and the 'Grandfather paradox', with early versions of his own trademark ideas on causation, counterparts, and possible worlds.

Lewis's argument for the possibility of time travel is far more conceptually insightful and thoroughgoing than the one that, for example, Putnam had provided. Putnam had argued that time travel is possible because we can mathematically represent the career of a time traveller using the technique of world lines and Minkowski space-time diagrams (Putnam 1962: 667). Lewis too represented enduring things using world lines but he didn't rely upon the existence of a

[7] 'Identity, Ostension and Hypostasis' originally appeared in the *Journal of Philosophy* (1950). But Quine's four-dimensionalism dates back to the 1930s, see Quine (1939).

certain diagram to establish the possibility of time travel. Lewis summarized his strategy thus,

> I do not merely argue, with a naïve faith in first impressions, that time travel is possible because it seems, superficially, to be. What I do is to show how our concepts might be such as to permit time travel without going wrong otherwise—viz, by not having any time-order condition of admissibility for person-connections; then I use the seeming possibility of time travel as evidence that this conceptual hypothesis is correct.

According to Lewis, the concept of personal identity we employ in ordinary circumstances to settle whether two momentary stages are stages of the same person does not require that the stages are spatiotemporally continuous or the end points of a series of spatiotemporally continuous stages. Rather Lewis identified the concept of personal identity that we apply in ordinary circumstances as a 'cluster continuity' concept: in order for two momentary stages to be admissible as stages of the same person there must be continuity in most respects all of the time and continuity in all respects most of the time. This means that spatiotemporally discontinuous stages can be stages of the same person provided that there aren't too many other discontinuities in other mental/non-mental qualitative respects between the two stages in questions. Already this suggests that our ordinary concept of personal identity has room for the possibility of time travel in a more radical sense than Putnam had envisaged. If Lewis is right that it is a cluster continuity concept, our concept of personal identity can accommodate the possibility that the world-line of a time traveller may be broken, e.g. the possibility that the time traveller enters her/his time machine in 2018, disappears, and then emerges in 2000. The stage of the person that entered the time machine and the stage of the person that emerged are admissible as stages of the same person so long as there is sufficient continuity in most other respects. Lewis also required the stages of a person to be causally connected. So to allow time travel into the past Lewis also had to argue for the possibility of backward causation. To this end Lewis presented an early version of his counterfactual theory of causation, a theory that allows for backward causation. By Lewis's lights the stage of the time traveller that emerges in the imagined circumstances from the time machine in 2000 counterfactually depends upon the 2018 stage. So the later stage causes the earlier one as well as being cluster continuous. Lewis went on to add further constraints on admissibility, incorporating a more precise version of the intuitive contrast, upon which time travel fiction essentially relies, between the personal time of a time traveller and the external time of the Universe.

In conclusion to his lectures, Lewis set himself the task to sort out the different respects in which a time traveller can and can't change the past, discussing, *inter alia*, the possibility of a time traveller effecting changes in a branching universe

and resolving the 'Grandfather Paradox'. To resolve the paradox Lewis appealed to what he describes as 'the hidden relativity of modals like "can" '. Here the influence of Quine is evident once more. Lewis relied upon Quine's view that our use of the subjunctive conditional is relative to the conversational purpose in hand. But Lewis developed this view and applied it in ways that Quine hadn't envisaged.

Here's how Lewis understood the Grandfather Paradox. Oscar decides to travel back to the time of his grandfather's childhood and kill him. We know in advance that Oscar must fail because otherwise, Lewis tells us, there'd be no father of Oscar, so no Oscar to travel back to kill his grandfather. But, on the other hand, Oscar, let us suppose, has a loaded rifle, he's an excellent shot, etc. So there's nothing to stop him. This means we have reason to endorse the apparently contradictory pair,

1. If Oscar had tried to kill his grandfather, he would have failed.
2. If Oscar had tried to kill his grandfather, he would have succeeded.

To resolve this paradox, Lewis compared (1) and (2) with the following pair of examples from *Word & Object*.

(Q1) If Caesar were in command, he would use the atom bomb.
(Q2) If Caesar were in command, he would use catapults.

In *Word & Object*, Quine had used this latter pair to make the point that,

> The subjunctive conditional depends [...] on a dramatic projection: we feign belief in the antecedent and see how convincing we find the consequent. What traits of the real world to suppose preserved in the feigned world of the contrary-to-fact antecedent can be guessed only from a sympathetic sense of the fabulist's likely purpose in spinning his fable. (1960: §46)

As Lewis explained the point here in his own favoured terms,

> The choice between (Q1) and (Q2) is the choice between two sorts of candidates for the nearest world in which Caesar was in command: those in which the commander is a Caesar brought up to date and those in which the commander is a Caesar not brought up to date. The first sort are more like our world in some respects; the second sort are more like it in others; which we choose as more similar overall will partly be a matter of the relative importance of respects of comparison determined by a conversational context, and partly a matter for arbitrary choices.

Once we appreciate that (Q1) and (Q2) envisage quite different circumstances, we appreciate that there is no conflict between them. Similarly Lewis argued, there

is no contradiction between (1) and (2) because the circumstances they envisage are different, despite the superficial similarity of their antecedents. In the former case we envisage circumstances in which it is held fixed that Oscar's grandfather begat Oscar's father who begat Oscar, whereas in the latter case we envisage circumstances in which it is only the fact that someone with good shooting skills is pointing a rifle at someone else within range which is held fixed. Lewis in fact went further and argued that the view that modals like 'can' have a hidden relativity provides the basis for a compatibilist or soft deterministic solution to the problem of freedom of the will, the solution being, roughly speaking, that the sense in which we couldn't have done otherwise is different from the sense in which we could.

Lewis didn't publish his Gavin David Young Lectures upon his return from the Antipodes because he was immediately occupied with revisions to the draft of *Counterfactuals* and writing up a fuller version of his counterfactual theory of causation to which he'd appealed in the lectures. The result was 'Causation', which appeared in *The Journal of Philosophy* in 1973. Lewis also taught a course on time travel in Princeton, further developing his views on backward causation and the notion of personal time, writing to Smart,

> The G.D.Y. book has neither been written nor been given up. I gave a course on time travel this past term which solidified my ideas further, especially on backward causation and on the difference between personal or proper time along a particular dimension (good) and a 'hypertime' second time dimension, as in passage theories (bad!). (Lewis to Smart, 22nd December 1972)

By 1976 Lewis realized he had neither time enough nor energy to complete the project so he published 'The Paradoxes of Time Travel' (1976a) in *American Philosophical Quarterly*, a paper which he described as a summary of his Gavin David Young Lectures but which included the refinements from his Princeton course. Developments or reactions to ideas from the lectures, concerning, for example, personal identity and freedom of the will, also found their way into other subsequent publications.[8]

But Lewis never again assembled together the pieces of his metaphysics quite as he had done in 1971 and he resisted later efforts to persuade him to do so; he became intellectually disinclined towards representing his thought as arising from one metaphysical system. When, almost thirty years later, Lewis was encouraged to write a book outlining his metaphysics, Lewis replied.

> I do not approve of the tendency to see my work as one great Germanic system, with every bit depending on every other. I think of myself as having had things to

[8] Including Lewis's 'Survival and Identity' (1976) and 'Are We Free to Break the Laws?' (1981).

> say about several independent questions, both within and outside metaphysics. Sometimes my views on one thing depend on my views about something else; often not. So a book presenting the alleged system would give exactly the wrong impression. (Lewis to Sturgeon, 18th April 2000)

Part of Lewis's concern was to avoid a situation arising in which one of his ideas might be profitably utilized to address a given problem but the idea in question was nevertheless set aside by those seeking a resolution because they thought they had to buy into all of his other ideas to use this one and weren't sure about taking on all the rest. But whether Lewis was right to think it unwise to stitch together his views, insofar as he could, is another matter—because subsequent discussion has shown that it isn't always clear which views of Lewis's depend on others and which do not, or how exactly they fit together.[9]

In light of how extraordinarily productive these few years had been, the years which had taken Lewis from Harvard to Princeton, one could hardly expect to discover the fruits of yet more industry on his part. But that is exactly what we do find, the second manuscript included here, *Confirmation Theory*, which Lewis wrote in 1969 and originally intended to publish as a book.

Lewis (recall) took up a post at UCLA in 1966. At this point the Vietnam War impinged upon Lewis's life, when he was called up for military service. Donald Kalish, who as chair of the department would support Angela Davis, supported David Lewis too. Kalish wrote on Lewis's behalf to Local Board No. 72 of Lorain County, Ohio, to request that Lewis be excused from the draft. Both Reichenbach and Carnap had taught philosophy of science at UCLA but Reichenbach had died in 1953 and Carnap had become an emeritus professor in 1962. Kalish explained to the Board that UCLA had been looking for several years for a young philosopher to follow in the tradition of Carnap and the late Hans Reichenbach, and that Lewis had been appointed to fulfil this role. Kalish urged that Lewis could provide an invaluable service to his country during wartime by training students in logic and the philosophy of science. Lewis was excused from military service. No doubt Carnap would have approved as an opponent of the Vietnam War himself—Carnap due to ill health was unable to travel but he helped pay for Kalish and others to attend the march on the Pentagon in 1967. And Carnap would have been pleased that the tradition of Carnap and Reichenbach was to be continued at UCLA.

In fact Kalish did put Lewis to work teaching logic and philosophy of science in the tradition of Carnap—although it shouldn't be forgotten that Carnap was still an active member of the philosophical community in the late 1960s when Lewis

[9] For an example of a case where Lewis didn't specify how his views fitted together, and further interpretive work is needed, see the discussion of reference magnetism, global descriptivism, and convention-based semantics in Janssen-Lauret and MacBride (2020a).

arrived at UCLA. Indeed sometimes Lewis described where he and Stephanie lived in relation to Carnap: 'We're halfway up Beverly Glen—near (but not walking distance) to U.C.L.A and to Carnap's' (Lewis to Jeffrey, 18th January 1969). Carnap died in 1970.

Teaching based on Carnap's work would hardly have seemed an alien imposition to the young Lewis. Carnap was very much a presence and a key influence in Lewis's early writings. He had already taken an interest in Carnap as a graduate student at Harvard, writing a term paper comparing Carnap and Bolzano on probability. Lewis (recall) had also taken a graduate course with Goodman at Brandeis on *The Structure of Appearance* (Goodman 1951), a work which centrally includes a detailed study and critique of Carnap's *Aufbau* (1928). Lewis was provoked to write a paper entitled 'Policing the *Aufbau*', completed in April 1967 but not published until 1969, defending Carnap's *Aufbau* from some of Goodman's criticisms. It so happened that Kalish admired Lewis's paper—except for its title, because his anti-war activism had made him wary of 'Policing'. Lewis had also taken on board key elements of Carnap's views on theoretical terms (Carnap 1963) while working on 'Psychophysical and Theoretical Identification' and 'How to Define Theoretical Terms', in particular Carnap's view that each theory has an analytic component which determines the meaning of its theoretical terms. Lewis's 'General Semantics' also bears the Carnap imprint. Lewis declared that paper to be in 'the tradition of referential, or model theoretic semantics' due, among others, to 'Carnap (in his later works)' (Lewis 1970: 19). In fact Lewis was to continue to regard Carnap as belonging to his intellectual ancestry throughout his career, not least with regard to his metaphysics (Lewis, 'Acceptance Speech for the Behrman Prize', (21), this volume; MacBride 2021).

In 1967 Lewis had begun work on Carnap's inductive logic. He undertook a close study of Carnap's *The Continuum of Inductive Methods* (1952) in which Carnap had determined for certain languages a continuum of inductive methods whereby degrees of belief in the hypotheses we entertain are governed by the available evidence. Carnap represented these different methods by confirmation functions satisfying certain intuitive adequacy constraints. Lewis objected that the measures which Carnap used to assess the accuracy of these preferred inductive methods were too demanding and led to unacceptable results. Lewis wrote up a paper arguing so ('Immodest Inductive Methods'), which was submitted to *Philosophy of Science* in May 1969 but not published until 1971.

Kalish now gave Lewis a graduate course on probability and inductive logic to teach. Lewis used Carnap's *Continuum of Inductive Methods* as an accompanying text. Lewis explained his reasons for focusing on Carnap's work in the following terms.

> The subject of confirmation theory is divided between a great variety of approaches; it seems to me that Carnap's approach has had more success than

> the others in appropriating what is good in the competing approaches. It seems to me also that almost any unified theory is to be preferred to a chaos of new beginnings. (*Confirmation Theory*, preface)

During the spring term of 1969 Lewis compiled notes for the course until, by June 1969, they had the appearance of a book.

Lewis had published *Convention* with Harvard University Press. So he sent the manuscript included here to them in July 1969. The same day Lewis sent off the manuscript, Lewis wrote to his friend Richard Jeffrey to ask for advice about the proposed book—Jeffrey was, of course, well-known as the author of *The Logic of Decision* (1965) but he'd also written a respected text book *Formal Logic: Its Scope and Limits* (1967). 'I seek advice from an old hand in the textbook trade. Is there a market, do you suppose, for a book I have just written much of (in the form of handouts for a graduate course) as follows: a short introduction to Carnap-Hintikka confirmation theory?' (Lewis to Jeffrey, 17th July 1969).

Lewis provided Jeffrey with the following list of contents for the book he envisaged,

0 Intensional Semantics

1 Probability Measures
(Uninterpreted mathematical theory)

2 Rational Belief: Statics
(Notion of degree of belief; coherence and strict coherence theorems)

3 Rational Belief: Kinematics
(Conditionalization and your generalized conditionalization; a coherence argument for conditionalization)

4 Scientific Method
(A long chapter, not yet written. Sampling examples; enumerative and eliminative induction; de Finetti reduction of objective probabilities; Grue, Ravens, Epistemic utilities and acceptance rules; comparison with wrong thinking statistical inference—if I ever learn any. All of these rather briefly.)

5 Principles of Indifference
(The traditional principle of indifference; Mϕ, M*, M§, and M?, the last two of these being Hintikka's first two constituent-indifference systems.)

6 Carnap's λ-System: One Family

7 Carnap's λ-System: Many families
(Short chapter, not yet written; might not go beyond what's in Carnap & Stegmüller)

8 Hintikka's λ-$\langle$ insert symbol $\rangle$ System
(Presented in a slightly different way than Hintikka does: take Mλ and raise the

constituents to desired measure by generalized conditionalization.)
Maybe a ninth chapter on relations, if I can find anything to say about them. Maybe split up chapter 4 and move it to the end. (Lewis to Jeffrey, 17th July 1969)

Lewis added the following gloss,

> A minimum of decision-theoretic foundations, though maybe more than Carnap usually gives. Not a lot of clutter with estimate-functions, qualitative and comparative confirmation predicates, relevance measures, and such. Mathematically self-contained, with proofs for the major theorems; but the mathematics is kept down to hairy high-school algebra by not going to the limit of an infinite universe. Not much comparison with other brands: Hempel, Popper, Reichenbach, etc. Nothing about and-what-is-the-relevance-of-this-to-philosophy-and-modern-man. Merely a single, self-contained source for some technical stuff that's now scattered around in a dozen papers, some hard to get, some hard to read, all in diverse styles. (Lewis to Jeffrey, 17th July 1969)

Lewis situated the book for Jeffrey in relation to Carnap's other works as follows,

> It's pitched at the reader who might otherwise read a University Microfilms copy of *Continuum*; indeed, I assigned *Continuum* as the text in my course. However, it covers improvements and additions to the subjects since *Continuum*; I think it's mathematically less cluttered yet more self-contained; and it's more Bayesian—pretty much in the spirit of 'The Aim'. (Lewis to Jeffrey, 17th July 1969)

Lewis is referring here to Carnap's 'The Aim of Inductive Logic' (1966). Lewis also raised a worry about overlap with Carnap's 'A Basic System of Inductive Logic'. Carnap had originally planned to complete this work in 1961 but it only appeared posthumously in two parts in 1971 and 1980. Drafts were circulated in the 1960s. In his letter to Jeffrey, Lewis describes this two-part work as a book. 'I wouldn't want to be competing with, or trying to scoop, the "Basic System" book. The overlap's not too bad, but enough to worry about. I take that book to cover much less much more thoroughly—not more rigorously, but in greater detail' (Lewis to Jeffrey, 17th July 1969). Jeffrey quickly replied, expressing enthusiasm for the book Lewis proposed. He thought it should be used widely and he would make use of it in his own course at Princeton. He was especially interested in Lewis's exposition of Hintikka. He didn't think that there was any risk of competing with Carnap's work because 'Basic System' was intended for aficionados rather than as a textbook.

Lewis also soon heard back from Harvard University Press. They were interested in the book and Lewis resolved to return to complete the manuscript next time he taught the course, which he expected to be the next fall. But he accepted a job offer from Princeton, spending his first year on sabbatical in Oxford in 1970–1. He gave

the confirmation course again in Princeton in 1972 but by then other interests had taken centre stage. He concentrated in the short term, as we have seen, on developing his views of counterfactuals and causation. Nevertheless, as Jeffrey appreciated, *Confirmation Theory* was an insightful discussion of the technical topics it treats, technical topics very much still with us today.

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References

Carnap, Rudolf 1952: *The Continuum of Inductive Methods*. Chicago: Chicago University Press.

Carnap, Rudolf 1962: 'The Aim of Inductive Logic', in E. Nagel, P. Suppes, and A. Tarski (eds.), *Logic, Methodology and Philosophy of Science*. Stanford, CA: Stanford University Press, 303–18.

Carnap, Rudolf 1963: 'Replies and Systematic Expositions: Carl G. Hempel on Scientific Theories', in P. A. Schilpp (ed.), *The Philosophy of Rudolf Carnap*. La Salle, IL: Open Court, 958–66.

Carnap, Rudolf 1971: 'A Basic System of Inductive Logic, Part I', in R. Carnap and R. Jeffrey (eds.), *Studies in Inductive Logic and Probability: Volume I*. Berkeley, CA: University of California Press, 303–18.

Carnap, Rudolf 1980: 'A Basic System of Inductive Logic, Part II', in R. Jeffrey (ed.), *Studies in Inductive Logic and Probability: Volume 2*. Berkeley: University of California Press, 7–156.

Carnap, Rudolf and Richard Jeffrey (eds.) 1971: *Studies in Inductive Logic and Probability: Volume I*. Berkeley, CA: University of California Press.

Goodman, Nelson 1951: *The Structure of Appearance*. Cambridge MA: Harvard University Press.

Janssen-Lauret, Frederique 2017: 'The Quinean Roots of Lewis's Humeanism', *The Monist*, 100(2), 249–65.

Janssen-Lauret, Frederique and Fraser MacBride 2018: 'David Lewis's Place in the History of Late Analytic Philosophy: His Conservative and Liberal Methodology', *Philosophical Inquiries*, 5, 1–22.

Janssen-Lauret, Frederique and Fraser MacBride 2020a: 'Lewis's Global Descriptivism and Reference Magnetism', *Australasian Journal of Philosophy* 98(1), 192–8.

Janssen-Lauret, Frederique and Fraser MacBride 2020b: 'W.V. Quine and David Lewis: Structural (Epistemological) Humility', in F. Janssen-Lauret (ed.), *Quine: Structure and Ontology*. Oxford: Oxford University Press, 27–55.

Jeffrey, Richard 1965: *The Logic of Decision*. New York: McGraw Hill.

Jeffrey, Richard 1967: *Formal Logic: Its Scope and Limits*. New York: McGraw Hill.

Jeffrey, Richard (ed.) 1980: *Studies in Inductive Logic and Probability: Volume 2* (Berkeley, CA: University of California Press).

Kripke, S. 1972: 'Naming and Necessity', in D. Davidson and G. Harman (eds.), *The Semantics of Natural Language*. Dordrecht: Reidel, 253–5.

Lewis, David 1966: 'An Argument for the Identity Theory', *Journal of Philosophy*, 63, 17–25.

Lewis, David 1968: 'Counterpart Theory and Quantified Modal Logic', *Journal of Philosophy*, 65, 113–26.

Lewis, David 1969a: *Convention: A Philosophical Study*. Blackwell: Oxford.

Lewis, David 1969b: 'Policing the *Aufbau*', *Philosophical Studies*, 20, 13–17.

Lewis, David 1970: 'How To Define Theoretical Terms', *Journal of Philosophy*, 67, 427–46.

Lewis, David 1971: 'Immodest Inductive Methods', *Philosophy of Science*, 38, 54–63.

Lewis, David 1972: 'Psychophysical and Theoretical Identifications', *Australasian Journal of Philosophy*, 50, 249–58.

Lewis, David 1973a: *Counterfactuals*. Blackwell: Oxford.

Lewis, David 1973b: 'Causation', *Journal of Philosophy*, 70, 556–67.

Lewis, David 1975: 'Language and Languages', in K. Gunderson (ed.), *Minnesota Studies in the Philosophy of Science*. Minneapolis, MN: University of Minnesota Press, 3–35.

Lewis, David 1976a: 'The Paradoxes of Time Travel', *American Philosophical Quarterly*, 13, 145–52.

Lewis, David 1976b: 'Survival and Identity', in A.O. Rorty (ed.), *The Identities of Persons*. Berkeley, CA: University of California Press, 17–40.

Lewis, David 1981: 'Are We Free to Break the Laws?', *Theoria*, 47, 113–21.

Lewis, David 1995: 'Should a Materialist Believe in Qualia?', *Australasian Journal of Philosophy*, 73, 140–4.

Lewis, S. 2015: 'Intellectual Biography of David Lewis (1941–2001): Early Influences,' in B. Loewer and J. Schaffer (eds.), *A Companion to David Lewis* (Chichester: Wiley Blackwell), 3–14.

MacBride, Fraser 2021: 'Rudolf Carnap and David Lewis on Metaphysics: A Question of Historical Ancestry', *Journal for the History of Analytical Philosophy*, 9(1), 1–14.

Putnam, Hilary 1962: 'It Ain't Necessarily So' *Journal of Philosophy* 59, 658–671.

Quine, W. V. 1953. *From a Logical Point of View*. Harvard University Press.

Quine, W. V. 1960. *Word & Object*. Cambridge, MA: MIT Press.

Smart, J.J.C. 1963: 'Is Time Travel Possible?' *Journal of Philosophy* 60, 237–241.

Stalnaker, Robert 1968: 'A Theory of Conditionals', in N. Rescher (ed.), *Studies in Logical Theory*, American Philosophical Quarterly Monographs 2. Oxford: Blackwell, 98–112.

Williams, D. C. 1951: 'The Myth of Passage', *Journal of Philosophy*, 48, 457–72.

Williams, D. C. 1966: *Principles of Empirical Realism: Philosophical Essays*. Springfield, IL: Charles C. Thomas.