Unconditionals

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J.L. Austin drew attention to a class of indicative conditionals whose most obvious characteristic is that their affirmative utterance commits the speaker to unconditional affirmation of their consequent. This is what makes them unconditional conditionals, or simply: unconditionals.

They still pose a puzzle and I will show that its solution is implied by a hypothesis about the nature of assertion in general, and of indicative conditionals in particular. The hypothesis conservatively extends a familiar theory: the Construal of Conditionals by Conditional Probability (CCCP). It comes in a pair of composite and interdependent norms of imputation whose brief, summary statements are:

(KN. Knowledge Norm): The speaker who affirms a proposition, A, is ostensibly certain of A and ostensibly intends—and in the prototypical case where affirmation is assertion: demands—that A become a common certainty betweeen speaker and addressee.

(RN. Relevance Norm): Affirmations are ostensibly made to a point that is not exhausted by (KN), and whatever ostensible evidential obligations of warrant attach to the affirmer vary in accordance with it, as does assignment of speech-act subtype.

In virtue of (KN.), the hypothesis implies what I shall call 'Confident CCCP', i.e. CCCP with no room for diffidence on assertion. This probabilistic variation on H.P. Grice's and Robert Stalnaker's idea that assertion aims to establish 'common ground' is to explicate a description of affirmation, due in essence to Max Black and Peter Unger and in line with similar tenets of G.E. Moore and Gerald Gazdar:

[RK]: 'Affirmers of A represent themselves as knowing A.'

The probabilistic theory explains more detail on unconditionals and other language phenomena than extant alternatives. It does so, for one, because it affords an explication of epistemic and, by decision-theoretic

extension, boulomaic relevance. But to work as it does, it also requires that assertions have personal (conditional) probability 1, to be reflected in turn into a transpersonal common ground with a relevance structure. It is the certainty requirement which also affords truth-conditions for assertions, if this is what one intuits them as having. The claim will be that the certainty requirement and the imperatival structure of assertion so conceived jointly explicate a pragmatic—subjective and intersubjective—concept of knowledge or projection of the concept that makes no direct appeal to the transcendent notion of truth.

The representationist format answers to the fact that we often do assert things that we could not *secunda facie* have been certain about or whatever else it takes to know them. It will do so as inexpensively as the deontic format of norms such as 'To assert A, one must know A' (Williamson 1996) or 'To assert A, one should hold A rationally credible' (Douven 2006). For surely: the concept of being-obliged-to is no simpler than that of appearing-to or respresenting-oneself-as, and norms are frequently stated without the use of deontic modal terms, so in statute law.

I substitute 'affirm' for the traditional term 'assert' because Norm RN, in particular, will be seen to reflect in speech act distinctions which are colloquially and juridically made between assertions (or claims) and admissions (or concessions). If so, a neutral term is wanted.

The difference between assertion and affirmation is engaged in a description of unconditionals offered by Keith DeRose and Richard Grandy (1999). They aim to explain the phenomenological unconditionality of the unconditional's consequent by appeal to a pair of theses: (a) the familiar if controversial thesis that apparently assertoric utterance of a conditional performs a conditional act of assertion, not the assertion of a conditional proposition and (b) the thesis that assertion implicates both (i) speaker's knowledge or credence and (ii) conversational relevance of what is asserted. I show that (b) could be explicated narrowly and ad hoc to unconditionals so as to verify for them a modified version of (a). However, any known version of CCCP, if true, will falsify unmodified (a) for all indicative conditionals. This counsels abandoning (a) altogether.

I proceed as follows: Section 2 outlines the phenomenology of Austin's unconditionals and reviews the literature. Sections 3 to 5 develop a doctrine of affirmation, assertion and of indicative conditionals. They contrast related theories and fully state Norms KN and RN. Section 6 applies the doctrine to Austin's unconditionals. Section 7 compares Hans Rott's 1986 definition of an 'abstract unconditional'. It then applies the theory of Sections 3–6 to other real life unconditionals. These include the 'even-

if' conditional, dubbed 'semifactual' by Nelson Goodman, and Austin's point of departure, an issue between him and G.E. Moore. Section 8 examines DeRose and Grandy's proposal in detail. Section 9 concludes on knowledge, the semifactual of acceptance, and norms of assertion.

It may be felt that much of the discussion below is unnecessarily tedious in its use of formalism and phenomenological detail. However, if there is a methodological claim to this essay, it will be a repeat of claims transiently made in the 1970s, namely that there comes a point in the philosophy of language when this particular variety of tedium makes all the difference between knowledge and false belief.

Austin himself concludes 'Ifs and Cans' with a guarded prophecy that philosophy might let go all pretensions to knowledge that smack of language science. If so, yet another part of philosophy would have to be kicked upstairs to the board of supervisors, as had happened before by courtesy of mathematics and physics. But of course, such a promotion should, this time, have to imply philosophy (minus philosophy of science) outsourcing its remaining evidential base and quite literally taking a dim view of it. Austin cannot really have been more than half-serious.

1   Characteristics and Theories of Unconditionals

Call 'unconditionals' indicative conditional sentences of which the prototype is

(1)   There are biscuits on the sideboard, if you want some.[1]

Like other conditionals, unconditionals come in two basic syntactic forms, '*C, if A*' [$C<A$] and '*If A, C*' [$A>C$]. Austin and in parts already the respondents to '*Analysis* Problem 1' of 1951/52[2] observed four characteristic properties of unconditionals and of their assertions: (a.1) C is asserted outright; (a.2.) contraposition fails; (a.3.) A does not cause or intuitively entail C; (a.4) A raises a question which may be 'relevant in various ways'. Chisholm (1964) adds a fifth observation, (nt), that C in "non-conditional if-sentences" must not be headed by 'then', as it can be

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[1]The original version of (1), '*There are biscuits on the sideboard if you want them*' is in Austin (1956) and may have been optimized by Nuel Belnap (1970) to near its current canonical form. I thought I had invented the title appellation in 1999, but later discovered Hans Rott's (1986) abstract 'universal unconditional' (see Section 7).

[2]In *Analysis* 12.2 of 1951 at p. 49, Austin had asked: "What sort of 'if' is the 'if' in 'I can, *if* I choose'?". Austin (1952) reported 15 entries. The four he judged best were printed; one of them, from London, under the pseudonym 'Cuckoo'. Austin summarized suggestions by anonymous runners-up, referenced here under 'Anonymus'.

in ordinary condiionals—dub them 'consequential' conditionals—'If A, (then) C'.[3]

Austin concluded that the 'if' of unconditionals was not an 'if' of cause or entailment, but of doubt or hesitation. The conclusion was expounded as subsidiary to an issue with G.E. Moore[4] that hinged on Moore expounding '*I could have walked a mile in 20 minutes this morning*' as '*I could have, if I had chosen*' or '*I should have, if I had chosen*'. Moore did not explain the ambiguity; Austin worried, but didn't either. He argued that the indicative forms offer a parallel argument and that (1) set the paradigm for a negative answer on causal condition.

The subsequent literature on unconditionals focussed on the sideshow, (1).[5] Some scholars, including Chisholm, have sided with Austin on (1), and the suggestion by Anonymus (1952), that the truth table of this 'if' be considered, might suggest a truth-table for plain C, and thus (a.1). However, others deny that (1) engages a sense of 'if' which lacks the property of being a condition. One way to reconcile conflicting opinion and suggest the spin to be given to a rigorous treatment is by contrast to a simple thesis about common garden variety indicative conditionals, i.e. 'consequential conditionals'. The assertor of a consequential conditional $A{>}C$, e.g. '*If the Fed lowers the prime rate, the Dow will rise*' presents the antecedent A as being a sufficient reason for the consequent C, at any rate within his or her current terms of epistemic reference. The unconditional allows this composite relation to come apart: the antecedent is sufficient for the consequent, C, and is a reason for a proposition, H, which is not a logical function of A or C. The difference between my proposal and earlier theories will hinge on the terms 'sufficient' and 'reason'.

A hidden proposition is diagnosed by Brian Ellis (1952), G.M. Matthews (1952), C.H. Wheatley (1963), and Robert Fogelin (1972). In line with a gloss perhaps too hastily dismissed by Austin,[6] they see A as a condition, not on C, but on some tacit intimated proposition, label it H. In (1) or similar cases, Fogelin sees H as permissive. Exam-

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[3]In German, the C-clause of consequential $A{>}C$ must undergo internal syntactic inversion. For unconditionals, '*dann*' ('then') and inversion are both prohibited.

[4]Who had maintained, in order to reconcile ideas of free will and determinism, that there was an intuitive concept of agent ability for which agent's choice was a causal condition. The argument rested on intuitions about things we might say.

[5]Infer from Austin (1956) and Section 7 below some likely reasons why.

[6]"There are biscuits on the sideboard *which you can (or may) take* if you want them" (Austin 1956:[160], his emphasis). Austin thought it led back to 'can if you like'.

ple: '*If you are hungry, there are biscuits on the sideboard*' is expounded '*There are biscuits on the sideboard, so (you may) have some if you are hungry*'. The condition would be rather more apparent for $A = $ '*you promise to return them*', and so weak as to be almost no condition at all, i.e. appearing nugatory, in the original (1).[7]

The diagnosis of a hidden variable is, I think, correct.[8] However, while '*C, and so, for some H, H if A*' looks like expanding '*C if A*', the impression is lost for '*If A, C*', e.g. '*If you are hungry, there are biscuits on the sideboard*', which is also an unconditional. Moreover, Fogelin's putatively crucial 'so' is unexplained and no account is taken of hearers' epistemic position. How they know that C is asserted is likewise left unexplained. This lacuna persists in the literature. When B.H. Slater (1996) reminds readers that C entails $A \rightarrow C$, which thereby renders unconditional 'ifs' nicely, this problem is not part of the brief.

The importance of credal or information states had indeed transpired from an exchange between Timothy Stroup (1968) and C.F.J. Williams (1971), but was not apparently pursued. Stroup observes that a census taker uttering '*You are Mr Smith, if I am at the right house*' may receive a reply '*I am Mr Smith, whether you are at the right house or not*'. This satisfies criterion (a.1), yet the census taker might also say '*If you are not Mr Smith, then I am not at the right house*', and thus feature (a.2) is absent. Stroup concludes that Austin's 'if' is MC and remains agnostic on (a.3). Williams objects that Austin's corresponding pair could be uttered by the same person, so Stroup has not shown reducibility to MC. I should comment that differences in credal states are seen to be material to the puzzle and that *a priori* they might be interpersonal, intertemporal, or both (see Sections 3 and 4 below).

Phil Johnson-Laird (1986:69f.) sees A not as a condition at all, but as intimating someone's attitudinal state, say a need, wanting, feeling etc. The C-clause is to supply information useful to such a person. He concludes that A "merely stipulates the relevance of the information conveyed by" C. This retreats from Wheatley's and Fogelin's commitment,

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[7]Wheatley does without the 'so' and does not envisage grades of conditionality, Matthews sticks to 'can' and more generally sees A as a condition for testing the disposition expressed by 'can'.

[8]Fogelin (1967), had analyzed the coordinative schema '*A, but B*' as involving a possibly tacit conclusion, dub it H, suggested by A, but rejected in view of B. Ducrot (1973) developed the same idea more generally; see Section 5. These insights, and others on conversational implicature, were somewhat overshadowed by H.P. Grice's charismatic presence; and with them a possible realization that they addressed the central white spot on Grice's pragmatic map, the terse maxim, 'Be relevant!'

prudently so, and the listing displays a novel insight: Austin's unconditional crucially involves appeal to someone's extra-doxastic attitudes, to wit, desires.

A fundamental shift in claim and argumentation is due to Keith DeRose and Richard Grandy (1999). Seemingly in line with another gloss of Austin's,[9] they maintain that A is a condition, but identify it as a condition for the conversational relevance of C, not for its truth or credibility. They thereby aim to explain (a.1), and within a much more general theory of assertion and of conditionals. In development of Grice (1989), they propose that a relevance claim is part of an assertion no less than is a truth claim. The A-clause suspends this claim for C in unconditionals as it suspends, in other conditionals, a truth claim for C. In each case, assertion of the conditional is a conditional act of assertion.

Label their thesis about unconditionals CR. Then compare an almost self-evident observation, namely that A plays a role in determining the point of asserting C. CR is more specific, it does make A a condition of sorts on C, and it articulates with a new, sharp-featured explanandum that gives it bite. But what the putative explanans means is not yet obvious. Conditions can, after all, be necessary, sufficient, contributory, etc. Furthermore, 'conversational relevance' is wide open to interpretation. To be a verifiable or falsifiable hypothesis, CR still wants sharpening further than its developers have seen a need for. Hence, I will precede a detailed discussion with my own, very different proposal. This will provide terms for comparing explications of CR.

For now, note that DeRose and Grandy stay silent on (a.2), as did Wheatley and Fogelin who will have thought too obvious to need mention that their proposals account for (a.2). Their price is high, though, namely a direct construal of '$A{>}C$' as '$C \gg (A{>}H)$' or '$\exists H[C \gg (A{>}H)]$' where '$\gg$' = 'and so' or a similar relator. The other proposals mentioned[10] do not purport to explain (a.2) and leave much else to the imagination. Unconditionals have thus remained a puzzle ever since Austin put them on the agenda in 1951. The puzzle is solved, I think, once a very specific stance is taken on the meaning of indicative conditionals in general.

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[9] "I do not know whether you want biscuits or not, but in case you do, I point out that there are some on the sideboard" (Austin (1956:[160]).

[10] Add Geis and Lycan (1993), who survey many related forms, and Lycan (2001), who varies Austin's gloss of note 9: A is seen as 'metalinguistic' in expressing the reasons for uttering C. Lycan also assimilates unconditionals to conditionals whose consequent is highly probable and who are said to be assertible on that count alone.

2 Probability Conditionals

I begin with one version of a familiar thesis on conditionals which is not, on its strictest, traditional reading, implied by the high probability doctrine, but which appears right to me on just that reading:

> [Sufficient Reason] The assertor of a consequential conditional $A{>}C$ routinely presents the antecedent A as a sufficient reason for the consequent C.

The critical terms are 'presents', 'sufficient' and 'reason'. I discuss presenting later. For sufficiency and reason, the framework of explication will be probability calculus, which conservatively extends classical logic. Credal states are represented by probability measures P, with $P(A) = 1$ representing certainty or full belief.[11] A necessary condition for A to be held to be sufficient for C is that $P(A \rightarrow C) = 1$, where '$\rightarrow$' is the material conditional (MC), $\overline{A} \vee C$. This still admits vacuous sufficiency by *ex falso quodlibet*. A more relevant implicational fragment of intuitive reasoning is then explicated by recognizing $P(C|A) = 1$, which holds iff $P(A \rightarrow C) = 1 > P(\overline{A})$ holds, as a necessary and sufficient condition of inferential sufficiency.

A widely used explicatum of A being a reason for C is the relation of positive stochastic dependence. This is also referred to as positive evidential relevance when the relation is one of providing a purely doxastic reason. Recall that A and C are positive(ly relevant) to one another under a probability measure P iff $P(AB) > P(A)P(B)$ i.e. iff $P(B|A) > P(B)$, $P(A|B) > P(A)$. Being-a-reason-for thereby covers those cases, too, where A is neither sufficient nor necessary for C. A will be a sufficient reason for C in context P iff $P(C) < P(C|A) = 1$. In Carnap's (1950) terms, A will then be 'extremely positive' to C.[12]

When extra-doxastic preferences or values are also admitted and reasons become properly reasons for action, I speak of relevance more generally. I do so in terms of changes in expectations, that is, of expected values that may not just be probabilities (expected truth values) but rather values which could also have a desiderative, valuational component. This will be addressed in Section 5.

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[11]Here P is always the representative of a whole set of probability measures. See Section 4.

[12] I state the bare condition $P(C|A) = 1$, with Ernest Adams, as 'A P-entails C'. **Fact**: If $P(A \rightarrow C) = 1$ and $P(\overline{A}), P(C) < 1$, A must be positive to C. It needn't be when $P(A \rightarrow C) < 1$. Proof: Merin (2002), or build on note 66 below. For the explication of negative relevance invert the relation signs; for irrelevance replace by equality and shorten the second 'iff' to 'if'.

Probability does afford a fairly general, yet far from lawless explication of the concept of a reason, be it quantitatively or qualitatively. This is a rationale for adopting probability calculus as a framework for modelling assertion, even when assertion is utterly confident.[13] Philosophers of science have long recognized this affordance of probability calculus and I believe the phenomenology of language shows that people are robustly attuned to just such ostensible relevance relations.[14] If, in practice, they assess them wrongly, they do so no more often than that they misperceive truths of fact or of simplest deductive logic. The usefulness of probability does not, then, rest merely on the assumption that assertors might be, or might represent themselves to be, less than certain of what they assert. There are many things, even propositions, which they do not assert and which they either express or entertain in non-assertoric position or intimate without as much as a mention.[15]

But, to start with, recall the received probabilistic view without assuming Sufficiency. On this view, the assertibility of a sentence S goes by its ostensible pre-theoretical doxastic probability or credibility, $\mathrm{Prob}(S)$. Proponents of this view[16] agree that $\mathrm{Prob}(S)$ must be high, i.e. not too far away from the maximal value, say 1, for certainty. However, they also assume that it may, and usually will be, less than unity.[17] In this respect, their doctrine of assertion clearly differs from Frege's (1879), which had no room for uncertainty in assertoric position. The consensus explication, which I adopt, is that $\mathrm{Prob}(S) =_{df} P(C|A)$ where S is a conditional $A{>}C$, else $\mathrm{Prob}(S) =_{df} P(S)$; P a probability measure. Call this explicative assumption, with focus on conditionals, CCCP.[18]

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[13]V.H. Dudman (1992) is right on assertor's Certainty, wrong to dismiss probability.

[14]To get an idea, compare [1] '*Kim walks {a. and/ b. but} Kim talks*'; [2] '*Kim walks {a. and/ b. but} Sandy walks*'. [2.b], pronounced normally in fluent single-speaker delivery, appears to be bad in all human languages that have a dedicated equivalent of '*but*', and is cured if and when a dedicated '*also/too*' is inserted. The explanation (Merin 1999) appeals to the distinct roles of particulars and universals in broadly enumerative induction and specifically to a theorem of Gaifman (1971) and Humburg (1971).

[15]Explicate here: a proposition X is expressed iff it is in the domain of P^j and a sentence or clause denoting X is uttered.

[16]Among them Hans Reichenbach (1954), Ernest Adams (1965) i.e. prior to 1975, David Lewis (1976), Frank Jackson (1979), Kwame Anthony Appiah (1985), and Igor Douven (2006).

[17]'High' is vague: for doxastic purposes, $\mathrm{Prob}(S) > \mathrm{Prob}(\bar{S})$ is surely mandatory, but hardly yet representative.

[18]Hàjek and Hall (1994). I should unpack CCCP to 'Construal of Conditionals by Conditional Probability' rather than suggest verbally $P(C|A) =_{df} \mathrm{Prob}(A{>}C)$.

3 Probabilistic Discourse Kinematics: First Steps

Next assume that the doxastic states represented by instances of Prob will be of at least two types: (a) ostensible states p^s of the speaker-assertor and (b) ostensible joint doxastic commitment states P^j. Take P^j to be 'Common Prior' (more on this below) which is to be updated to a Common Posterior in line with the speaker's expressed conviction. Update is subject to tacit or explicit assent by the addressee. Give or take the political aspect of ratification, the instantiation to probability constraints, and thence the kinematics of relevance relations (addressed in Section 5 below), the update model is in essence Stalnaker's (1971) proposal for assertion as being intended to modify a 'common ground' of doxastic commitments.[19]

This interpersonal, kinematic feature of assertion gives the traditional monosentential and monological approach to assertion a discursive and dialogical surround. But it does much more than that and cannot simply be abstracted from at will. For one, the viability of the update regime may impose constraints on what 'high' probability can mean. Suppose a speaker asserts $A{>}C$ on personal probability $p^s(C|A) = 1 - \delta$. Suppose the ostensible common prior, P^j is to be updated accordingly, i.e. faithfully, to a posterior $P^{j\prime}$. Presumably, $P^{j\prime}$ should satisfy $P^{j\prime}(C|A) = 1 - \delta$.

Problem 1: How is δ, which is not a robust, qualitative constraint, to be divined by addressees? This problem extends to utterances of conditional-free sentences and is perhaps manageable in the epistemic short term. To update by demanding that some atomic proposition D receive probability $P^{j\prime}(D) = 1 - \delta = \alpha \gg P^j(D)$, where $\alpha < 1$, we should use 'generalized conditioning' (Jeffrey 1965), which requires that probabilities conditional on $\pm D$ be preserved.

Problem 2: Suppose δ divined. Then $P^{j\prime}(C|A) = 1 - \delta$ will still fail to determine a uniquely specified update when $\delta > 0$, even on the basis of a uniquely specified prior. This is not benign multiplicity, because it will leave indeterminate probability relations that we should very much be interested in. It will do so much more severely than the above.[20]

Neither problem arises when the norm of assertion specifies $\delta = 0$. In Section 6, contraposition of consequential conditionals and its failure

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[19]In most essentials it is that of Ramsey (1929b:[155n1]) who clearly envisages a Common Posterior under dispute.

[20] Updating on a diffident probability conditional $A{>}C$ leaves undetermined everything save the ratio $P(AC)/P(A)$. A capsule version of the problem is that of probability conditionals with would-be probability-conditional antecedents, which imply trivialization (Lewis 1976) unless extreme indexicality is admitted. Attempts to master the update problem avow problems for belief guiding action (Adams 1994).

for unconditionals will be shown to offer independent phenomenological evidence for $\delta = 0$. Assume then further that $\text{Prob}(S)$ must not merely be high, but maximal. Assertion and more generally affirmation must be Confident, that is, $P(S) = 1$ and, for conditionals, $P(C|A) = 1$. Since $P(C|A) = 1$ entails $P(A \rightarrow C) = 1$, affirmation of $A{>}C$ will entail affirmation of $A \rightarrow C$.[21,22]

Our empirical assumption is that an assertion that is not explicitly hedged is ostensibly never short of being Confident. Confidence is a transcontextual rule of interpretation. All language users, proxied by their developed language faculty, know it and abide by it when interpreting sentences. To get the right sense of 'interpreting' recall what Geach (1965:456) observed: indicative sentences which are not embedded in non-assertoric position are understood as asserted, or at any rate as if they were.

4 Affirmative Knowledge as Committal to Commit

Probability 1 explicates certainty or full belief. However, if certainty is to be our basic attitude towards assentable assertibles, it meets an objection. Certainty, confidence, conviction, belief—any of these is a feeble epistemic attitude compared to knowing.

Material to the choice of what to call the state of Norm (KN) there will be familiar epistemological arguments for the importance of knowledge in our cognitive economy. Briefly, the credal states that we seek to live by are those which are true and non-fortuitously reliable. On any account, knowledge has both these properties. By contrast, certainty lacks at the very least the factive property.[23]

There should, accordingly, be a strong presumption in favour of knowledge being what assertors represent themselves as having. Lexical indicators confirm this presumption. To say that we are (absolutely) certain of A, or (utterly) convinced of A, or that we (firmly) believe A is, above

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[21]Stevenson (1970) may be the first source to require explicitly $P(C|A) = 1$ for assertions of $A{>}C$, though his P looks unexpectedly objectivist.

[22] Confident CCCP implies that, in the absence of auxiliary stipulations, $A{>}C$ expresses a proposition (in the domain of the relevant probability function P) if and only if $A{>}C$ is uttered in assertoric position. The hybrid theory of Lewis (1976) and Jackson (1979) has $A{>}C$ denote $A \rightarrow C$, but has its assertibility go by $P(C|A)$, which is again demanded to be be high but not necessarily unity. Embedded conditionals were Lewis's motivation, yet in English or German only the form $C{<}A$ embeds acceptably. I infer an act-independent MC denotation for this form only (Merin 2002); see also Section 7.

[23]Williamson (1996, 2000) has more detail, but also more contentious observations.

all, to represent ourselves as not knowing A. All such turns of phrase diminish the credal status of A by comparison to plain saying (i) 'A' or saying (ii) that we know that A. One might try an implicature defence for (ii), assuming either that knowing properly entails being certain or, as does Fogelin (1967) for knowing and believing, that it bespeaks stronger warrant. But this cannot work for (i) unless we feed to the implicature as an input precisely what it is supposed to help us deny; and it is (i) which is the crucial case for assertion. So (i) should tag along with (ii) if a name is to be given to it.

Now there arises a problem. Knowledge that S entails truth of S. But truth as commonly, and I think rightly, understood is a transcendent notion. Attempts at criterial reduction leave room for Moore's "open question", here: 'But is it true?'[24] Truth also takes us outside the realm of attitudes and of narrowly cognitive states. Mental states that entail truth are 'externalist' in the current, paradigmatically physicalist sense (Williamson 1996). However, it is 'internalist' states alone which can affect our individual reasoning and conduct, as distinct from affecting our mental and physical behaviour as it might be described by an onlooker. The model addressee in our models of assertion is not such an onlooker.

I should, of course, agree entirely that nondeceptive speakers intend to say what is true, not simply to get their addressees' agreement.[25] However, there is no way within the model to represent the true object of their intent. One would thus wish for a secular, profane incarnation, within the model, for the 'T'-axiom, '$K_s A \rightarrow A$', in words: 'if s knows A, then A', by which epistemic modal logic distinguishes knowledge from mere certainty.

The kinematic social decision-making framework provides for just that. It does not only impose constraints which militate for high probability sharpening to certainty. It also offers a way of representing what knowledge means within the realm of communicative conduct.

Our thesis should be that the purely doxastic, secular correlate of the 'T'-axiom is, in the case of an assertion of A, represented by what is formally if tacitly an imperative. This knowledge imperative, as one might call it, demands, intuitively speaking, that addressees adopt as a certainty, i.e. as an unhedged conviction, what the speaker is ostensibly certain of, namely A. More specifically, the demand is that they ratify the

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[24]I discuss in a companion essay relations between the imperatival projection of transcendent truth and the emotive theory (Stevenson 1937) of attribution of transcendent goodness.

[25]Least of all would I wish to defend the *consensus omnium* definition of truth.

adoption of A as a common certainty, or, if one prefers a more intuitive term, a common conviction.

By this I mean, in line with standard epistemological terminology, two things: (i) that A is to be adopted as mutual conviction, i.e. that everybody: i.e. the speaker and all addressees, be certain of A, and (ii) that this mutal conviction be itself a mutual conviction, and that mutual conviction in turn mutual conviction, and so on ad infinitum (Lewis 1969). The full common conviction assumption is a structural requirement, which means, for one, and as usual in decision theory for such requirements, that phenomenological data may bear on it more indirectly yet than data bear on other parts of theory.[26] For present empirical purposes it will thus suffice to think (a) of a temporally prior ostensible conviction of the assertor and (b) of its intended adoption into a 'slate' of joint commitments which speaker and addresee are to conform to at least in their interactive conduct.[27] In the case of just one addressee, this will mean that both speaker and addressee are to be ostensibly convinced of A.

> (KN. Knowledge Norm): The speaker who affirms a propo-
> sition, A, is ostensibly certain of A and ostensibly intends—
> and, in the prototypical case where affirmation is assertion,
> demands—that A become a common certainty betweeen speaker
> and addressee. In particular:
> (KN.1) the affirmer is ostensibly convinced of A in the sense
> of assigning unit personal probability or conditional proba-
> bility to A, and ostensibly demands, intends, or allows
> (KN.2) that the addressee become or be convinced of A,
> (KN.3) that each of them become or be certain that both are
> certain of A (and so on ad infinitum) and
> (KN.4) that common certainty extend to a joint commitment
> state of constraints on a probability space representing osten-
> sible jointly held beliefs such that the constraints need not all

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[26]Mutual and common knowledge is readably expounded in Binmore (1992), in-
cluding formulations which make no appeal to infinities, but are less intuitive. For
common certainty, see Fagin, et al. (1995). The full common conviction rule becomes
plausible once you consider what could happen if one or both of a pair of dialogue
partners were not ostensibly convinced that both were convinced. The whole basis for
coordination could unravel downwards and one could no longer speak, even informally,
of a shared conviction. The structural assumption provides against this.

[27]This goes for purely doxastic commitments. When commitments to action are
added (see Section 5 note 36) the commitment is to a joint(ly) randomized strategy. If
one adopts a dispositional view of credence, then probabilistic beliefs can be regarded
as strategies too, i.e., with Ramsey, as 'ways of meeting the future'.

take the form of unit or zero probability and conditional probability assignments.

(KN.5) Moreover, the assertoric affirmer of A is ostensibly committed to supplying evidential incentives on demand which are sufficient to convince the addressee of A.

The quintuple (KN.1)–(KN.5) is part of the best explanation I can see for the phenomenological data on unconditionals and on other indicatival expression forms. What is directly required by the data is (KN.1) and some variation on what is distributed across (KN.2), (KN.3) and (KN.4). (KN.2) and (KN.3) jointly extend (KN.1) to a standard explication of 'common ground'. Of these, (KN.3) is a structural condition underdetermined by the data and the object of (KN.2) is often, though not always, empirically conflated with common ground.

The convoluted clause (KN.4) has much empirical import. It says that the object of ostensible common certainty is to be a 'probability theory' in the sense of Ramsey (1929a), i.e. an inferentially closed set $\mathcal{T}$ of constraints on a space of probability measures. The elements of $\mathcal{T}$ are (or a representable as) equalities or inequalities whose terms are conditional or absolute probabilities. Constraints will thus not only have the form $P(D) = 1$ or $P(D) = 0$ or perhaps $P(D|E) = \alpha$, but also, e.g., the form $P(D) > 0$ or $P(D) \geq P(E)$ or $P(D|E) > P(D)$, etc.[28] When speaking of the joint commitment state as the 'Common Prior', P^j, one has in mind a representative, P^j, from the set of probability functions conforming to $\mathcal{T}$. This P^j is, with respect to $\mathcal{T}$, an 'arbitrary object' in the sense of Kit Fine (1985). Any and all of its properties are determined by $\mathcal{T}$ and the axioms for probability calculus.[29]

(KN.5) is the warrant or supply side to an assertoric demand, just as an ordinary imperatival demand to perform some action comes with a tacit or explicit incentive to compliance. The commitment in this clause is the commitment of a proponent in a bargaining or ultimatum situation to perform an act upon disagreement: here to supply evidence if evidence is like a stick, or alternatively to withhold it, if it is like a carrot. (KN.5) is evidenced by phenomenological data attendant upon addressee queries or demurrals or volunteered explanations. It may also be understood, as it were by re-projection, as part of what would make (KN.1) reasoned,

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[28] $\mathcal{T}$ can thus represent, as presupposed, doxastic conditions of the kind which Frege (1879) already noted for the assertibility of ordinary language 'If A, then C', and a subset of which indeed entails, under a probability explication, $P(C) < P(C|A) = 1$.

[29] For the set of Ps, or for the representative, Richard Jeffrey (1992) came up with the illuminating name 'probasition', a term better to remember than to pronounce. Think of the set as a set of possible minds to be in.

accountable certainty, certainty with a tale or *logos*, rather than just dispositional Bayes-coherent certainty. Indeed, it is (KN.1), so construed, which differentiates assertion from command when the theoretician cannot or does not wish to rely for the difference on apparent direction of fit, i.e. G.E.M. Anscombe's and J.R. Searle's 'word-to-world' vs. 'world-to-word' distinction.

I can think of no brief unambiguous description that better fits this package than [RK']: 'Affirmers of A, and in particular assertors of A, represent themselves as knowing A'.[30] Hence I refer to the quintuple as the Knowledge Norm.[31]

Here is why, in detail. Condition (KN.1) requires ostensible speaker certainty. It would thus already warrant the description 'affirmers of A represent themselves as being duly—here: Bayes-rationally—certain of A'. A description of like salience is now wanted for (KN.1) augmented by the imperatival, dynamic residue. This residue consists of condition (KN.4); of the structural condition (KN.2), which reflects our naive intuitions about the import of (KN.4); of the structural condition (KN.3), which links (KN.1), (KN.2) and (KN.4) and which is also required to ensure stability of joint commitment under discourse participants' reflection; and, finally, of (KN.5), the assertoric warrant or incentive for doxastic compliance.

Warrant is what scientists and lawyers are rightly keen about, but in daily practice it need emerge from the assertor's wallett only when the addressee does not walk along on docile trust. Even then, the descriptive epistemologist cannot rule out as evidential warrant smooth talk, nor the last thing which epistemology should wish to admit as warrant: the statement 'I just know'. This is one further reason for putting (KN.5) last.[32]

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[30] Qualification: In many, but not all cases of assent we should instead merely say: 'assentors to A represent themselves as believing A'. This is a longer story.

[31] Label and form of presentation follow an assessment by François Recanati (1987:183) endorsed by Williamson (1996:[267n15]): "It is a part of our prototype of assertion that if someone asserts that p, he knows that p and wishes the hearer to share his knowledge". Prototypes of complex kinds have a knack of being complex.

[32] This reason is co-extensive with the difficulty that Williamson (1996:[258n10]) sees in Robert Brandom's (1983, 1994) justification-based account of assertion. Ways and means apart, the present proposal differs from Brandom's by (i) its ostensibilist hedge, (ii) the concomitant retention of a transcendent, extra-consensual notion of truth, and (iii) a focus on the assertor's arrogated authority over the addressee rather than merely on assertor's responsibility and the addressee's derived authority over third parties. Current doctrines of assertion bowdlerize the impositive link in a putative chain of deference. Its incidence can be gauged informally from widespread proscription of

To sum up, and allowing already for the incidence of transparent deviancy: 1. The affirmer of A ostensibly purports to know A. 2. The proximally evidenced imperatival component (KN.2)–(KN.4) of this purporting is the pragmatic correlate of the truth entailment which, in epistemic logic, distinguishes knowledge from mere certainty. 3. The distally inferred component (KN.5) of the imperative and perhaps also of the constative or expressive parts explicates warrant. The explicandum is the elusive third component which informs the candidate explication of knowledge as true belief that is 'warranted or accountable', i.e. comes with a *logos*.

Thus, let certainty be represented by unit probability, let P^j be an ostensible Common Prior, and p^s the speaker's ostensible probability function. Then the knowledge imperative for an assertion of A could, on the face of it, be written in the computer science manner as $P^{j'}(A) := p^s(A) = 1$. It will intuitively say: set the new value of the Joint commitment state function for A to the unit value which A has for me. Below the surface, however, more is required. Updates of credal states cannot, in general, take place in isolation without having consequences for other assignments of credence. In the case of assertion proper, what the imperative actually demands is that the Common Prior, P^j, be updated to a Common Posterior, $P^{j'}$, in a suitably nonarbitrary, coherence-preserving way. $P^{j'}$ makes an ostensible joint conviction the proposition A asserted. In other words, the imperative would say or entail: 'Let us condition the Common Prior on A'.[33,]

5 The Point of Asserting and 'Extending the Conversation'

Uttering a sentence with the overriding intention to say something true is how Michael Dummett (1973) puts the point of assertion. This may be so for any affirmation. In the case of assertions proper another point of assertion will be to get others to share one's access to the truth (truth-

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outright assertion as impolite or worse, i.e. even when the speaker is in the strongest of epistemic positions.

[33] Considered as a larger probability space, P', the Posterior would no doubt be conditioned also on the fact of the utterance having been made, etc. In such a framework can also be expressed a properly probabilistic formulation of our secular projection of the 'T'-axiom, namely what van Fraassen (1984) dubbed 'reflection' of the opinion of an expected future epistemic Self and what Gaifman (1988) adapted to updating on expert opinion. Briefly: $P'(A|D \wedge [p^s(A) = \alpha]) := \alpha$ provided that $P'(D \wedge [p^s(E) = \alpha]) \neq 0$ and where $\alpha = 1$ by Confidence.

We address here only the smallest sub-space (of such a larger space) that is engaged by the data to be explained. A formal definition of sub-space is in Section 5 note 46.

fully or otherwise). But neither of these is what we usually mean by 'the point of an assertion'. That 'point' is rather related to its relevance. A social pragmatist approach to relevance in the study of natural language is due in all but terminology to Oswald Ducrot (1973). He holds that many of our meaning intuitions are best accounted for by assuming that indicatives S are uttered as arguments for some ulterior and usually practical conclusion, r. The conclusion, say, '*Bo should be our new Minister of Information Management*', might be co-textually given. Else it might have to be induced both from context and from the sentence asserted, say from $S = $ '*Bo is economical with the truth*'. It need not be entailed by S. Indeed, Ducrot thought the conclusion, which he called a *sous-entendu* and contrasted with 'presupposition' and 'statement', would likely be imperatival and so he refrained from identifying it as a proposition.

Another example, adapted from Saul Kripke (1977) to this paradigm, unites both options. Someone says $[B]$ '*The cops are around the corner*'. What her words and the sentence mean can be pieced together from a grammar and dictionary. What her associate understands her to mean,[34] might be put imperatively: $[r]$ '*Let's get away!*'. But it might also be put indicatively for the time being: $[H]$ '*It's time to get away*', leaving the call for action implicit.[35] For Kripke's scenario, analytic focus on r would highlight the (collective) choice of an act, dub it ξ_1, of leaving immediately. The alternatives might all be convolved into an act ξ_2 of not leaving immediately. This would be enjoined by not-r, i.e. 'Let's not leave!'. In general, an act ξ will be chosen if its expected value $E(\xi)$ to the chooser exceeds the expected value, $E(\xi')$ of any of its alternatives ξ'.[36] The utterance of B and its ratification as a doxastic update is intuitively relevant to our choice of act. The way to explicate this is

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[34] And what Kripke calls 'speaker meaning' *apud* Grice's (1989) 'utterance meaning'.

[35] Kripke ventures both: '*We can't wait around collecting more loot. Let's split!*'

[36] Relevance to an act ξ enjoined by imperative r could be modelled *apud* Savage (1954). An act ξ is conceived of as a function which maps a state-of-affairs, ω, to a numerical desiderative value $\xi(\omega)$. Only 'payoffs', not act-resultant physical states, are being attended to. Example: $\omega = $ the world on a certain day out; $\xi_k = $ taking an umbrella $\xi_k(\omega) = $ value attached to being dry etc. A repertoire of acts will be a set of ξ_i ($i = 1, ..., n$) which are defined on a set Ω. We might not know which ω in Ω is the actual world and so might not know the exact consequence of performing an act. However, let our probability function P be defined on an algebra $\mathcal{F}$ of suitable subsets of Ω. For given P, each act ξ_i will then be a 'random variable'. It will have an expected desiderative value $E(\xi_i)$ attaching to it. In the didactic, simplest finite case, where all singleton subsets $\{\omega\}$ of Ω are in $\mathcal{F}$, we should have: $\Omega = \{\omega_1, ..., \omega_M\}$ and $E(\xi_i) = \xi_i(\omega_1)P(\{\omega_1\}) + ... + \xi_i(\omega_M)P(\{\omega_M\})$. Always, $P(\{\omega_1\}) + ... + P(\{\omega_M\}) = 1$.

simple: the conditional expectation $E(\xi_1|B)$ of leaving, given B, exceeds the conditional expectation $E(\xi_2|B)$ of staying, given B.[37]

We could, however, think of interpolating H. B being an argument for H means that B has positive evidential relevance for H. The net result as far as joint action goes may yet be the same, but there is a representational detour. It is compensated for with a more drastic effect at the stage of conditioning expectations of acts. Prima facie, the difference between $E(\xi_1|H)$ and $E(\xi_2|H)$ will never be less than that between $E(\xi_1|B)$ and $E(\xi_2|B)$ and in many contexts will be very much larger.[38] This extra salience to reflective perception is what is meant by saying poetically that the essence of the underlying practical issue is distilled into $\pm H$. H will usually be a dispensable interpolant. Its use arises when we or the discourse participants reflect on the point of what is said. And often this point can be referred to obliquely, albeit not anaphorically.[39]

A special case would be co-incidence, here with $H = $ '*We leave now*' and $\overline{H} = $ '*We do not leave now*'. But this is already an act variable, and it will depend on our decision-theoretic convictions whether we should allow our acts, even of a collective, to be in the domain of our (collective) P (see Jeffrey 1965 [²1983]). There are indeed technical advantages to letting the formal buck stop at a doxastic issue, i.e. at a propositional belief variable, $\pm H$, not at an act variable. In this way, the argument can be confined to the domain of evidential relevance. This domain is simply the probability calculus. It affords strong axiomatic constraints in virtue of confining expectations to expectations of the value of 'indicator' random variables that return 1 if an event obtains and zero otherwise, i.e. to probabilities. Desiderative values stay implicit, and can be dealt with formally at a second stage, if they become interesting.[40]   Having

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[37]Put simply, and assuming suitable independencies, we obtain the conditional expectation $E(\xi|B)$ of act ξ given B by replacing the probability weights $P(\{\omega_1\}),...,P(\{\omega_M\})$ by conditional probability weights $P(\{\omega_1\}|B),...,P(\{\omega_M\}|B)$.

[38]To see this, compare estimates of $E(\xi_1|X) - E(\xi_2|X)$ for $X = H, B$, assuming that the addressee, though fond of life and liberty, has plenty of *sang-froid*.

[39]Alpha says: 'It's expensive, but beautiful'. Beta cannot, without aping a tactless thought-reader such as Sherlock Holmes, reply: 'Doing so would be impossible right now'; but can reply: 'But our credit cards have just been eaten by the Bank-O-Mat'.

[40]Very often they are not: one will be interested only in features of semantics which remain invariant under any but qualitative changes in real pragmatic parameters. Given participant preferences, routine steps will get one from such an indicatival interpolant to a decision for action, if need be. This is how decision theory (see e.g. Chernoff and Moses 1954) proceeds when its distinguishes the 'no data' problem of choice of act, given a prior over states, from its fuller description when data are acquired that could revise the prior to a posterior. The 'data' increment is handled in

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sketched the two options and perhaps made plausible that no generality is lost with the indicatival option, I stay with it for simplicity.

A context of utterance for an indicatival sentence S will thus consist not only of a belief function P or a suitable n-tuple of such functions, but also of an *issue* to which S is relevant under P. I assume that for indicatives there can always be found a binary issue, $\pm H$ which is a partition of the space Ω of possibilities, and to whose two cells distinct interests attach. Interest 1 prefers to see H become more probable or indeed a full conviction in the Common Posterior; Interest 2 prefers $\overline{H}$. We thus associate the context with an 'issue', i.e. a social decision problem and we assume that $\pm H$ is a 'sufficient partition' for it, for each of the situation participants.[41]

Take thus a designated element of $\pm H$, say H, and assume that the point of uttering S is to militate for or against H, i.e. to make H more probable or less probable. An utterance of S will be conversationally relevant to the extent of its denotatum being evidentially relevant to H, positively or negatively. (Often this will disambiguate to hearers what this denotatum is.)

This assumption of making a context at a given point in time a pair of a pair of probability functions, p^s and P^j, and an issue proposition H in the domain of P^j (Merin 1999) is quite general as far as it goes.[42] It is in no way peculiar to the treatment of conditionals let alone only of unconditionals. To get an idea of its taxonomic import, suppose one discourse participant, Alpha, takes the intiative and affirms A, which is positively relevant to H. Alpha is known or inferred to prefer H as a joint commitment to $\overline{H}$. Then we should say that Alpha *asserts* or claims that A. If Beta, whose ceteris paribus preferences between H and $\overline{H}$ are

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terms of evidential relevance relations alone. In discourse, the data are propositions advanced as arguments.

[41]An issue-partition is, by definition, then, deemed to be 'sufficient' (Blackwell and Girshick 1954) for the social decision-problem underlying the conversation at its current stage, and minimal among sufficient partitions. Sufficiency means that it holds all information relevant to agent choices and no finer partition would hold more in the sense of improving an agent's expectations. Interests 1 and 2 might be those of Speaker and Addressee, respectively, or they might be, respectively, their common interest (see Gold and Sugden 2007:126) and that of a third party, conceivably a fearful Nature imagined by fearful natures

[42]For some uses one would also have a probability function p^a for the addressee, and perhaps even for third parties. But most of the action really is in P^j and its discourse-temporal neighbours.

dual to Alpha's[43] and whose personal probability function is p^a, assents to A, we should say that Beta *admits* or concedes that A (and would set $p^{a'}(A)$ to conform to $P^{j'}(A) = 1$). If Alpha should then affirm some proposition B which is negative to H, we should say that it is Alpha who now concedes A. Preferences are one parameter which co-determine whether an act of affirmation is an act of assertion, admission, or, if ostensibly disinterested, statement. They also correlate with the means or warrant. It is the assertor who bears the burden of proof. An admittor never does.[44] I now spell out more fully the

> (RN. Relevance Norm): Affirmations are ostensibly made to a point that is not exhausted by (KN), and whatever ostensible evidential obligations of warrant attach to the affirmer vary in accordance with it, as does assignment of speech-act subtype.
>
> (RN.1) The point is for the speaker to bring or let come about changes in desiderative expectations that attach to speaker and addressee actions.
>
> (RN.2) The point is representable to reflective intuition as an outcome, H, of an ulterior propositional issue, $\{H, \overline{H}\}$, to which A is evidentially relevant in the joint commitment probability space.
>
> (RN.3) The burden of evidence for A rests with the affirmer if A is positively relevant to H preferred by the affirmer, in which case the affirmation will be an assertion (as distinct e.g. from an admission).

It will be obvious that the interdependecies of Norms KN and RN are really redundancies. If one looks at the pair from the perspective of Interactive Decision Theory a.k.a. Game Theory, they will appear at best as psychologically conditioned ways of slicing up a single social institution. However, I see no great virtue, at this stage, in trying to minimize redundancy at the cost of intuitive intelligibility.[45]

A final concept that will be pertinent in what follows and which is also implicit in all contexualist approaches to knowledge imputation is

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[43] All things considered, including e.g. clause (KN.5), they will not usually be dual. Think of a bargaining or, degenerately, ultimatum situation (Merin 1994, 1999, 2006).

[44] Neither does the ideal maker of a statement, i.e. the witness, because a witness statement *is* proof. A charge of perjury is not a synonym of 'How do you know?'

[45] Given more space, I should distribute some of the load onto a third norm, 'Equity', specific to speaker preferences and their obligations to assure evidential backing, which would link slimmer versions of (KN) and (RN). Norms are not mantras.

what statisticians speak of as 'extending the conversation'.[46] Intuitively, this means that propositions and their complexes which have not been thought of or attended to at all become objects of present thought or attention. They might do so by way of being asserted as A, B and their compounds are when 'A *and* B' is affirmed. Or they might do so when uttered in non-assertoric position, as in 'A *or* B' or in '*If A, B*'. They might also do so in the manner inwhich some issue $\pm H$ is induced as an element of the domain of the Common Prior, P^j, by an utterance S, when addressees figure out what might be the point of S. Or they might do so by way of a presupposition of S, as in '*Kim has stopped beating Sandy*', which is again a constraint on the ostensible Common Prior.[47] Presentation as relevant, and the corresponding search for relevance, are springs of conversational dynamics, and one way in which they act is as instruments for extending the conversation.

The tools for dealing with (1) and for assessing an alternative approach to (1) are now in place.

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[46] Formally, extending the conversation means that a probability space $\mathcal{P} = (\mathcal{F}, P)$ is extended to another $\mathcal{P}' = (\mathcal{F}', P')$, such that $\mathcal{F}$ is a sub-algebra of $\mathcal{F}'$ and P' extends P, meaning that it agrees with P on all elements of $\mathcal{F}$. Call $\mathcal{P}$ a sub-space of $\mathcal{P}'$. Example: The set of all boolean combinations of propositions A and B is a proper sub-algebra of the set of all boolean combinations of propositions A and B and C, where A, B C are logically independent. P' extends P when $P'(X) = P(X)$ for all boolean combinations X of A and B. When a conversation among people is properly extended with a question, 'C?', then P' such that $0 < P'(C) < 1$ will be a condition on the new ostensible Prior, i.e. without ratification being required. When extension is by assertion of 'C', the envisaged Posterior may be a function P'' which no longer extends P, nor interpolated P', but assigns probability values to elements of the domain of P which differ from those assigned by it in virtue of C's relevance. Lewis (1979) in effect observes that ordinary discourse never contracts the conversation. While this seems true technically in the small (sudden talk of the weather is not pure contraction), one could have doubts in the large, i.e. about discourses in the Post-Modern sense. Skepticism and contextualism envisage an attempt to extend the conversation from $\mathcal{P} = (\mathcal{F}, P)$ to $\mathcal{P}' = (\mathcal{F}', P')$ which fails because any such P' is found unreasonable. This engenders a drastic, possibly un-Bayesian revision of P for extendibility to some reasonable P'' defined on $\mathcal{F}'$. C will here be an outlandish, but conceivable eventuality.

[47] 'Conventional implicature', Grice's residual hold-all of meaning, would again be a label for inducing constraints on the Prior P^j. Thus, for a particular case of 'A *but* B' it might be, for suitable H, $P^j(H|A) > P^j(H) > P^j(H|AB)$. Example: '*Roy Jenkins is a bona fide intellectual, but he is now Chancellor of Oxford University*'. (Thus wrote Sir William Rees-Mogg, for whom, surely, $H \neq \overline{B}$.) Obviously $0 < P^j(A), P^j(B) < 1$. The update is by conditioning P^j on AB, i.e. $P^{j'}(\cdot) = P^j(\cdot|AB)$, and so $P^{j'}(AB) = 1$, and also $P^{j'}(H) > P^j(H)$. This is an alternative to representing the meaning of 'A *but* B' as a conjunction or notational compound of AB and of some further contrast condition; cp. DeRose (2002:197f.n16) and Merin (1999).

6 Unconditionals in a Probability Theory

The starting point of an analysis will be the epistemic situation of the listener, whom we take to be the addressee. In a fragment of dialogue where all discourse is generated by a single speaker, so far, the addressee's commitments can be thought of as represented by P^j. Against this background ask: Which is the key subset of features (a.1)–(a.4) + (nt), listed on p. 3 above, to which a listener under the usual conditions of assertion will have access?

The feature cannot be (a.1) in the sense of addressee's prior knowledge *a posteriori*. If it were, (1) would be uninformative for this addressee. Nor can the listener's key be (a.1) considered as an item of prior *a priori* knowledge. The biscuits' being there is an empirical contingency, and will thus be knowledge *a posteriori* to assertor and addressee, indeed posterior to utterance time for the addressee. How it becomes the addressee's knowledge is what is to be explained.

Next, (a.2) cannot be the listener's key, for the same and yet more obvious reasons. The same goes for (a.4). Moreover, and at the very least when the listener is just an aural kibitzer come-late such as the philosopher will be, (a.4) cannot be had as prior knowledge *a posteriori* either. DeRose and Grandy's CR is again an explanandum and (nt) is elicited only by extra thought-experiment after the fact.

This leaves (a.3),[48] and the literature has not failed to mention (a.3) when contrasting unintended causal readings that can be induced and which might involve telekinetic powers if not indeed an ability to causally affect the past. But the significance of (a.3) seems, all the same, to have been overlooked. Lexical and inflectional information, including indicators of tense, along with their respective semantic interpretations and convictions about the physical world make the assumption of causal independence in (1) accessible to every linguistically competent listener. If any of these lexical or grammatical features, are modified, the scope for consequential readings will usually increase.[49]

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[48] Noted by G.M. Matthews (1952) (as 'independence') and by Douglas Gasking (1952), who calls the 'if' 'non-connective' along with the 'if' of concessives.

[49] Try replacing Belnap's 'some' with Austin's 'them' (see Merin 2006) never mind exchanging the first 'are' for 'will be'. (The comma before 'if' is unimportant.) '*If you are thirsty, you will find water in the fridge*' hovers on the edge. 'Finding' takes two: a finder to see and almost certainly to look for something, and the thing to be found. By the negation test (see Section 7), finding presupposes seeking, and this makes it hard at first to interpret the contraposed variant '*If you don't find water in the fridge, you aren't thirsty* as an equivalent. Force must be met with force: imagine the speaker in turn presupposing there is water in the fridge, so as to shift

Next, follow Hume; either part of the way or all the way. Realize that causal relations in the world are grasped as evidential relations in mind or else are evidential relations projected outward. The latter will be a judgmental process which Richard Jeffrey (1965) so aptly called 'objectification' on the basis of his exposition of De Finetti's representation theorem and its application to enumerative induction.

Thus, what the listener knows on having heard (1) is that A and C are independent of, i.e. irrelevant to, one another, formally: $P(AC) = P(A)P(C)$. As far as impositions of constraints on the epistemic context goes, this knowledge is acquired posterior to utterance in physical time. But its epistemic status, relative to the rules of the language and stable world knowledge associated with it, is *a priori*. By this I mean simply two things: (i) the listener does not have to be told explicitly that the independence relationship obtains; and (ii) the relationship is stable across normal epistemic contexts and, in this modest sense, epistemically necessary. In both senses, accordingly, $P(AC) = P(A)P(C)$ is a transcontextual constraint on Austin's unconditional.

In virtue of sense (ii), notate the constraint mentally as $P^*(AC) = P^*(A)P^*(C)$. This is to remind one that, as a doxastic constraint warranted by nomological relations in the world, it is persistent under doxastic contingencies. It is firmly entrenched and there are many proposals in philosophy of science on how to explicate such entrenchment. Doxastic contingencies include, for example, updates by further constraints.

Empirically, felicitous assertibility of $A{>}C$ requires that $P(A) > 0$ hold by the time of utterance, and so does theoretical definedness of $P(C|A)$. Hence the independence constraint implies [T1] $P(C|A) = P(C)$, where P is, notably, the Common Prior at the time of utterance, and where time is now 'discourse time' or, to speak with Collingwood (1940), 'logical time'. To indicate this, notate P as P^j, to signify the ostensible Common Prior, so we have [T1] $P^j(C|A) = P^j(C)$. Independence of A and C and non-impossibility of A are presupposed at the point of utterance. In other words, they are deemed to obtain at P^j and thus prior to any assertoric update of P^j to some Common Posterior,

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all responsibility for finding. This reading comes close to sarcastic overkill, but there is now a logic to it. Ignoring the presuppositional complications, note that thirst is positive to seeking, which is positive to finding. Frege's German vernacular would render the example with a syntactically inverted consequent, which is mandatory for consequentials and in general reserved for them, but would elegantly prefer a more evidential '*so*' to more causal '*dann*' ('then') to head it optionally: '*Wenn du Durst hast, (so) {findest du/*ist} Wasser im Kühlschrank*'.

$P^{j\prime}$.[50] Such an update is yet subject to ratification. The presupposition, by contrast, is deemed not to require ratification, perhaps because it was ratified earlier on in a past that may be as mythical as that of the 'original contract' in contractarian theories of the body politic.

Now the conditional $A{>}C$ is asserted. By Confidence, it has for the speaker maximal conditional probability and the Common Prior is to be updated to a Common Posterior in which C has maximal conditional probability given A, i.e. such that [T2] $P^{j\prime}(C|A) = 1$. But satisfaction of this constraint does not as yet define the update. Whenever $P^j(AC) > 0$ holds in the prior, conditioning on $A \to C$ to obtain $P^{j\prime}$ will preserve it: the condition $P^{j\prime}(A) > 0$ will be satisfied. However, even this will not guarantee preservation of independence of A and C under conditioning on $A \to C$. Quite the contrary: $P^{j\prime}(A \to C) = 1$ means that unless $P^{j\prime}(A) = 0$ or $P^{j\prime}(C) = 1$, A and C are very much dependent, indeed that A is extremely relevant to C, even if they were independent in the Prior.[51]

This was the point of the detour. Assertion of $A{>}C$, in the unconditional case, imposes two constraints simultaneously in physical time: the constraint $P^{j\prime}(A\overline{C}) = 0$ that is imposed when conditioning P^j on $A \to C$ to obtain $P^{j\prime}$, and the constraint $P^{j\prime}(AC) = P^{j\prime}(A)P^{j\prime}(C)$. The latter is what the nomological constraint $P^*(AC) = P^*(A)P^*(C)$ imposes as a presupposition at P^j already, but retains and in this sense re-imposes on $P^{j\prime}$.

Combining both constraints yields a unique update, equivalent to conditioning on C. Here is a simple way of putting the matter. When $P(A) = P(AC)$, the only ways for A and C to be independent, i.e. for $P(A)P(C) = P(AC)$ to hold, is for one or both of A and C to have probability 0 or probability 1. Since, by assumption of CCCP, $P(A) > 0$ and since $P(A) = P(AC)$ entails $P(A) \leq P(C)$, the unique solution is $P(C) = 1$, in our case instantiating to $P^{j\prime}(C) = 1$. But this constraint is satisfied by conditioning P^j on C, so that $P^{j\prime}(\cdot) = P^j(\cdot|C)$. To conclude: the speaker's ostensible convictions and the ostensible Common Posterior to be brought about by the assertion satisfy [T3] $P(C) = 1$ in virtue of the Prior being conditioned on C. C is asserted outright—because $A{>}C$ or $C{<}A$ is asserted and A and C are independent, both in the Prior and Posterior.

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[50]Retroactive, ostensible prior validity in Common Ground is essentially Stalnaker's 1971 view of utterance presupposition.

[51]Recall note 12. Example: Let $P(A) = P(C) = 0.5$; $P(AC) = 0.25$. A and C are independent at P. Now condition P on $A \to C$ to obtain P'. We have $P'(A) = P'(AC) = 0.25$; $P'(C) = 0.33...$ and so A and C are positive to one another.

There is also a boring route to unconditionality, induced by distinct assertion of C, with A added as an afterthought. Here, A and C are independent in the Posterior because C has been asserted outright, with no transcontextual independence assumption required. I do not recommend for (1) the unscenic route, which Austin seems to have envisaged intuitively. The scenic route uses all the data for (a.3) and it licenses expression forms 'If A, C' or Austin's own 'C if A' which are prosodically comma-free. The other route wants a pronounced comma.[52]

Either way, Chisholm's and others' observation (nt), the inadmissibility of consequent-heading 'then' in unconditionals, is explicated. 'Then', as usage strongly suggests, indicates a relation of conducive consequence, and conduciveness is modelled by positive relevance of A to C in the Posterior,

Next consider the problem of (a.2). If a probabilistic inference from S to S' must preserve probability, $\text{Prob}(S) \leq \text{Prob}(S')$ (Reichenbach 1954, Adams 1965), then $A{>}C$ (or $C{<}A$) will validly contrapose under Confident CCCP only if $P(\overline{A}|\overline{C}) = P(C|A)$.[53] But $P(C) = 1$ means $P(\overline{C}) = 0$, so the conditional probability that is required for assertibility of the syntactic contrapositive $\overline{A}{<}\overline{C}$ under semantic equivalence is undefined in the same epistemic context. And indeed, we find, with Austin, that the sense of

(1†) You don't want any biscuits if there are none on the sideboard.

is inequivalent to that of (1). (1†) is perfectly intelligible, but the theory, Confident CCCP, implies that it must envisage a very different context or world-view, P'. The phenomenology evidently concurs. What the sentence must be understood to mean prima facie is that absence of biscuits, $\overline{C}$, is a sufficient reason for $\overline{A}$, your not wanting any. But if $\overline{C}$ is positive thus to $\overline{A}$, irrelevance of A to C is lost. The syntactic

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[52]The musical difference (rhythm, melody) will express a difference of procedure in probability logic. I call the first route 'scenic' because the minimal statistician's 'conversation' for smoothly pronounced 'if'-sentences includes A and C from the outset. In the typical form of the second case, it includes only C at the outset and is extended to include A when C is already a dead certainty. Note that the prosodic form 'C, — if A' will be uncouth if a dependency must be inferred after all and one has been led up a garden path. A third form varies the unscenic route and needs no comma: here C is presupposed by A. An instance is '*I can if I choose*'; see Section 7.

[53]Phenomenological contraponibility could be asked for only in the direction from $A{>}C$ to $\overline{C}{>}\overline{A}$. If so, only $P(C|A) \leq P(\overline{A}|\overline{C})$ is necessary for validity under CCCP if Confidence is not required. A necessary and sufficient condition for $P(C|A) \leq P(\overline{A}|\overline{C})$ is that $P(C) < 1$ and either $P(C|A) = 1$ or $P(A) + P(C) \leq 1$; weak inequalities sharpen to equality for two-way contraponibility (I restate Reichenbach 1954:130).

contrapositive makes an imputation of relevance, either inexplicably or with a neat causal story under the 'sour grapes' topos, of which there is no trace in the original.

Syntactic contraposing of unconditionals, as in the verbal transformation of (1) to (1†), is always accompanied by a profound change of meaning. One concludes that semantic or inferential contraposition, which is meaning-preserving by definition, is not only invalid, but indeed unsatisfiable for unconditionals. This finding explicates (a.2) sharply. Once CCCP is assumed, it is further evidence for Confidence. Our prime phenomenological datum is the impossibility of inferentially contraposing (1) in the direction (1†). If $\mathrm{Prob}(A{>}C) = 1 - \delta$ under CCCP (i.e. $P(C|A) = 1 - \delta$ for $\delta > 0$) and if one assumes entrenchment of the independence constraint $P(C|A) = P(C)$, one should arrive at $\mathrm{Prob}(C) < 1$, supposing some update regime were operative to implement these constraints coherently. In this case, a sufficient condition for validity of one-way contraposition under CCCP would be $P(A) + P(C) \leq 1$.

This condition is satisfiable within probability calculus for arbitrarily high values of $P(C|A)$.[54] Moreover, imagination should find it easy to impose on a scenario like (1) a condition $\mathrm{Prob}(A) + \mathrm{Prob}(C) \leq 1$ on the Posterior, i.e. $P^{j\prime}(A) + P^{j\prime}(C) \leq 1$. There will be no problem driving $P^{j\prime}(C)$ high enough for at least slightly Diffident CCCP to be possible. Low $P^{j\prime}(A)$ can be stipulated with a suitable adverb or a lottery in the antecedent: Examples: '*If you {should suddenly turn teetotal/win the jackpot}, there's {diet cola/saffron sorbet/Valium} in the fridge*'. If the average mind is enough of a Bayesian to adopt CCCP, it should succeed in adapting the scenario background to this requirement when given the task of contraposing under preservation of meaning. Yet contraposition fails robustly for either type of scenario. $\overline{A}$ could be assertable by assumption of the Diffident criterion, but the intuition that $\overline{C}$ is causally relevant to it is impossible to get rid of, contrary to assumption. As far as sober semantic phenomenology can bear on the issue of δ at all, $\delta = 0$.

Consequentials phenomenologically contrapose both ways, so, under CCCP, $P^{j\prime}(C|A) = 1$ must hold unless $P^{j\prime}(A) + P^{j\prime}(C) = 1$ holds. But, save for the case $P^{j\prime}(A) = P^{j\prime}(C) = 0.5$, whose conceivable forcing can plausibly be excluded by example choice, this last condition has no fortuitously salient verifying instances, nor is the condition itself intuitively salient. It could be satisfied by chance, but a uniform probability density

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[54]Example: $P(A) = 0.05$, $P(C) = 0.9$, $P(AC) = 0.045$, $P(C|A) = 0.9 \leq 0.95 = P(\overline{A}|\overline{C})$.

over possible P-functions will give this event zero probability. I conclude that assertion is presented as Confident.

There remains Austin's hint (a.4) about a relevant question raised, which is picked up by Wheatley, Fogelin, and Johnson-Laird and is in turn conditioned by observations of Cuckoo, Ellis, and Matthews. Let H be a proposition that characterizes this eventuality or state, and refer to the propositional variable $\pm H = \{H, \overline{H}\}$ as the *issue partition* of the context of use of the sentence S being uttered, here an unconditional $A{>}C$. Pick H as the designated cell of the partition. Conversational relevance will now be explicable in terms of non-zero evidential relevance to H. We assume that $\pm H$ is expressible in such a way that it makes sufficiently explicit for the purposes of reflecting on intuitions the preference structure of the scenario.

Let the modals 'can' and, especially, 'may' of Austin's tentative gloss simply reflect epistemic contingency of this variable and suppose $H =$ 'You (will) eat biscuits'. Then A or C, or each of them, or their conjunction, AC, may well stand in relations of relevance to H.

If, as I believe is true, conditionals $A{>}C$ require for their assertibility that each of A and C be relevant to some proposition other than itself in the domain of the Common Prior, P^j, then consequential conditionals can satisfy this condition already in virtue of their sub-clauses being positive to one another. The unconditional cannot have such 'endocentric' relevance, and so its assertors and interpreters must look elsewhere.[55]

Various kinds of relevance relations look like they are conceivable. To keep things manageable, focus on the classic example, (1). Ignore strange scenarios of force-feeding or of minds divided. Then, not wanting any biscuits implies not eating any. Since H is P-contingent, this means $P(H|\overline{A}) = 0 < P(H)$. In words: $\overline{A}$ is (extremely) negative to H. It follows, by symmetry of relevance, that A is positive for H. Accordingly, A cannot be ceteris paribus irrelevant or even negative to H. Now consider a variant $(1')$ where wanting biscuits is replaced by being hungry. People often enough eat without being hungry, so presumably $P(H|\overline{A}) > 0$ is admissible. Nonetheless, it remains obvious as a matter of phenomenological fact that, granted the probability idiom, $P(H|\overline{A}) < P(H|A)$, equivalently $P(H|\overline{A}) < P(H)$. That is, $\overline{A}$ would still be negative to H, and A thus positive to H.

What may be less obvious, at first sight, is how to relate C to H; and

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[55] In strict practice of preserving smallest probability spaces at any point in time this will imply extending the conversation from a probability space $\mathcal{P}$ to a larger space $\mathcal{P}'$. In conversational practice this can be done retrospectively, by 'accomodation', i.e. by proceeding ostensibly as if $\mathcal{P}'$ had been the Prior space all the while.

a doctrinal matter will hinge on the issue. Proceed by elimination. That C could be ceteris paribus negative to H can be ruled out for unkinky scenarios. Having biscuits in reach should not reduce the probability of your eating them, or any biscuits for that matter, or even just of eating, full stop. Could C be irrelevant to H ceteris paribus? A moment's reflection will tell one that the answer is again: no. If C were irrelevant to H, so would be $\overline{C}$. This would imply: there not being any biscuits on the sideboard should not reduce the probability of your eating biscuits. But this is highly implausible under the genteel, if somewhat frugal scenario which is conjured up by (1) to speakers of Austin's broader language community.[56] Prima facie, then, C will also be positively relevant to H, and this constraint looks robust *secunda facie*.[57] So far then we have, as regards (1): A and C both positive to H, with $\overline{A}$ assumed extremely negative to H and $\overline{C}$ strongly and most likely again extremely negative to H.

There are, of course, consistent probability theories in which, for instance, A and C are irrelevant to each other and to H, while C is positive to H given A, and A is non-negative (or: positive) to H given C'. Such theories must have models, and concrete models are indeed found under the 'emergent effects' rubric. But Austin's 'biscuit' version will not be one of them. Indeed, I believe that no such models will be found for broadly similar unconditionals.[58] The undefeated conjecture is that a necessary condition on any suitable H that one might come up with in unconditional scenarios is that each of A and C be positive to it, and that H not be a boolean combination of A and C.

However, while C is ceteris paribus positive to H ($P(H|C) > P(H)$), extreme negativity of $\overline{A}$ to H implies $P(H|\overline{A}) = 0$ and thus $P(H|X\overline{A}) = 0$ for any X in the domain of P, in particular also for $X = C$. Hence,

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[56]And it would be impossible a priori if Austin's original 'them', which Belnap was to replace by 'some', were to induce, as Austin's own contiguous gloss 'can or may' indeed suggests, a variant of H, namely $H' = $ 'You will eat these biscuits'.

[57]Nothing is said about biscuits being accessible in the cupboard, or at the corner shop, or in the addressee's bags. What possibilities there are must look remote. With some attenuation this will also hold for a less specific 'question raised', whose affirmative answer would be $H'' = $ 'You will eat'. The presumption is that the biscuits are all there is for the guest to eat over the relevant period of time. This is not a deterministic presupposition or intimation. There might be biscuits soaking in a vat, the guest could eat the cat, etc. But relevance is about probabilities or plausibilities.

[58]Johnson-Laird's '*If you've run out of petrol, there's a garage down the road.*' might be more liberal on extremes (i.e. admit $P(H|\overline{A}) \neq 0 \neq P(H|\overline{C})$), but the relevance polarities are as in (1). Similarly (3) '*If you don't mind me telling you* [A], *bubblesort is more fun than quicksort* [C]' with $H = $ 'You know/appreciate that C'.

$P(H|C\overline{A}) = P(H|\overline{A})$, i.e. C is irrelevant to H given $\overline{A}$. (And A might be irrelevant for H given $\overline{C}$, by similar reasoning.)

The relevance model just given looks like being the most obvious of constellations for unconditionals of Austin's type. It is specified entirely without overt reference to utilities, i.e. preferences. It will also hold for instances in which pure desiderative predicates such as 'want' do not feature.[59] However, assumptions about preferences are part of the background of our behavioural folk psychology which informs the interpretation of terms such as 'want' or the situational relation among concepts that appear in plausible H and are denoted by parts of A and C.[60]

To the best of my current thought-experimental knowledge it is impossible to intuit a viable context for an English language unconditional of Austin's type which does not satisfy the constraints just specified. I take this to be an indicator of robust constraints on the imagination which involve convictions about physical causation and about human expectations. These expectations are not analytically reducible to just one of the pair of preferences and convictions.

7   More Unconditionals

I begin with an outline of the non-probabilistic approach of Hans Rott (1986), who is the first to treat 'unconditional' as a noun. Ignoring 'might'-conditionals and with inessential typographic changes, here are his definitions. Let $\mathcal{T}$ be a belief or knowledge base, i.e. a theory, and let $\mathcal{T}_X$ be $\mathcal{T}$ revised in a suitably minimal way so as to include, consistently, X. Rott defines an abstract universal 'pro-conditional' $A \Rightarrow C$ as being in $\mathcal{T}$ iff C is in $\mathcal{T}_A$, i.e. $\mathcal{T}$ revised so as to include A, and C is not in $\mathcal{T}_{\overline{A}}$ i.e. $\mathcal{T}$ revised so as to include $\overline{A}$. The 'contra-conditional' $A \Rightarrow\prec C$ is in $\mathcal{T}$ iff $\overline{A} \Rightarrow C$ is in $\mathcal{T}$. The 'unconditional' $A \dashv C$ is in $\mathcal{T}$ if neither of $A \Rightarrow C$ and $A \Rightarrow\prec C$ is in $\mathcal{T}$. The three abstract conditionals thus explicate positive and negative relevance and irrelevance, of A to C in $\mathcal{T}$. Rott then defines 'C even-if A' to be in $\mathcal{T}$ if $A \dashv C \in \mathcal{T} \land C \in \mathcal{T}$ i.e.

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[59] Cp. Johnson-Laird's example. Running-out does intimate wanting-to-have.

[60] Analogous terms can be had by formally introducing valuations, call them utilities, conditional on A and $\overline{A}$ as in Section 5. But given such devices, one could also make strange assumptions about addressee psychology. These would redefine 'utility' so as to decouple it from conduct. One could thus make A irrelevant to the physical occurrence of H, at any rate when A instantiates to 'You are hungry'. The addressee would now be eating regardless, but would attach no positive hedonic value to doing so when not hungry. The psychopathology of this locally zombieform scenario indicates how good the scenario outlined above is under commonsense Bayesian assumptions.

iff both the unconditional and C are in $\mathcal{T}$.[61] He surmises that in real-life 'even-if' there is a disjunction with a contraconditional.

That even-if conditionals, a.k.a. concessive conditionals—notate them '$eA{>}C$' after Bennett (2003)—assert their consequent outright and do not contrapose was observed by Goodman (1947), who called them 'semi-factuals'. Here is a sketch of how they should be treated in the present framework (see Merin 2002). The central idea is that A is presented as being an insufficient condition for $\overline{C}$, in the specific sense of being insufficient for preventing C from being true. Either description implies or presupposes that A is negative to C ceteris paribus, i.e. (I.) $P(C|A) < P(C)$ *ex ante*, meaning: prior in epistemic time to learning the facts of the matter. However, some environmental condition K obtains which 'screens' C from A, i.e. such that (II.) $P(C|AK) = P(C|K)$ is true and remains true under locally envisaged updates. K or an existential condition amounting to $\exists K[P(C|AK) = P(C|K)]$ is presupposed, i.e. 'accomodated' in the sense of Lewis (1979). Ostensibly, then, it is common ground already at utterance time. Thus, think of K as being absorbed into the probability function and rewrite (II.) as $P_K(C|A) = P_K(C)$. Interpret P_K as the Common Prior context in which $A{>}C$ is asserted, to be updated on to yield the Common Posterior P'_K. By Confidence, we have (III.) $P'_K(C|A) = 1$. By stable independence, $P'_K(C|A) = P'_K(C)$, we thus obtain $P'_K(C) = 1$.

As intuited, C is asserted. The overall intuition, which is reflected in the verbal glosses that might be given to $eA{>}C$, is tri-contextual. In this specifiable sense, the intuition is epistemically kinematic. Unlike for unconditionals exemplified by (1), the independence constraint is signalled wholly by grammar, i.e. by 'even if', without appeal to world knowledge. The epistemic situation of the hearer is, accordingly, different. However, discovery that C is to be asserted outright takes place in physical time. Any such difference in order of discovery will yet leave unaffected the order of justification by constraint induction in logical time. The latter must answer to the coherence and non-vacuity conditions of Bayesian discourse time. The order of justification will, as it were, play an evidential arpeggio—which a realist 'possible worlds' semantics might re-orchestrate as a block chord.[62] Finally, a way of making K explicit is to tag on a clause, '*because K*'. Example: '*Even if it rains, Cambridge*

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[61]This reduces to $A, \overline{A} \notin \mathcal{T} \wedge A, \overline{A} \notin \mathcal{T}_{\overline{C}} \wedge C \in \mathcal{T}$. I will show below that, under Confident CCCP, there can be no asserted or for that matter confidently believed contra-conditional. An example will specify the empirical import of this constraint.

[62]Conmpare the 'virtual past' treatment of counterfactuals in Adams (1975) with that of Stalnaker or Lewis (see Bennett 2003 for the standard references).

will win, because they {have been waterproofed/are born winners}. Note the important special case of screening where K P-entails C.

I think this theory, which uses much stronger apparatus than Rott's, i.e. probability measure, will improve on his tentative, incidental hypothesis, whose disjunctive form was presumably designed to avoid inconsistency. It likewise improves on descriptions in which C and some conditional are conjoined, and whose informality acts as a protective against problems of consistency or partial vacuity.[63]

A relative is 'bare concessive 'if'', as one might call this upper register near-synonym of 'though' (cp. Gasking 1952). Example: '*It was worthy* [C], *if somewhat dull* [A]'. Here C is positive to some H in the Prior, P^j, and A is negative to it, i.e. quite unlike in the case of (1). C is ostensibly asserted, A ostensibly conceded, C outweighs A. The sentence is near-synonymous to '*It was somewhat dull* [A], *but worthy* [C]'.[64] The phenomenological fact that both A and C are affirmed, formally that $P^{j'}(AC) = 1$ is to hold, is consistent with $P^{j'}(C|A) = 1$. Presumably the doubly affirmative interpretation is signalled by mandatory elision of the verb in the 'if'-clause. It is not obvious whether A and C are also

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[63]Cp. Bennett (2003) and Chisholm's (1964:20) gloss, modulo re-lettering, 'C and it is false that if A then not C'. The Bayesian description will also address the compositionality of '*even*' and '*if*' first treated informally, but explicitly, by Bruce Fraser (1969). His widely adopted idea was that the prosodic and syntactic focus item of '*even*' designates a least likely or at any rate an unlikely candidate for verifying what is called correlatively its 'scope', but which does in fact verify it. The scope might be the predicate in $S = $ '*Even Kim walks*' or the consequent C in the concessive conditional, $eA > C$. (I recommend paraphrasing S by 'For randomly chosen x: even if x is Kim [A], x walks [C]' to facilitate comparison.) To make things more explicit in the present framework, note that the condition $P(C|A) < P(C)$ has for special cases conditions where $P(C|A)$ is very low. There are now many ways to instantiate the above move from P to some P_K, and thus reconstruct the positive epistemic relevance to C of K, given A. Consider again S. Aided by everday intuition about the likely point of uttering S, first abduct e.g. $K = $ 'Walking is easy'. Next note that 'Kim walks' will be highly positive for K, provided we have stably given by P, as intuition also suggests, that Kim is unlikely to be engaging in strenuous activity. For that supposition, i.e. that Kim is a couch potatato, conjoined to the thesis $\overline{K} = $ 'Walking is not easy' would make very likely 'Kim does not walk'. Thus, 'Kim walks' will be a strong argument for 'Walking is easy'. And this finding instantiates the alternative ruling idea for 'even' proposed by Ducrot's then student, Jean-Claude Anscombre (1973), namely that 'even' signals an outstandingly strong or even clinching argument for some H. In the present analysis, $H = K$. The 'improbability' and 'argument' accounts of '*even*' are thus reconciled, indeed unified.

[64]See note 47 on outweighing. Two differences to 'but' are brought out by the archaic textbook illustration for 'but', '*She was poor, {but/??if} honest*'. The ?? rating is in parts owed to family values: champions of deceit should have no acceptability problems after interpolating 'somewhat' or another attenuator.

presupposed negative to one another in the Prior or whether they are independent and simply of opposite sign to H. Of course, if H is construable as a common reason for them, Reichenbach's 'Common Cause Theorem' will have opposite sign entail negative interclausal relevance (see Merin 1999 on 'but').

Contrast next another type of the abstract family of unconditionals that may have gone unrecognized as such: '*If Hitler attacks [A] Czechoslovakia or [B] Britain, he will not attack Britain [C]*'.[65] Its assertoric content under translation of 'if' and 'or' into classical logic is its consequent, C, i.e. $\bar{B}$. So is its assertoric commitment under Confident CCCP. I.e., when $P^{j\prime}(C|A) = 1$, we also have here $P^{j\prime}(C) = 1$. Hence, antecedent and consequent are independent at the Posterior $P^{j\prime}$. Intuitive contraposition fails, too: compare '*If Hitler attacks Britain, he will not attack (either of) Czechoslovakia or Britain*'. (It is valid in logic, where the translation again reduces to C, i.e. 'Hitler won't attack Britain'.)

However, at the Common Prior, P^{j}, antecedent and consequent will each have non-extreme probability. Since B, the negation of C, entails $A \vee B$, antecedent and consequent will be negatively relevant to one another at P^{j}. Natural language abhors conditionals with negative interclausal relevance.[66] Indeed, without stressed 'not', which indicates an echo of someone's previous affirmation, the sentence is infelicitous.

No echo reading is required for felicity of '*If Hitler attacks (either of) Czechoslovakia or Britain, it won't be Britain he'll attack*' (so, essentially, in McKay and Inwagen 1977). The explanation will be that 'it'-clefting induces a presupposition, i.e. a constraint on the Prior, that just one of the two countries is to be attacked: $P^{j}(AB) = 0$. The resultant exclusive interpretant of disjunction in the Prior is no longer negative a priori to the consequent, though independence is not being presumed either. Nonetheless, there is now a possibility for some $H =$ 'Hitler will attack exactly one country' to be abduced to which both A and C are

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[65]Nute (1980:164), adapted from McKay and Inwagen (1977). They all offer it as a counterexample to Simplification of Disjunctive Antecedents.

[66]**Fact**: If $P(A \to C) = 1$, then $P(AC) \geq P(A)P(C)$, i.e. A and C cannot be negative to one another. Proof: $P(A \to C) = 1 \Rightarrow P(A\bar{C}) = 0 \Rightarrow P(AC) = P(A)$; but $P(C) \leq 1$. $\square$. Thus, no Confidently asserted conditional can ever exhibit negative interclausal relevance. (Recall context (I.) for the kinematic semantics of 'even-if'.) **Corollary 1**: A must be positive to C when, in addition, $P(\bar{A}), P(C) < 1$. **Corollary 2** (for readers of Jackson 1979): A Confidently and felicitously asserted disjunction $A \vee B$, i.e. with $P(A), P(B) < 1$, must have A and B negative to one another. This may co-explain the tendency for 'or' to be intuited as exclusive, and without appeal to 'conversational implicature'.

positive. In all, the constellation for either form is very different from Austin's, and different too from that for 'even-if'.

Finally, turn to Austin's sub-Moorean '*I can (do X)* [C] *if I choose (to do X)* [A]'. The key observation here ought surely to have been that imputation of choice not only entails, but indeed speaker-presupposes imputation of ability.[67] Such an observation comes perhaps more easily in the present framework, which can put it to further use. Presupposition status means that a constraint, $P^j(C) = 1$, on the Prior, P^j, will be induced as a presumption alongside $P^j(A) > 0$. The latter presumption must be induced by the utterance of $C{<}A$ so that its demand that $P^{j\prime}(C|A) = 1$ be adopted can be coherently made at all. In virtue of $P^j(C) = 1$, A must be evidentially irrelevant to C already at P^j. This discourse property of A mirrors and indeed models evidentially its present causal irrelevance, here to C.[68]

Now, A is and remains relevant, indeed extremely relevant to tacit H = 'I shall', provided H, which also entails C, is contingent. (Hence Moore's gloss, 'could or should'.) A ordinarily P-entails H, but does not presuppose it. The possibility of 'I shall do x' being true, i.e. the possibility that Speaker will do x, is what the utterance conveys regardless of whether 'shall' is also read, with Austin, as the 'shall' of intent. It does so by suggesting that the 'conversation be extended' by embedding the domain of $P^{j\prime}$ into a superalgebra of propositions on which an extension of $P^{j\prime}$ is defined and of which a new element, H, is relevant to A.

Cuckoo and Ellis observed that 'if I choose' ['if A'] serves to block an inference from 'I can' [C] to 'I shall' [H]. Once the extended probability space is given, the theory makes conservative sense of this. Forget for a moment that A presupposes C and assume A, C, H etc. P-contingent.

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[67]Entailment is noted by Anonymus (1952) and Matthews (1952), though not by Austin (1956).

[68]A is not evidentially irrelevant to C in general: learning that Kim chose to do d teaches us that Kim had the ability. At any P^{j-1} prior to P^j where C was doxastically contingent, A would have been extremely relevant to it. The moral to draw is, no doubt with Russell, that lexical presupposition is a parochial and temporally local property of utterances. But it is nonetheless a firm part of the eminently kinematic rules of our languages and will thus condition our language intuitions. These are a class of philosophical data which are responses to real or imagined utterances.

Note that 'wanting', at least in frequent colloquial parlance, does not presuppose ability, let alone does it have a factive reading. We cannot choose to do the impossible, only what to others wrongly seemed impossible. We might conceivably decide to do what to others rightly seems impossible. We can, in some idiolects, want to do what we ourselves think is impossible. And we can certainly wish that we could have our cake and eat it.

Note that H unilaterally entails C, so C is positive to H. Since $A{>}C$ is asserted, so is $A \to C$, i.e. $\overline{A} \vee C$. This is again positive to H, since $H \models C \models \overline{A} \vee C$. However, since $\overline{A}$ is negative to H, $A \to C$ will, under all non-counterintuitive probability assignments, be less positive to H than C is. Now acknowledge that C is speaker-presupposed by utterance of A even in non-assertoric position. This means that its positive relevance to H has already been spent in the Prior and that H is already more probable there than it would otherwise be. Its probability might have gone up very much, as indeed common usage of 'I can help you' will suggest. The probability of A would in this case be presumed to be very high: this is what drives up the doxastic expectation of H. Utterance of 'C if A' is redundant as regards presupposed C, and A and C are independent in the Prior in virtue of $P^j(C) = 1$ holding. But ceteris paribus 'if A' would indicate that an unkinky probability distribution over $\pm A$ is to be chosen. I.e. just as 'if A' can suspend a deterministic presupposition, it here suspends or counteracts a strong probabilistic prejudice in favour of A which would have made H highly probable. 'If A' thus lowers the probability of H by ruling out possible Priors which give A and thus H high probability.

Extensions of the conversation that introduce yet another element, G, may be pertinent, too. Their pertinence will perhaps be more obvious in pulp fiction and in its tacit gestural imitation by global reality. Thus, a crass way of demanding some stated or unstated G is by way of saying '*I can help you if I choose to (help you)*', where G is positive to A, the speaker's choosing to help, not simply positive to the bare eventuality, H, of helping, which by itself might arise inadvertently. This was the rationale for saying '$C{<}A$', rather than simply 'C'. Example: $G =$ 'Addressee does something for speaker'. Contrast '*If I choose to help you, I can (help you)*' which more strongly suggests relevance, in P^j and $P^{j'}$, of choice to ability. The structural difference, acknowledged by Austin for another example and puzzled over by Fogelin, is explained by letting 'C if A' directly denote $A \to C$ as suggested in Section 3 note 22. Intuitions for 'can' are sharper yet under a change of relevance sign of G to H and substitution of transgressive 'harm' for superogatory 'help'. Pulp reality and the hearer's preparation by the antecedent may then supply for a consequent C, '*I can harm you*', of 'C if A', the tacit common sense supplement, '*with impunity*'. The conditional then turns consequential and thus contraponible, because choosing to do something neither presupposes nor entails ability to do it with impunity.[69] Lack of

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[69]'With impunity' seems easier to abduce when left implicit than, say, 'without

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obvious scope for any such charitable supplement is what makes the more civilized sentence, '*I could have walked to Grantchester this morning, if I had chosen (to)*', so strange when the antecedent is preposed and it becomes '*If I had chosen to walk to Grantchester this morning, I could have (done so)*'. Our model speaker is a Cambridge don free to amble and ramble, not a well-heeled SecuriTag prisoner under house arrest.[70]

8 The Conditional Act Thesis and its Problems

The relevance theory for (1) suffices to show up the potential and the limits of a doctrine defended by Keith DeRose and Richard Grandy (1999). This is the idea, going back explicitly to a suggestion reported by Quine (1950) that assertion of a conditional $A>C$ is really a conditional act of assertion or act of conditional assertion.[71] The thesis is bipartite: (i) C is asserted if and when A, whose truth value is presumed unknown at

undue exertion'. The explanation will be the salient ambiguity of 'can' between physical and proto-legal ability. Moore's two 'can's of absolute ability and choice, which are mirrored by Gasking's (1952) 'possibility' and 'reasonable possibility', follow this distinction. The latter reading evidently takes into account valuational consequences. It is the preferred reading, surely, because knowledge about absolute physical ability is usually common prior knowledge.

[70]The weirdness of Moore's '*I should have walked a mile in 20 minutes this morning, if I had chosen*', noted by Austin (1956:[156]), is mirrored in that of '*I shall walk to Grantchester, if I choose to*'. It will hinge on the fact that saying 'I choose to do x' entails, but does not presuppose, a commitment to 'I shall do x' and, in most contexts P, is in turn P-entailed by it; the tacit alternative being: not doing x. If so, the utterance is of the logical form '$A \vee \overline{A}$', either directly so in those contexts P, or more generally and mediately so by way of the logically equivalent '$A \vee \overline{AB}$', i.e. '$A \vee (\overline{A} \vee \overline{B})$'. It makes no assertion at all, yet it makes for (negative) interclausal, endocentric relevance and so does not have A looking for relevance elsewhere in the ostensible Prior, i.e. for some H. By contrast, presupposed C is irrelevant to A in the Prior, and so needs an H for it. Austin's alternative form, '*If I had chosen to walk a mile in 20 minutes this morning, I should (jolly well) have done so*', is correctly argued to have for its natural interpretation an assertion of my strength of character. Part of its smoothness may, however, be artefact: 'this morning' could bear on choice and help create a large temporal gap for *akrasia* to unfold. Verify that '*If I choose to walk to Grantchester, I shall do so*' is odder, but still less odd than the postposed antecedent version. Again, with foresight gained by having heard the antecedent, a supplementation to '*do so against all intervening obstacles*' could readily be imposed and make for nonzero assertoric content and a relevant connection. There may also be a viable temporal precedence interpretation for a 'then' that is easily inserted.

[71]Ramsey (1929b:[147]) moots at least part of the idea: "Many sentences express cognitive attitudes without being propositions ... the ordinary hypothetical ... asserts something for the case where the protasis is true ..." The famous remark ([p. 155]) about adding A to the 'stock of knowledge' hypothetically and then arguing about C could also be read this way.

the time of utterance, turns out to be true; (ii) else no assertion at all is made.[72]

Whatever the prima facie plausibility of this view for consequentials, unconditionals are a prima facie counterexample. This is because they are also a prima facie counterexample to the weaker and, for consequential conditionals, trivial thesis in which clause (ii) is replaced by (ii′): 'no assertion of C is made, unless A turns out to be true'. I think a confirmation-biassed focus on this truism lends the conditional assertion doctrine its air of plausibility.[73] For this reason, unconditionals are a welcome opportunity to test it. Belnap (1970) thought, on phenomenological grounds, that unconditionals falsified this thesis: if neither of A or C turns out to hold, the assertor would be judged to have made an assertion that is false. This is also my judgment, and the account offered above explains why.

DeRose and Grandy take up Belnap's challenge regarding (a.1), although they propose no explanation for the other puzzling feature of unconditionals, (a.2).[74] They argue that in serious utterance of consequentials, A is a condition on the truth or credibility of C, whereas in unconditionals it is a condition only on the conversational relevance of C. The claim rests on a thesis about assertion. This speech act, they say, comes by its very nature with a pair of conversational implicatures. One is that the asserted proposition is known by the speaker to be true (DeRose) or is considered at least highly probable (Grandy). The other is that it is conversationally relevant.[75] To introduce a condition, here

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[72]A careful statement of the thesis is due to Peter Milne (1997:195f.): "A conditional assertion is not a single proposition asserted in a single act of utterance or inscription. Rather, by making a certain utterance or inscription one undertakes to be committed to a proposition, in the way one is standardly committed to propositions by one's assertions, should some condition [specified by a second, not necessarily distinct proposition] be fulfilled" (my interpolation from Milne's text). This claim is stronger than what the conditional act thesis also implies: that no assertion is made if the antecedent is known to be false (i.e. its truth an impossibility) at the time of utterance. The latter claim is also implied by CCCP, but no conditional act thesis need be assumed for CCCP. See also note 88, below. Ramsey (1929b) avows truth conditions $A \rightarrow C$, which is close to denying (ii).

[73]In a CCCP framework the truism means: One presumes that the unconditional probability of C is below the assertibility threshold, which is attained by its conditional probability. When A turns out true, its probability goes to 1 and, the new probability of C will be its earlier conditional probability.

[74]Jeffrey (1963) notes that the conditional assertion thesis fails to specify the conditions under which contraposition is valid. His own framework then was trivalent logic.

[75]The decision-theoretic semantics (DTS) outlined in sections 3–5 would be glossed

A, is to 'suspend'—as I should say in linguists' terminology applied to presuppositions—the commitment to be making one or the other claim.[76]

DeRose and Grandy maintain that suspension by a condition need not attain both implicated claims. Their argumentation indeed suggests that only one of them is suspended at a time. Each case of suspension by conditionalizing the act on *A* is motivated by the following predicament: the speaker does not know whether *C* fulfils the condition. In unconditionals, $A>C$, the speaker does not know whether *C* is relevant (p. 411), but knows it would be relevant if *A* were true or known. Accordingly the relevance implicature for *C* is suspended while the knowledge or credence implicature survives. In ordinary conditionals, matters are reversed. The formulation is almost parallel. Speakers do not know whether *C* is true, or credible. In ordinary conditionals, the relevance implicature for *C* thus survives while the knowledge or credence implicature is suspended. In unconditionals, where the relevance implicature is suspended, one feels that *C* has been asserted outright, even though, as De Rose and Grandy maintain, it has not been asserted, but only 'implicated'.

Start with this last claim which, at first sight, looks simply like doubtful choice of terminology. This is because the argument must entail that what is asserted by an affirmative utterance of a plain atomic sentence *B* is the conjunction of a pair of conversational implicatures. There would be no assertoric base for implicatures: all other implicatures would be implicatures of implicatures. One could welcome this as a daring claim, if the status of the knowledge or credence implicature was not left formally unclear and its recursion properties quite unspecified.

To test whether the problem is merely terminological, as the authors themselves suggest in passing (p. 419n19),[77] let us say liberally that a

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instead: the speaker presupposes both knowledge and relevance whenever 'assertion' is interpreted so as to contrast with 'admission' and 'statement'. The meaning of 'presuppose' and the nature of the commitment are given by the two rather technical Norms. DeRose and Grandy themselves note that answers *S* to questions can be conjoined felicitously with a flat denial of the relevance of *S*. The contrast is predicted by the assumptions of DTS in that such an *S* must be an admission or a statement.

[76]Suspending is distinct from each of denying truth or denying relevance: compare *Only Beta saw Gamma*, {*if indeed anyone did/** *and indeed no-one did*}. The prima facie generalization is: conversational implicatures can be cancelled, i.e. denied, presuppositions only suspended, e.g. with 'if', 'or', and 'might'. I use 'claim' as a descriptive term here that does not prejudge the taxonomic issue.

[77]What might speak, specifically now, for calling *C* being 'implicated' by the unconditional could be the indirect way in which the affirmative commitment to it is arrived at under the account of Section 6. But the same could be said of any other lexico-syntactic entailment, since the crucial independence assumption for (1) is implied by lexico-syntactic properties of the sentence (1). The distinction between a

proposition which is uttered with a claim to full commitment to its truth or to whatever the pretheoretical label 'truth' stands proxy for—rational credibility, mere high probability, knowledgeable warrant for assent—is *affirmed*. Our explicatory null hypothesis should now be that truth-"implicated" really means 'affirmed'. Prima facie, this conjecture has several things going for it. This is best seen by supposing its negation, namely that truth-"implicated" does not mean or entail 'affirmed'.

First, if "implicated" were to mean that the assertor of an unconditional is not affirming C, the proposed account of normally uttered unconditionals $A>C$ or $C<A$ would be false under either version of CCCP. Under Confident CCCP, C is indeed presented as known, i.e. affirmed in the most exacting sense. Under mere high probability CCCP, which, as we saw, could yet account for (a.1), C would receive high probability, as high as the conditional probability for $A>C$. Hence it would be 'affirmed' by the more liberal CCCP criterion. I take it that CCCP is true, and DeRose and Grandy's would at least seem to allow that one or the other version of CCCP holds.[78]

Moreover, if again "implicated" does not mean 'affirmed', the account will also be false by people's pre-theoretical reflective intuitions, among them those, prospectively, of Belnap (1970) and, retrospectively, of Bennett (2003). These reflective intuitions might yet be dismissed as illusions, as indeed they are dismissed by DeRose and Grandy (p. 415). On the other hand, one should be more ready to acquiesce in such a dismissal if it was supported by an account of the properties of the putative credence or knowledge implicature which was committal in a way that compares with Fregean and other accounts of affirmation.[79]

Indeed, if 'implicated' does not mean 'affirmed' one should not really know what it meant. One should have no basis on which to articulate the account with any extant, formally intelligible account of conditionals. Nor, theory-internally now, should one have a basis for extending it to what the authors do not address, the failure (a.2) of contraposition. Prima facie, the commitment to 'implicature' of C stands in the way of

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causal history of inference and evidential commitment status is, I think, conflated quite generally in the term 'implicature'. DeRose and Grandy's formal argument pertains, however, to the latter only.

[78]Early on (p. 408) they endorse Edgington's (1995) endeavour to maintain both CCCP and the Conditional Act thesis, i.e. have one extend the other.

[79]Gazdar (1979) who refashions Grice's 'Quality' implicature to 'assertor of A knows A' explicates his knowledge operator, K_s, classically as implying truth, i.e. K_s is KT epistemic necessity. Hence this 'implicature', as Gazdar writes in line with Grice's original terminology, is or entails an assertion or affirmation in the strictest possible sense.

a simple Conditional Act proposal to explain (a.2). For suppose that C is affirmed true. Then $\overline{C}$ is affirmed false. Under these conditions one should plausibly say that no act of affirming anything, conditional on $\overline{C}$, will be performable. Hence contraposition fails. By contrast, if C is 'implicated' but not affirmed, one would not really know what to say about its ability or otherwise to block the contrapositive. There is no theory being offered that forces one's hand. A decision ad hoc would have to be made. This cannot augur well for 'calculating' the putative implicature.[80]

The supposition, for *reductio*, that truth-"implicated" does not mean or entail 'affirmed' leads to a serious difficulty. Let us then suppose the null hypothesis, namely that "implicated" simply means what 'affirmed' means under the above definition, or at any rate entails it. Suppose also that any signals to the contrary were inadvertent.[81]

However, this supposition must be deleterious to the Conditional Act thesis. If affirmation or implicature is defined in terms of commitment to truth, then the logical entailment from C to $A \rightarrow C$ will imply that $A \rightarrow C$ is likewise being affirmed when C is affirmed. If affirmative commitment is specified in terms of knowledge (DeRose), the commitment to $A \rightarrow C$ will stand, since knowledge as rigorously understood is closed under entailment. In the present simple case an auxiliary appeal to complexity bounds on deductive rationality, which could humanize the rigorous understanding, can hardly be made to block the conclusion. (Were it granted this early, we should be using 'knowledge' in a very colloquial way.) If affirmative commitment is specified in terms of high probability (Grandy), an affirmative commitment to C will again entail

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[80] But note also that this simple 'affirmation' account of (a.2), which extends conservatively to the Confident CCCP account (as long as the non-trivial part of Conditional Act, to which I get soon, is ignored) would not be available if affirmation was less than Confident.

[81] Signals are mixed. At p. 415 the implicature is contrasted with "a non-conditional (simple) commitment to C", but three lines on one reads "a commitment to the truth of C is generated even where C ends up not being asserted". Further down, however one reads again: "Given the fact that an utterance can seem false to us when it generates a false implicature [this refers e.g. to 'Some As are Bs' seeming false when all As are Bs] we should expect ... some intuitive pull toward thinking that one asserts something false [by uttering e.g. (1) under conditions] where A and C are both false." (My interpolations). The last analogy does not entail falsity of the 'affirmation' interpretation, but the absence of an obvious description, 'it's like assertion, but minus the relevance claim', suggests vacillation. I now come to reasons for possible vacillation.

affirmation of $A \to C$, since, by the laws of probability, $D \models E$ implies $P(D) \leq P(E)$.

Thus, if "implicate" were to mean 'affirm', then the account would entail for unconditionals the affirmation of a material conditional proposition, and properly so even by standards of propriety sufficient to entail assertibility standards set by any version of CCCP.[82] It would thus affirm, inter alia, what is affirmed by an ordinary, consequential conditional.

In the face of this consequence, the Conditional Act thesis as reconstrued by DeRose and Grandy could yet be sustained if one of two arguments could be made. The first would be that $A \to C$ is conversationally irrelevant. The alternative would be, analogously to what DeRose and Grandy say about C, that the speaker does not know or does not presume it mutually known whether $A \to C$ is relevant. If so the MC would not be asserted even though it was affirmed.

Neither of these arguments could be made directly. Conversational relevance (CR) in Grice's sense attaches only to utterances. When one speaks, in this sense, of the CR of C, one is referring to the CR of a prima facie assertoric utterance of a sentence 'C' which denotes the proposition C. To proceed analogously for the whole complex sentence we should assume that it denotes the MC, $A \to C$ at the very least when it is uttered with apparent affirmative intent. This is exactly what we should say under Confident CCCP, or under the Lewis-Jackson hybrid theory, or under Grice's very own theory (Grice 1989). To say that 'If A, C' or 'C if A', when uttered with apparent assertoric intent, cannot denote the MC, would simply be to beg the question for the Conditional Act thesis.

So here is the problem: The felicitous utterance of the unconditional as a whole, which is agreed to be syntactically a conditional, cannot be conversationally irrelevant under any construal of CR as a property of utterances (i.e. sentence-tokens in a context). If it were irrelevant, it would be pointless, hence infelicitous, and the expression uttered should have been replaced by something else. The same goes for its conversational relevance being uncertain or unknown. What might yet be plausible for 'C', no longer is so for 'C if A'.

However, if conversational relevance were to be explicated in a way that took recourse to a notion of relevance of propositions, just as notions of entailment do, one might at least be able to formulate such a thesis for the proposition. Indeed, the basic form of argument will, I think, be

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[82]When $P(C|A)$ is defined, it is as high as or higher than $P(C)$, unless A is negatively relevant to C ($P(C|A) < P(C)$). But such negative relevance can be ruled out already on phenomenological grounds. Recall finally that $P(C|A) \leq P(A \to C)$.

at the core of a theory of assertion within a decision-theoretic semantics (see Merin 1999).

Here is why. In classical Fregean logic, affirmation of A commits one to affirmation of $A \vee B$, for arbitrary B.[83] Now, in the conservative extension of Fregean semantics to a decision-theoretic framework, B might be intuitively irrelevant and spread its irrelevance both intuititably and formally to the disjunction. It might do so formally if A is evidentially positive to the issue-proposition H, while $A \vee B$ is irrelevant (as it might be) or even negatively relevant (as it also might be). A clear if crude case of final evidential irrelevance would be '*The Fed will lower the prime rate or it won't*'. A case of plausible sign change would be '*The Fed will lower the prime rate or the price of crude oil will treble*'. In each case let H = 'The Dow will rise'. (What DeRose and Grandy could not, of course, simply say is: what is asserted is the logically strongest proposition affirmed.)

Suppose now this explication of 'conversational relevance' is chosen. Then an utterance of 'B' is CR in a context j iff B is evidentially relevant in P^j to $\pm H$. For DeRose and Grandy's thesis to translate as straightforwardly as could be, the issue, $\pm H$, for Austin's (1) should satisfy these requirements: each of C and $A \rightarrow C$ is irrelevant to $\pm H$, and C becomes relevant, say positively to H, given A.[84] Unless it be argued that relevance so explicated fails to be an explication of Grice's notoriously vague and therefore noncommittal notion,[85] one should thus look to a class of

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[83]In a decision-theoretic semantics, one should consider advance restrictions: e.g. that B be an element of the given proposition algebra $\mathcal{F}$ or that extensions of the conversation should rule out B that must receive negligible probability.

[84]Here irrelevance of C must be assumed; not unknown relevance of C, as DeRose and Grandy formulate. This distinction shows up a fundamental difference between the two approaches to meaning. In the decision-theoretic approach, the speaker must have in mind an issue $\pm H$ which can be presumed to be established or conjectured by physical addressees from earlier discourse or from the actual utterance. With respect to H, the qualitative relevance of C—positive, negative, or zero—is presumed to be mutually known, as is the relevance of A. However, without the overt introduction of A, the right issue $\pm H$ would not likely be raised so as to be presumable mutual knowledge. Extending the possible conversation space by A leads to the relevance of C becoming known, since it leads, in turn, to extension of the space so as to include H. Truth or verification of A is not a condition on non-zero relevance of C.

[85]De Rose and Grandy (p. 417n12) recommend for filling in a specific development in the linguistics literature on relevance, indeed with four references whose details they hold to be of no significance to their argument. This last assessment seems reasonable, for the proposal would explicate degree of relevance of A as increasing in the cardinality of the set of sentences of *lingua mentalis* which become newly inferrable on adding A to the context, and as decreasing in processing effort required to infer

relevance models that fit (1), namely those which underlay the account given in Section 6. These all make $\overline{A}$ a sufficient condition for irrelevance of C to H. Such a constraint is fully compatible with the idea of A being a condition on the relevance of C. It is even one possible explication of it. At any rate, it is a non-trivial lowerbound on what the explicandum could men at its weakest.

We are now able to state what should be required, under the candidate explication, to verify the Conditional Act thesis as expounded by DeRose and Grandy. The requirement is a coherently intuitable model for the miniature theory consisting of the pair of conditions $P(H|C) = P(H)$ ['C is irrelevant'] and $P(H|AC) > P(H|A)$ ['C is positively relevant given A']). If the consequences of the inevitable affirmation of $A \rightarrow C$ are taken into account, the further condition $P(H|A \rightarrow C) = P(H)$ should have to be be imposed. In each case, P would be the Prior, i.e. P^j.

There does not appear to be such a model for Austin's sentence, even without considering the lastmentioned condition. In Section 6 it was shown that the innocuous-looking condition $P^j(H|C) = P^j(H)$ is inconsistent with any reasonably constructible scenario for sentence (1) and, I take it, for sentences intuitively like it. Conversational irrelevance of C cannot, for unconditionals, coherently mean evidential irrelevance to the issue-partition $\pm H$. Note further that, when H P-entails C, as it does in our models, it will also P-entail $A \rightarrow C$, and so the latter is also positive to H.

Now, even if one were to grant that C should be "implicated" in some non-affirmatory sense that does not license an entailed affirmation of the MC, an explication of C being relevant is clearly required. The explication of Section 6 satisfies this requirement. It does so in a way that can, at least shortsightedly, be isolated from the question what the precise affirmatory status of C is when denoting the consequent of an unconditional utterance. Either way, C fails to be irrelevant in intuitable relevance models. That $\overline{A}$ is sufficient for irrelevance of C cannot sustain a conditional act thesis analogous to one where A is a sufficient condition for truth or assertibility of C. (Recall at this point that DeRose and Grandy's formulation in terms of uncertainty about CR applies only to utterances or possible utterances, and failed in virtue of the utterance as a whole having to be known to be relevant.)

One may now object that CR should not be held to this most straightforward of formally intelligible explications of relevance. One could, for

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them. Grice (1989: 371f.) comments, more singlemindedly and in so many words, that the attempted explication misses the point of relevance, namely its directedness.

instance, demand a stricter criterion of relevance and argue as follows: The probability theory allows and, for the prototype model of (1), indeed entails that, given A, the positive relevance of C for H is increased from what it is ceteris paribus. This increase could make the difference between conversational relevance and conversational irrelevance. Conversational relevance would mean, or factor through, *significant* evidential relevance to the designated issue proposition, H. The specific three-variable relevance model would supply a qualitative criterion of significance.

Three ways of interpreting this demand suggest themselves. The first way is dependent on picking some, indeed any, bona fide numerical evaluation of relevance of C to H, say the difference, $P(H|C) - P(H)$. Then the statement, $P(H|CA) - P(H|A) > P(H|C) - P(H)$, will be saying that the positive relevance of C to H, given A is greater than its relevance to H without any assumptions being made about A. The constraint is consistent with the others. Indeed a model for it conforms to the intuitive phenomenological properties of (1) type situations.

The criterion would thereby stipulate: a proposition is irrelevant or, better, not deemed known to be relevant if it is less positively relevant by itself to the designated issue-proposition H than it would be given some other proposition, X, in the minimal proposition algebra generated by things mentioned. The criterion would be subject to a non-triviality constraint, $X \neq H$. This suggests that we should interpret CR, for unconditionals, in terms of a thesis CRMA: 'A is a condition for maximal attainable positive relevance of C to H within a minimal probability space. 'MA' stands for 'maximal attainable'.

A second way to sustain CRMA, here co-extensive with the first, is to observe simply that $P(H|CA) > P(H|C)$. This means, of course, that A is positive to H, given C.[86] But it also says, equivalently, that AC raises the probability of H beyond what it is given C. Since A is the only proposition that could legitimately do so, 'maximal' is legitimately applied when 'attainable' is interpreted as above.

Before considering a more costly, but sharper version of CRMA, a judgment on $A \rightarrow C$ is in order. This proposition, i.e. $\overline{A} \vee C$, is affirmed whenever C is affirmed by uttering an unconditional, $A{>}C$ or $C{<}A$. To engage the partition $\pm A$ of a set of ultimate possibilities, there is in this case no need for a gratuitous extension of the conversation. Recall that, in the basic relevance model for (1), H P^j-entails C which entails $A \rightarrow C$, which is P^j-contingent. So $A \rightarrow C$ is positive to H. However, under any

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[86]The observation is neutral on whether either or both of A or C is by itself positive for H.

intuitively viable evaluation of relevance, it will be less positive to H than C is, let alone AC; for A is positive to H. Hence, in the spirit of CRMA, one should argue that $A \rightarrow C$ is affirmed, but not asserted.

The third way to interpret CRMA would be a special case of the second. It would require a further assumption which is not entailed by the prototype model of Section 6 and which might therefore change the conditions of attainability. Suppose one could reasonably assume that $P(H|C) < P(H|AC) = 1$. Then A would indeed maximize relevance of C in the sense of making C extremely relevant to H. Given A, verification of C would make H a certainty. Call this interpretation CRM+.

Conditions warranting CRM+ could be imposed on models for (1) and I see no reason to deny all unconditional scenarios a background theory which implies $P(H|AC) = 1$. For Example (1) this would mean: if you want biscuits and biscuits are within reach, you will eat some. As students of Moore and Aristotle should say: the joint presence of will and opportunity here not only P-implies deed, it is P-coextensive with the deed in all but superficial temporal features. At any rate, AC will then be extremely relevant to H, and indeed maximally so if Turing's and others' likelihood-ratio evaluation of relevance, $(P(AC|H)/P(AC|\overline{H})$, or a transform of it is adopted to interpret 'maximal'.

However, CRM+ would be implausibly demanding as a relevance criterion outside these parochial confines. It would say: 'A proposition X is conversationally relevant if and only if it is extremely relevant to an element of a sufficient partition $\pm H$.' If generally applicable, CRM+ would imply that any proposition advanced as an argument for anything will have to be a conclusive argument. This is plainly counterintuitive. It would entail our saying that 'I saw her a minute ago' is not a relevant answer to 'Is Kim in today?', which standardly denotes a partition {Kim is in, Kim isn't in}. The criterion would imply that any sentence whose utterance did not right away settle the issue that motivated its utterance was conversationally irrelevant. 'Be relevant' would entail 'Be brief', perhaps desirably so, but also implausibly so. After all, our intuitive unit of assertion is the sentence, and uttering lots of these units is the rule, not the exception.

As a general explication of conversational relevance, the more modest criterion underlying CRMA is less unrealistic. However, it has about it a whiff of begging the question. It is one thing to use an increase in relevance (i.e. a 'change of change in expectations') which does not affect

relevance sign, but only size, to explain some specific fact of language;[87] it is another to try and hang the difference between an assertion and a non-assertion from it. CRMA would open the floodgates to speculation on whether an assertion had been made by utterance of a non-vacuous sentence S if some ampliative interpretation could be found that made it more relevant to the issue, but opened doubts about its evidential backing.

Yet, for the special case of unconditionals, a case for CRMA or CRM+ could be made. If "implicated" simply means affirmed and if CRMA or CRM+ are granted as explications of CR for the specific case of unconditionals, then the Conditional Act thesis, understood now with respect to the 'relevant affirmation' interpretation of 'assertion' will be verified for unconditionals.

However, the thesis, both as stated and as reasonably construable, is false for consequential conditionals, and on grounds which cannot be overturned by postulating an unmet relevance claim for assertion. Hence, there is a curious conclusion to draw. The thesis as extended by DeRose and Grandy is sustainable—ad hoc—for an exceptional case, unconditionals, which prior to their effort looked like being the most solid obstacle to the viability of the thesis. In return, the thesis is unsustainable for the unexceptional case, consequentials, which looked, not least in virtue of the conditional betting representation of conditional probability, like supplying its raison d'être.[88] With an ambit so parochial, I think there are no good grounds for retaining the Conditional Act thesis for purely assertoric discourse.[89] I conclude: Assertion is unconditional.

There is also a methodological conclusion. Implicature arguments about knowledge imputation should perhaps be conducted, if at all, then in a framework no less committal than that of a formally specified logic.

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[87]E.g. why there should be a preference for readings of '*It is not the case that the king of France is bald*' which presuppose the existence of a king of France.

[88] Though it could supply it only for the case where it is known in advance that the antecedent condition must be false, as it will be for the unconditional's contrapositive under Confidence. In this case, no bet can be laid. In all other cases, however, the conditional bet is equivalent, as De Finetti showed, to a pair of unconditional bets at suitable odds, one on AC, the other against A.

[89]The conditional imperative examples fielded in Edgington (1995) can, I think, be dealt with in the MC framework of Dummett (1973) along the very preference-based lines suggested by Edgington, provided one agrees that imperatives can have propositional contents at all. There are, however, many other mixed-mood cases where the thesis, as van der Auwera (1986) argued, remains our best bet so far. The present negative argument does not in any obvious way extend to them.

9 Ostensibilia, Knowledge, and Norms of Assertion

Unconditionals are of interest in their own right as a puzzle in the philosophy of language. They act as a foil to show up more clearly what is distinctive of ordinary conditionals, but they also take us outside the narrow confines of a purely doxastic and soliloquist treatment of assertion, as ordinary conditionals at first sight needn't. They do so, because the apparent irrelevance of antecedent, A, to consequent, C, and the latter's apparent outright affirmation would make a soliloquist and purely doxastic account either false or unaesthetic or severely incomplete, or all of these.

Like many a philosophical puzzle, unconditionals are thus of general interest. I have argued that they provide specific evidence for an interpretive norm of Certainty in assertion and that this norm, along with the social dynamics of affirmation, already warrants extension of the norm from one of speaker Certainty to speaker's Knowledge. The form I have found best for expressing this norm is one of speaker's presenting themselves as knowing. This imputational form of a norm is chosen explicitly by Black (1952) and Unger (1975), and also in practice by Gazdar (1979), whose proximal concern, like mine, was to account for interpretive intuitions, albeit for different phenomena.

Consider in this light the certainty component of knowledge, i.e. clause (KN.1) of the Knowledge Norm. The explication given to certainty implies that assertors in particular and affirmers in general present themselves as being doxastically Bayes-rational. Their beliefs ostensibly satisfy the axioms for finitely additive probability.[90] They are ostensibly coherent in this sense. Doxastic coherence, as is well known, does not require that one's private probabilities are those which a sensible person let alone an actuary would give. However, it does imply that assertors who purport to be certain cannot also purport to have 'accepted' what they assert on less than certainty, as one might Bayes-rationally say 'I accept that A' in shorthand for acting-as-if A in a given context.

The latter, however, is just what people do find themselves having done or being about to do when they decide to assert something on dodgy evidence because the expected disvalue to everyone of prudent silence or

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[90]In the short term relevant to making first sense of what is said and perhaps over stretches of conversation. I doubt one can get ten philosophers who are not on the same grant to agree on what to do about the long term, i.e. about hopping from one abandoned certainty to the next. The topic is hard, particularly if one thinks that beliefs and desires should mesh and that assigning unit probability only to tautologies and zero only to contradictions (see e.g. Jeffrey 1965) is not the answer.

of a hedge would much exceed that of being wrong. The predicament is explicated in classical Statistical Decision Theory [SDT].[91] What is hard knowledge to us at a given time may be the result of such an act of acceptance. Indeed, the standard transmodal paradigm for general sensory knowledge is Signal Detection Theory, which shares both the acronym and its mathematical structure with STD. Knowledge we impute to ourselves and others does rest on such naturalistic acts of acceptance, and my guess is that there is a cline to others that give consciousness a larger say. It is this aspect of assertion, I think, which is addressed by 'rational credibility' theories (Douven 2006), among which ought to be counted those which espouse contextualism about knowledge (DeRose 2002).

My argument has been that a class of robust language data are best explained by assuming a communicational norm of assertion as certainty to be shared. A broader decision-theoretic approach to meaning, of which this is part, will have to embed such an account in a theory consistent with data that suggest discrepancies between the evidence actually at our disposal and the evidence considered in presenting ourselves as certain.

There is no doubt that we assert sentences unhedged which, on actuarial and more obvious grounds, should not be given (conditional) personal probability 1. Nevertheless, I should say, we represent ourselves as giving them that probability value, and often do so in the best of faith. This may be unreasonable by actuarial criteria, though perhaps reasonable again by parochial pragmatic criteria.[92]

A fragment of this acceptance predicament is briefly stated for conditionals by Reichenbach (1954: 126–134). He considers the formation of conditional probability statements $P^s(C|A) = 1$ that would be licensed by a lawlike statement, $\forall x[x \in A \rightarrow x \in C]$, which is yet to be induced. Among Reichenbach's conditions on the statistical provenance of conditional probabilities, $P^o(C|A)$, that serve as inputs to statement formation, the following two are of present interest: (a) $P^o(C|A) \sim 1$; and (b) we have no specific evidence that a class D of eventualities can be defined by us such that $P^o(C|AD) < P^o(C|A)$.[93]

The lottery is the paradigm case where both lay and academic epistemologists cannot help thinking of such a D. Let $C =$ 'You won't win anything', $A =$ You buy this ticket', $D =$ the n-fold conjunction of statements 'you buy ticket t_i' $(i = 1, ..., n)$ for a fair one-prize n-ticket lottery

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[91]The early parts of Wald (1947) are a readable account.

[92]Like calling France hexagonal when you are not a cartographer on duty.

[93]The distinct superscript indices are mine, added for clarity and perhaps modifying Reichenbach's frequentist leanings. One should not forget the origin of all 'high probability' doctrines of assertion in the philosophy of the inductive sciences.

and large n. Then $P^o(C|A) \sim 1$, but $P^o(C|AD) = 0$, so the leap to $P^s(C|A) = 1$ faces a credibility gap as wide as can be. The relevant assignments under P^o are public knowledge ex ante, in our terms: the Common Prior P^j conforms to P^o in this respect. What gives the Lottery Paradox (Kyburg 1961) its kick and salience relative to other finitary chance setups is that P^j conforms stably so as it would to a constitutive lawlike constraint. D is so salient because the whole point of any lottery is that (at least) one ticket must win. Hence, speakers whose ostensible subjective probability p^s conformed to P^s should find it difficult to represent themselves credibly as being certain in the first place[94] and as seriously expecting that others will tag along. The Common Prior could not be consistently updated in line with such a professed belief. Restricted to speaker's certainty, this instantiates Black's 1952 argument.

The Lottery Paradox is the standard counterexample to the unrestricted viability of 'acceptance' of highly probable hypotheses. If inducing a law for the sake of portable learning is our task, i.e. if we accord high priority to knowledge in the full transcendent sense, we do not leap to $P^s(C|A) = 1$. However, if our weighings of the respective disutilities of a false positive and false negative judgment come out against buying the ticket (cp. Wald 1947), we might well accept $A{>}C$ as a belief under a Cartesian *morale provisoire* (where $A = $ 'I buy a ticket', and $C = $ 'I will get nothing in return') and act, even verbally, in line with $P^s(C|A) = 1$.

Consider then the Knowledge Norm as a whole. Between them, (KN.1.)–(KN.5) shorn of their ostensibilist hedges also constitute a secular, pragmatic representation or projection of the speaker knowing A— where (KN.1)–(KN.4) are those aspects of the concept of knowing which are instantly presentable by speakers. The description of affirmation thus makes no appeal to the transcendent notion of truth.[95]

What appeal it makes to the concept which is engaged by a constative use of the predicate 'true' is fully exhausted by observing[96] that we say 'so-and-so's belief is true' if and only if this belief is also ours. What appeal it makes to the concept engaged by constative use of the predicate 'know' is fully exhausted by that usage which has someone who has just looked at Russell's clock—a clock that we know to have stopped at 6

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[94]Here is the first step of ascent from certainty to common certainty!

[95] The definite article, as will be obvious, is here already an article of faith. I must also qualify 'no appeal': to the extent that probability is expectation of truth, not simply the expectation of an abstract value atavistically called truth-value, such appeal will be made already in the concept of certainty.

[96]As F.P. Ramsey (1929b:[145]) did, for one.

ten days ago—saying 'I know' when being told by the Astronomer Royal that the time is 6 o'clock.[97]

What appeal is made to the concepts engaged in conducive and in this sense performative use[98] of the two predicates is exhausted by the predicates' insistent use. We say 'But what I say is *true*!' when what we have just said before the addressee demurred has unjustly (we feel) failed to secure ratification as a common certainty. We say 'Indeed, I *know*!' when a doubter queries with an 'Are you sure?' and we say 'But I *know* so!', now again in response to a denial that we feel is unwarranted.

Insistence, as the exclamation marks will suggest, is a comparatively rare act type. It is performed when there has been a hitch or something has gone seriously wrong. This important appeal to truth and knowledge is the active counterpart to the passive appeal in P.F Strawon's famous 'ditto' use of 'true' and in the related acknowledgement use of 'know'.

But why should this active appeal be confined to such 'marked' occasions? Why should the next in line of markedness be the passive appeal? And why should even this appeal be marked, as concessions or acknowledgments are by discourse-temporal and other criteria? There is a simplest answer. On all other occasions, i.e. for the least marked, affirmative default act type—assertion—such active appeal is made already in virtue of the utterance being made. There is no need to make it lexically explicit, for it is made as a matter of course and the Knowledge Norm codifies this social fact. Brief acknowledgements make it explicit in return for eliding contents. Formal concessions without elision do so to display their status as concessions. The vocal flare-up of insistence, indicated by the 'shriek' symbol, is a sign of upset at a failed expectation, here of routine admission of the claim of the Knowledge Norm.

Call 'knowledge$_p$' the concept or projection of knowledge which will be engaged by the phenomenological data on unconditionals and, I think,

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[97]This use is in the first place an admission. In second place it may be an expression of irritation or condescension. The use of 'know' in the relative clause 'that we know to have stopped at 6 ten days ago' is no longer fully covered by this usage. Here the speaker, proxy for the 'we' that designates us, presupposes that the audience accomodate, if need be, or else already share, the conviction that the clock has stopped at 6 ten days ago. There is scope then for an imperatival, no longer constative element to enter.

[98]The constative/performative distinction is not leaky, just relative. At a first pinch, adapting an idea due to Stephen Isard (1975), it is modelled by an automaton with output. Given an automaton state, an input returns a value (constative) and advances the state (performative). The second pinch is to say that an utterance may be constative with respect to a probability space $\mathcal{P}$ and performative with respect to a larger space $\mathcal{P}'$ that extends $\mathcal{P}$ in the sense of Section 5 above.

on other assertoric phenomena.[99] Then knowledge$_p$ is (i) what we impute publicly to others when their conviction appears to match ours, or (ii) what we impute publicly to ourselves either (a) when our conviction appears to match theirs or (b) when we purport to demand that their conviction ought to match ours. Case (i.a) is exemplified by saying 'Kim knows that A'. Case (ii.a) is illustrated by the clock case. Case (ii.b) is what we have attended to by engaging in vicarious perspective-taking. We did so for the special case where knowledge imputation proceeds by presupposing or otherwise intimating 'I know that A', not by way of affirming it.

Knowledge$_p$ makes no appeal to a transcendent or at any rate philosophical notion of warrant that is to make the difference between true belief and knowledge. What notion of warrant it will appeal to in (KN.5) is again secular. Such warrant is an overwhelming evidential incentive to concur in belief. It is on a par with judicial warrant, which is an overwhelming, if sometimes fallible incentive to comply in conduct. What precisely establishes or limits jurisdiction for judicial warrant in general, as distinct from the particular case, cannot be said on a single page and probably not even in a monograph. The same goes, I think, for evidential warrant.[100]

Skeptics about truth, warrant, and knowledge might say that knowledge is simply knowledge$_p$. Skeptics about philosophy might say that anything to be said about knowledge that goes beyond knowledge$_p$ is a matter for the individual sciences to say. But knowledge$_p$ will also extend, conservatively, to anything that non-skeptics about truth or knowledge or philosophy will recognize in the unsubscripted word.

I now turn to the form of phrasing norms. The norms engaged by the data are phrased as descriptive ostensibilia: ostensible certainty, ostensible common certainty, ostensible knowledge, ostensible intent to bring

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[99]Read 'p' as short for 'pragmatic', 'projection', or, if need be, 'pseudo-'. If 'pseudo-', treat as in 'pseudo-complement', the model-theoretic correlate of intuitionistic negation. This term loses its prefix when the axioms of the logic are conservatively extended to those for classical logic. The doctrinal divide behind the two logics, provability vs. truth, is not dissimilar either to that between 'knowledge$_p$' and its transcendent counterpart. If push comes to shove, it is proof and only proof, be it formal or empirical, that will satisfy others so as to make them ratify an update of the Common Prior. The truth writ large is the Impartial Spectator's. However, the fact that it is the boolean algebras modelling classical logic not the Heyting algebras of intuitionistic logic which underlie the theory of measure and thus of probability is one motivation for the credo of note 95 above.

[100]I also agree with Michael Blome-Tillmann (2007) who doubts that a philosopher's notion of warrant, here that of Alvin Plantinga, can be a definiens of knowledge.

about. Speakers present themselves as being in such and such an attitudinal state or as doing such and such a thing. An alternative way of proceeding on assertion (used synonymously with 'affirmation' in present terms) is by way of prescriptive, deontic constitutive rules for the speech act of assertion. Williamson (1996) offers, in essence: 'the assertor of A must know A'. Douven (2006) proposes, in parallel and as a candidate with a like measure of advantages and drawbacks, 'the assertor of A should hold A rationally credible'.

Williamson argues that having constitutive (deontic) rules for speech acts implies that speaker's will have to represent themselves as fulfilling their conditions. DeRose (2002) argues plausibly that the converse implication also holds. My proposed norm statements appear less economical because they are peppered with 'ostensibly's rather than brief deontic or inferential 'must'. No doubt the concepts of representing oneself as doing X or being Y are parasitic on the concepts X and Y if, as I do, one thinks that truth and therefore knowledge are transcendent. But so are notions of being obliged to do X or to being Y. Moreover, transcendent notions are elusive to the human touch.

I see no great disvirtue in being out front about the fact that norms or conventions other than engineering standards, which almost have the character of a natural bye-law, are eminently deviable-from. People ostensibly know, but might not actually know. People must know, but often don't. The prospect of living in what might be dubbed a state of mild, but ubiquitous ostense (as in 'ostense and ostensibilia') strikes me as no more disagreeable than one of living in a permanent state of moderate sin or hypocrisy. Indeed, Black's principle, that one cannot, on pain of being judged insane, credibly present oneself as being certain of an absurdity, gives presentationism an edge over deontic accounts of assertion. These will make no direct behavioural predictions for as long as the wages of sin are not specified or even countenanced. The presentationist will acknowldege the need for a deontic norm, but this will be a norm concerning misrepresentation. It would cover all forms of intimation, not only assertion, and would be a mapping from kinds of misrepresentations to specific sanctions. Maps of this kind are used by common sense and by the courts.

The three types of norms concerning assertion that I find most worth exploring thus correspond to the three main senses of 'norm' in English: 1. a norm *qua* standard (here of naturally evolved communications engineering), 2. a norm *qua* statistical regularity (here our conscious ex ante reflective imputation), and 3. a norm *qua* broadly ethico-juridical statute (here proscribing misrepresentation). The main body of this essay has

been addressing a norm of type 1 inferred from data which themselves conform to a norm of type 2. The claim is, for the understanding of norm as type 1, literally in accord with the claim of conservative knowledge accounts of assertion: that warranted assertions require probability 1 on one's evidence.[101]

The demands of the norm condition what legal language would describe as the rules of evidence, meaning: rules of what is to be admitted in evidence. Our evidence, conditional on which we assign unit probability is indeed what we know, as Williamson says. But there is—and I think Williamson (2000) is right to doubt that we have imperfect reflective access to what we know and do not know—plenty of room for a cloud of unknowing to pass between what we admit to ourselves as knowing and what we ought so to admit.

No doubt, talk of a cloud is a little on the vaporous side. However, it is in keeping with the multitude of moves and motives that condition what we know and do not really want to know and it condenses into a drop of stochastic terminology.

What has been called 'unknowing' under poetic license can often be described as illicit or licit, but unreasoned detachment. We assert unconditionally what is really conditional upon 'iffy' assumptions. There are conventions on when and when not to detach verbally some bare C from a 'since'-clause, A, of prior true assertions. But often enough 'unknowing' can also be described as 'screening' or, if one prefers a more specific neologism, as 'unconditioning', which is implemented by a tacit independence assumption. Once independence is taken for granted, we treat as factual what could be written out as the short consequent of a long semifactual whose 'even-iffy' antecedent consists of indefinitely many troubling observations and skeptical conceivability statements.

In this essay, the only kind of data that were considered in any detail were those which could be probative of a type 1 norm of the specific subtype. This norm governs an important part of our selves, the semantic component of our language faculty; and this part of us, so the claim must be, *is* certain of A whenever we assert A, either honestly and with care, or foolishly, or as a practised lie. Part is not whole, and with Hume one might doubt there is a whole. With Kant, though, one should see it as a *Zurechnungspunkt*, a point of imputation, under various norms. Among these, a deontic norm will surely have the final say for as long

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[101]Explicitly made by Williamson (1996:[251]), formally implicit in Gazdar (1979), imputably implicit in Unger (1975) and either way contrary to CCCP as usually conceived and as endorsed by Douven (2006:461).

as Nietzsche's post-modern diagnosis of the death of the Subject has not been conclusively confirmed. It is a moot point whether one wants to call either type 1 or type 2 norms natural or conventional. And it is, I think, an open question whether a description of assertion and other forms of affirmation can get by on as few as, or indeed on fewer than, those three types of norms.[102]

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[102]The thesis of Section 6 was presented under the title 'Conditionals and Unconditionals' at Dov Gabbay's workshop on the logic of conditionals, ESSLLI Summerschool, Utrecht, August 1999 and then in March 2000 at UC Irvine. The thesis on imperatival representation of the 'T'-axiom was first presented at the Symposium on Presupposition in honour of Hans Kamp at Stuttgart, October 2000. I thank the venue convenors for letting me present, and the audiences for helpful remarks, in particular Duncan Luce, Brian Skyrms, and the late Dick 'Diamond Jim' Jeffrey.

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