In Defence of a Contextualist Theory of Indicative Conditionals

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Abstract

Indicative conditionals sometimes communicate that the consequent would follow causally or evidentially from the antecedent, and sometimes that it holds independently of the antecedent. On all standard accounts of indicatives, however, such relations of consequence and independence fall outside the content of conditionals. Instead, they are inferred pragmatically from the fact that a sentence with that content has been uttered. This paper argues that this standard view is deeply problematic, and develops and defends relational contextualism, a view according to which indicative conditionals lack a complete literal content from which contents involving specific causal or evidential consequence or independence relations are pragmatically derived. Such specific contents are indeed pragmatically determined, but when they are, they constitute the primary communicative content of particular indicative conditionals. It is explained how relational contextualism not only does straightforward justice to our everyday understanding of indicatives and gives an attractive view of how we interpret them, but also, crucially, how it avoids various difficulties for contextualist theories of conditionals.

Introduction

Consider the following sentences:

(1) If Sarah has the measles, she will be having a fever.
(2) If Sarah has a fever, then she has the measles.
(3) Bill won’t help us, even if Julia asks nicely.

Intuitively, a sentence like (1) would be used to communicate that the present case is of the kind in which having fever follows (causally) from having measles, whereas a sentence like (2) would be used to communicate that the case is one in which having the measles follows (evidentially) from having a fever. And a sentence like (3) would probably be used to communicate that the case in question isn’t the kind in helpful action follows (causally) from asking nicely.

Standard theories of indicative conditionals deny that these intuitive messages are part of the content of the conditionals. According to what we might call materialism, indicative conditionals express material implications: asserting (1) is asserting that it isn’t both the case that Sarah has the measles and that she doesn’t have a fever. According to expressivism, conditionals lack truth-conditions, but asserting (1) is expressing a high subjective probability for Sarah’s having a fever conditional on her having the measles. (Adams 1975; Bennett 2003; Edgington 1995) And according to
what we might call credalism, asserting (1) is asserting that Sarah has a fever in all relevant possible worlds in which she has the measles and which matches the present world with respect to what we believe or know. (Nolan 2003; Stalnaker 1981; Weatherson 2001) All these theories allow that hearers rely on contextual clues to *pragmatically* infer from the utterance of a sentence with such a content that the speaker means to communicate that the case is one in which measles causes fever. But none takes that content to be part of the *conventional* meaning of the sentence.\(^1\)

The contextualist\(^2\) theory developed and defended in this paper – relational contextualism – agrees that the intuitive messages fall outside the conventional meaning of the conditional. What it denies, however, is that we identify the intuitive messages by identifying any of the contents suggested by materialism, expressivism or credalism. Instead, the intuitive messages constitute the primary communicative contents of conditionals: when we try to assign an independently identifiable content\(^3\) to statements of the conditional form, our primary task is to identify the intended or contextually given relation between the antecedent and the consequent. In the case of conditionals like (1), (2) and (3), that relation will typically be one of causal or evidential consequence or independence.

One reason to think that something like relational contextualism is correct is that we find it very hard to assess conditionals where no kind of causal or evidential relation springs to mind. Being reasonably confident that Berne is the capital of Switzerland, and believing that John Lennon was killed in 1980 but seeing no evidential or causal relation between these facts, I ask myself whether the following conditional is true or acceptable:

\[
(4) \quad \text{If Berne is the capital of Switzerland, John Lennon was killed in 1980.}
\]

I am inclined to answer in the negative: (4) is neither true nor acceptable. But I am also disinclined to say that it is false: rather, it seems nonsensical somehow. Reactions like mine are very common among people innocent of philosophical logic or theories of conditionals, and they are perfectly intelligible given relational contextualism: we just fail to identify any relevant relation between antecedent and consequent. But on both materialism and credalism, I should clearly believe the content of (4)\(^4\), and on expressivism it is most clearly acceptable for anyone in my epistemic circumstances.\(^1\)

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\(^1\) Distinctions between the *content of the sentence* or its conventional meaning, the content of *what is said by uttering the sentence*, and what is *conversationally implicated by the utterance of the sentence* are notoriously difficult and theory-dependent. See e.g. (Bach 1999; 2006; Millikan 2005; Pagin and Pelletier 2006; Recanati 2004; 2006; Stanley 2002). What I will assume is that something general and informative can be said about the conventional contribution of linguistic forms and expressions to communicated contents. This assumption is criticised by Cappelen and Lepore (2003; 2005), but since I think that it can be defended, and since it seems to be the working assumption of most people who write about conditionals, I will simply take it for granted here.

\(^2\) Sometimes “contextualist” is used for analyses that take the content of an expression to be non-pragmatically determined by features of the context – “I” signifies the speaker, “now” the time of utterance, and so forth – whereas “pragmatic” is used for the kind of view defended here. The latter label would have served well here, had it not already been used for the illocutionary theory of indicatives proposed by Stephen Barker (1995).

\(^3\) By an “independently identifiable” content, I mean one that doesn’t make essential reference to the sentence itself. For simplicity, I ignore obvious difficulties with self-referential sentences.

\(^4\) A version of credalism can allow that (4) is nonsensical if it takes the function that selects relevant possible worlds to lack default value: absent restrictions on relevant worlds, the possible worlds framework for analysing conditionals is of course very flexible. But although the accounts proposed by
A second reason to take relational contextualism seriously is that even in cases where it is quite likely that both antecedent and consequent hold, people tend to think that conditionals are false when they take the conditional to express some causal connection between antecedent and consequent, but think that no such causal connection holds in that particular case. I have not ruled out going to the movies tonight, and I am quite sure that it will rain tomorrow, but I don’t take myself to believe the following:

(5) If I go to the movies tonight, it will rain tomorrow.

Instead, my first intuitive verdict is that it is false, for my going to the movies tonight would have no such meteorological effects! Again, this is in conflict with standard theories.

Proponents of these theories will try to explain these reactions with reference to pragmatics: although true or acceptable, the assertion of (4) is puzzling because the normal communicative point of uttering a conditional is to communicate some more determinate causal or evidential consequence relation – the presumption of this point is a (generalized) conversational implicature – and (5) seems false for basically the same reason (Edgington 1995, p. 268; Jackson 1987, pp. 14-16). The fact that this presumption is a mere conversational implicature is sometimes said to be revealed when it is removed by the addition of “still” to the main clause, or “even” to the “if”-clause, or both. In the case of (4) and (5) this yields perfectly acceptable conditionals:

(6) If Berne is the capital of Switzerland, John Lennon was still killed in 1980.

(7) Even if I go to the movies tonight, it will still rain tomorrow.

The point of uttering (6) could be to communicate that John Lennon was killed in 1980 independently of whether Berne is the capital of Switzerland. It is quite unlikely that anyone would believe that there would be any dependency, but someone might behave as if there were, and this could motivate the utterance of (4) as a corrective. Similarly, (7) could be used to convey that it will rain tomorrow independently of whether I go to the movies tonight.

It should be noted, though, that the addition of “still” and “even” in (6) and (7) does more than remove the implication of a consequence relation from (4) and (5), for (6) seems to imply that John Lennon was killed in 1980 and (7) that it will rain tomorrow, in spite of the fact that the truth of the consequent isn’t implied by the contents postulated by the standard theories. For that reason, our intuitions about (6) and (7) do not reveal what these theories take to be the primary communicative content of (4) and (5): they only reveal that “still” and “even” affect the intuitive truth-conditions of →

Stalnaker, Weatherson and Nolan allow for contextual variation, they also seem to give a straightforward verdict in this particular case.

1 The argument made here is akin to what Cappelen and Lepore (2005, ch. 5) call “incompleteness arguments” for contextualist analyses – arguments to the effect that sentences involving the expression in question fail to express complete propositions absent some relevant context. On their view, accepting such arguments would lead to an unacceptable radical contextualism, showing that just about every expression needs a contextualist analysis. But I believe that there are legitimate ways of accepting incompleteness arguments without accepting radical contextualism. For some suggestions, see (Paging and Pelletier 2006).

2 Bill Lycan (2001, pp. 88-90) makes the same point. Obviously, this recycles and broadens one of the standard objections to materialism. For example, see (Edgington 1991, p. 186).
conditionals. But there is a way to remove the implication that the consequent would follow from the antecedent without adding the implication that the consequent is true. Supply the appropriate context:

(8) If Berne is the capital of Switzerland, John Lennon was killed in 1980, and if Berne isn’t the capital of Switzerland, John Lennon was killed in 1980.
(9) If I go to the movies tonight, it will rain tomorrow, and if I don’t go to the movies tonight, it will rain tomorrow.

The suggestion, then, is that the context provided by (8) and (9) makes salient the conventional or literal content of (4) and (5). It is true, of course, that (8) implies that Lennon was killed in 1980, and that (9) implies that it will rain tomorrow, but none of the four conditionals itself carries that implication. Of course, relational contextualism can equally account for this: some contexts make salient a non-consequential relation between “if”-clause and main clause, thus providing a different content. And there are reasons to think that the pragmatic explanations provided by the standard theories fail. In paradigmatic cases of conversational implicature, the conventional, literal content is easily available for processing. Consider conjunctive statements. Such statements seem to assert that both conjuncts hold, but the normal communicative point of making a conjunctive statement is to assert two things that are relevant to the same topic, and such relations of relevance are often intuitively taken to be part of what is said when such a sentence is uttered. Consider:

(10) Martin fell and his arm was badly hurt.

An utterance of (10) could be taken to assert that Martin fell, thereby badly hurting his arm.\(^1\) However, although there is a conversational presumption that conjuncts are relevantly related, people do not waffle about the truth-value of conjunctions of unrelated items in the way they do with conditionals. I ask myself whether the following conjunctions are true or acceptable:

(11) Berne is the capital of Switzerland and John Lennon was killed in 1980.
(12) I go to the movies tonight and it will rain tomorrow.

In spite of the fact that I have no idea as to how the two conjuncts of (11) would be relevant to the same topic, this conjunction seems clearly true. We can accept (11) pending an explanation of why the conjuncts are related in some interesting way. Not so, it seems, in the case of (4), unless set in a special context. And we see a similar difference between (12) and (5). This contrast between conjunctions and conditionals suggests that whereas we first take conjunctive statements to state that both conjuncts hold and then enrich this message pragmatically to incorporate further relevant relations between conjuncts, our understanding of conditionals does not depart from a primary self-contained message that can be subsequently pragmatically enriched to incorporate causal or evidential relations.

\(^1\) For an interesting recent account of how the communicated content of “and” is contextually modulated, see (Carston 2002, ch. 3).
Admittedly, there might be other differences between conjunctions and conditionals that explain the difference between reactions to (4) and reaction to (11), and differences in reactions to (5) and (12). For example, if conditionals were understood as material implication, (4) could be puzzling and (5) objectionable because they assert something weaker than what we are warranted to assert given that we find the consequents credible on their own. If that explanation of the difference worked, however, (13) should be as puzzling as (4), and (14) as objectionable as (5):

(13) It is not both the case that Berne is the capital of Switzerland and that John Lennon was killed in 1979.

(14) It is not both the case that I go to the movies tonight and that the weather will be dry tomorrow.¹

And yet both (13) and (14) seem very plausible to anyone who is reasonably confident that Lennon was killed in 1980 and that it will rain tomorrow.

This might be taken to suggest that it is conventionally implied that the consequent follows from the antecedent in a non-trivial sense. But that suggestion is incompatible with the easy cancellation of that implication in the contexts of (8) and (9). Relational contextualism dissolves this conflict by taking the relevant relation of consequence or independence between antecedent and consequent to be determined by context without passing through a prior independently identifiable complete content.

I have provided two reasons to take relational contextualism seriously, reasons having to do with the way it promises to handle everyday reactions to sentences like (4) and (5) better than standard theories. Elsewhere, I have argued that the best way to understand the widely acknowledged context-relativity of subjunctive or counterfactual conditionals takes specific relations of consequence or independence to be part of their primary communicative content: the close parallels between indicatives and subjunctives suggests that the argument should carry over to indicatives. But people have thought that there are very strong reasons to reject contextualist views of indicatives on the ground that they make the content of particular conditionals too specific, thereby demanding too much knowledge about consequence relations on part of speakers or hearers and doing injustice to the phenomenon of agreement and disagreement about conditional statements accepted on different grounds, as well as to our sense that one can understand what a conditional says without knowing specifically what relation between antecedent and consequent the speaker has in mind. In order to show how relational contextualism can handle these problems I need to make it clearer just what relational contextualism says and provide a more systematic reason to accept it.

Some Communicative Functions of “If”

The case for relational contextualism is strengthened if we look at the wide variety of ways in which “if”-clauses contribute to communicated content. What I will do in this section is to give intuitive stories of what would normally be communicated by a variety of sentences involving “if”. To begin with, the point is merely to collect these

¹ I have changed the second conjuncts in order to avoid processing problems introduced by double occurrences of negation.
various contributions: nothing is said in these stories about the ultimately correct semantic account of these sentences. Later on, I will argue that the variation suggests a strongly contextualist account.

Here are the first two examples:

(15) [holds out lighter] ... if I may.\footnote{For a number of intriguing examples of conditionals where the consequent isn’t understood as being conditional on the antecedent, see (Geis and Lycan 2001).}
(16) My contribution helped to clarify the issue too, if I am allowed to comment on my own work.

**Account:** In these cases, the “if”-clause holds up the appropriateness of the speaker’s action (holding out the lighter, commenting on her own work) as a possibility rather than something taken for granted, thus making an otherwise intrusive or overly self-serving act socially acceptable.

(17) She is more qualified, if you ask me.

**Account:** The “if”-clause holds up the possibility that the speaker’s view, expressed in the main clause, is being asked for. It is appended to mark that the speaker’s authority on the matter isn’t necessarily taken for granted.

(18) There are biscuits on the table if Ted is hungry.

**Account:** The “if”-clause clarifies the possible relevance of the assertion made by the main clause. The biscuits on the table afford satisfaction of hunger, and Ted’s hunger is held up as a possibility in the antecedent.

(19) Did he break anything? And if he did, does he have insurance?

**Account:** The last sentence is used to make a conditional question. Without asserting it, the “if”-clause presents a condition under which the interrogative main clause calls for an answer: a condition under which it is a question.

(20) I bet you a fiver that Sandra will drive carelessly if it is snowing tomorrow, just to disobey her mother.

**Account:** The main clause indicates a proposition that is being bet upon under the condition held up by the “if”-clause. If it doesn’t snow, the bet is off even if it is shown beyond reasonable doubt that Sandra would have been driving carelessly if it had been snowing.

(21) I don’t know whether my friend is retired, but if he is, is he entitled to a rebate?
(22) Is the game played if the weather is really bad?

**Account:** The conditional in sentence (21) is used to ask (categorically) whether being retired means being entitled to a rebate in cases like that of the speaker’s friend. Sentence (22) is used to ask (categorically) whether the game is played independently of the severity of the weather.

(23) Drive carefully if it is snowing!
Account: The main clause issues a directive for a possibility held up by the “if”-clause. Obeying or disobeying the request would only seem to become an issue if it were indeed to snow, but accepting what is communicated by (23) seems to involve forming a conditional intention, a practical inferential link between a representation of its snowing (the possibility presented by the “if”-clause) and an intention to drive carefully (the acceptance of the imperative main clause).

(24) If you believe him, nothing is good enough.

Account: The “if”-clause describes the possibility of being in a certain state of belief, and the consequent presents something as taken to be true in that state.

(25) If you look to your right, the book is on the top shelf.

Account: The “if”-clause indicates a possible action by the hearer, the performance or imagination of which helps determining or identifying the referent of “the top shelf”.

(26) If we are only talking about taste, you should order the fried mozzarella sticks.¹
(27) If you want to go to Harlem, you have to take the A-train.

Account: The “if”-clause indicates the content of the consequent by determining the ends and values that define the relevant interpretation of “should” and “have to”. In (27), the “if”-clause also seems to conditionalise the content of the main clause.²

(28) I wonder if there are refreshments.

Account: The sentence communicates that the speaker has a certain propositional attitude and the “if”-clause contributes the content of the speaker’s propositional attitude. Such contributions are restricted to attitudes (or propositionally directed activities) that are epistemically open vis-à-vis their content (“I [wonder / doubt / ask] if Q”).

Judging from these examples, there seem to be at least nine quite different ways in which an “if”-clause (“P”) can relate to its modified or complemented clause (“Q”):

(i) The utterance of P expresses uncertainty about some precondition for the appropriateness of the speech-act of Q. (16)(17)
(ii) P indicates a possibility that makes the speech-act made by Q relevant. (17)(18)
(iii) P conditionalises the speech-act made by Q. (19)(20)(23)
(iv) P conditionalises the content of Q, representing a condition from which what is represented by Q follows, under the circumstances. (1)(2)(21)(27)
(v) P represents a condition that Q holds independently of, or from which the negation of Q doesn’t follow, under the circumstances. (3)(6)(7)(22)
(vi) P represents a condition under which Q holds, either as a consequence of or independently of P. (8)(9)
(vii) P helps determining the content of the proposition expressed by Q. (25)(26)(27)

¹ From Jamie Dreier.
² For a discussion of advice-conditionals, see (von Fintel and Iatridou 2006).
(viii) P introduces a possible doxastic state that Q reports part of the content of. (24)
(ix) P indicates content of propositional attitude attributed by Q. (28)

I will argue that relational contextualism makes best sense of this variation.

The distinction between these contributions is not immediately decided by the content of the “if”-clause, even though it might point in certain directions, as with “If I may”. Nor is it in general immediately decided by the syntactic context. When the consequent is in the imperative, “if”-clauses typically conditionalise speech acts except when they make type (i) contributions, but the effect on declarative or interrogative main clauses varies depending on context and content of P and Q. In the right context, the “if”-clause of (18) could make a type (iv) rather than a type (ii) contribution, and the “if”-clause of (22) could make a type (iv) rather than a type (v) contribution.

The question, then, is how to account for the fact that the relevant contribution is affected by the content of both antecedent and consequent as well as by syntactic and extra-syntactic context. On monistic theories of “if”, there is one default interpretation of utterances with an “if”-clause (perhaps barring case like (28)), and other interpretations are reached through pragmatic modifications of that interpretation. Truth-conditional versions of monism will describe the default contribution in terms of the contributions to the truth-conditional content of the conditional utterance. For example, they could say, along the lines of credalism, that “if P” means in the relevant possible worlds compatible with what we know in which P, or it could say, along the lines of materialism, that it means P⇒. Apparently divergent uses would be explained by contextual determination of nonstandard metrics of closeness and by conversational implicature or explication. For example, consider a conditional with speech-act contribution, such as the conditional embedded in (19):

(29) If he broke something, does he have insurance?

Credalism might allow pragmatic considerations to (a) abandon the standard selection of relevant worlds and select only the actual world and (b) void the question if there is no relevant antecedent-world – in this case, if he didn’t break anything. Materialism might accommodate it in terms of a pragmatically modified consequent, yielding a statement of the material implication:

(30) He broke something ⇒ I ask: “Does he have insurance?”

The consequent of (29) is pragmatically enriched into that of (30), and the result is an utterance with a conditionalised interrogative point.

Monistic accounts of the contribution of “if”-clauses also come in an illocutionary version, which says that “if P” conventionally conveys that the speech act performed by the main clause is made under the supposition that P. Expressivism is typically seen as a corollary to this view, since high subjective conditional probability of Q given P seems to be just the state of mind needed to accept a declarative consequent under the supposition of the antecedent. Illocutionary monism promises straightforward accounts of contributions of type (i), (ii) (iii) and (vii), but will have to explain various

1 What is sometimes called the “pragmatic” or “suppositional” view promises to account for (15) through (27), and has been developed in useful detail by Stephen Barker (1995) and David Barnett (2006). (See also (DeRose and Grandy 1999).)
contributions of type (iv), (v) and (vi) indirectly. Contexts where conditionals are negated or embedded in propositional attitude clauses or in the “if”-clauses of conditionals need a special treatment since the illocutionary account does not in itself offer any truth-values for conditionals with false antecedents.\(^1\) Similarly, something needs to be said about the many cases where we take a conditional to be straightforwardly true and informative even when we don’t know whether the antecedent is false.

Not everyone who studies conditionals is tempted by monistic accounts of either the truth-conditional or the illocutionary variety. It is quite common to think that “if” has two or more distinct conventional uses to which our interpretive and speech producing mechanisms are to some extent separately adapted. Most writers accept that (28) is in a category of its own,\(^2\) and some not only postulate radically different semantics for indicative and subjunctive conditionals, but distinguish relevance conditionals like (18) from hypotheticals like (1), (2), (21) and (27); distinguish cases like (3) and (22) from these; and distinguish cases of conditional speech-acts from all others.

Notice that we can accept such a “multiplication of senses” without thinking that the various uses of “If P” are mere homonyms, for something general can be said about its contribution to the content of the sentence produced or to the speech-act performed by uttering it:

*Non-Assertoric Introduction:* “If”-clauses introduce a proposition without asserting it so that the modified entity can be understood in relation to it.

The fact that the antecedent introduces a proposition *without asserting it* is essential to its various contributions. It allows for the expression of uncertainty with regard to various prerequisites for a successful speech-act; for the making of conditional speech-acts of various kinds; and for communication of relations of dependence and independence between possible events.

*Non-Assertoric Introduction* is something that could and should be accepted by the monistic accounts considered here, but these accounts add that there is one default relation between antecedent and modified entity that yields a complete communicative act with content and force, either in terms of speech-acts made under the supposition of the antecedent, or in terms of conditional contents given by the content of antecedent and consequent (and, in the case of credalism, by the epistemic state of the interlocutors). By contrast, relational contextualism takes it that neither the modified entity nor the relation in question is determined by syntax. Rather, a primary task in interpreting an “if”-clause is to determine what the relevant relation is to the modified entity – whether it is dependence, independence, relevance, appropriate-making, etc – and what that entity is – speech-act or content. One relation-entity pair rather than another will leap to the fore depending on the content of both “if”-clause and main clause and on whether the modified clause has declarative, imperative, exclamatory or

\(^1\) For suggestions as to how conditionals embedded in antecedents of conditionals should be understood, see (Barker 1995, pp. 206-7; Barnett 2006, pp. 547-8). For criticism of conditional assertion theories of conditionals and some problems concerning embedding, see (Lycan 2006).

\(^2\) But see (Harman 1979) for an early suggestion which takes “if” to do the same job in (28) as it does elsewhere and is related to the view proposed here.
interrogative form, as well as on a variety of contextual factors. Some uses might be more accessible to some speakers, and some uses might only be accessible with reference to other uses through derivations of implicature. Moreover, since there is no one default interpretation, there will be cases where no plausible interpretation springs to mind, and where we will have a hard time assessing the conditional. This, I suggest, is what happens with a sentence like (4). Of course, relational contextualism predicts that (4) would be intelligible and assessable given an appropriate context – and this is exactly what we see. Suppose that a trustworthy clue in a quiz game tells us that either both or neither of the following is true: (A) Berne is the capital of Switzerland. (B) John Lennon was killed in 1980. Given the salience of that clue, it makes sense to say that if Berne is the capital of Switzerland, John Lennon was killed in 1980.

It is tempting to formulate relational contextualism as follows:

(31) \( If \ P, \ Q \implies Q \text{ if } P =_{df} R(P, Q) \)

R would be supplied by context, and could take such values as:

(a) THE POSSIBILITY ... MAKES THE ASSERTION OF ... RELEVANT
(b) UNDER CIRCUMSTANCES LIKE THE PRESENT, THE POSSIBILITY ... HAS ...
   AS A CONSEQUENCE

However, it is important to keep in mind that what is said when someone utters a conditional isn’t that P stands in R to Q. If I tell you that there are biscuits on the table if you want some, I am saying that there are biscuits on the table and introducing the possibility that you want some biscuits, a possibility that makes that assertion relevant, but I am not asserting or saying that my assertion that there are biscuits on the table is made relevant by that possibility.

As far as I can tell, the account provided by relational contextualism in combination with Non-Assertoric Introduction is considerably more plausible than that provided by monistic accounts. First, a defence of a monistic account will need to explain the various contributions using psychologically plausible models of contextual contribution and derivations of implicature or explication without ad hoc manoeuvres. Given the intuitive variety in truth-conditions and illocutionary force afforded by indicative conditionals, the null hypothesis should be that “if P, Q” has no one definite complete illocutionary or truth-conditional content. But even if all contributions can be derived from one “literal” conventional contribution given otherwise plausible pragmatic mechanisms, relational contextualism offers a simpler view of the linguistic processing involved in encoding and decoding conditionals. Non-Assertoric Introduction is something that will be accepted by all accounts of conditionals and it seems to give sufficient conventional input to search for the most relevant communicative contribution along the lines of (i) through (ix): there is no need for the

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1 In itself, relational contextualism allows that the contents of antecedent and consequent are non-cognitive. Relational contextualism thus leaves room for emotivist or expressivist accounts of moral language, including conditionals with normative antecedents.

2 Although I take reactions to (4) and (5) to show that the contents postulated by materialism, credalism and expressivism are non-obvious for ordinary people in normal contexts, “if P, Q” often is understood as synonymous to “\( \neg P \implies Q \)" in logic seminars, and people well versed in either credalism or expressivism might well interpret what is conveyed by conditionals in accordance with those theories, especially when engaged in careful thought. All this is of course perfectly compatible with relational contextualism.
interpretation mechanisms to first identify a content or a speech act that is much less salient than that which, intuitively, is communicated by the conditional and then substantially modify that content so that it gains sufficient conversational relevance. Conversely, if we want to communicate a salient relation between a possible state of affairs and something else, we can encode our message in the conditional form without first deciding how some complete default message would lead one to think that that relation. We thus need a special reason to think that the interpretive process would involve such unnecessary complex derivations of implicature.

Moreover, although monistic accounts of conditionals are often preferred on the ground that they simplify semantics – the conventional contribution of expressions – while explaining complexity by means of a pragmatic apparatus that is independently established, there is no such advantage in this case. Logically speaking, the conventional contribution postulated by relational contextualism – Non-Assertoric Introduction – is neither stronger or more disjunctive than that proposed by standard theories, nor weaker or more unified. If anything, it seems to be simpler than any of those provided by standard monistic accounts since, in effect, it is a feature of those accounts too. Third, standard monistic accounts – truth-conditional and illocutionary – face the two problems mentioned in the introduction, apparently predicting the wrong reactions to (4) and (5). These problems suggest that monistic accounts cannot provide the right model of how we process indicative conditionals. And this points strongly in favour of relational contextualism.

Understanding what Conditionals Say

I have distinguished two kinds of content that might be communicated using an indicative conditional. One is its primary communicative content. This is the first complete independently identifiable content that the hearer would attribute to the utterance of the conditional in normal successful communication. The other content is the intuitive communicative content of the conditional: the content that would govern intuitive judgments of the conditional’s acceptability in normal cases of successful communication. Materialism, expressivism and credalism take these contents to be separate in every case where the intuitive content involves a specific evidential or causal consequence or independence relation. Relational contextualism, on the other hand, takes the primary and the intuitive communicative content of indicatives to coincide in these cases. But that runs into the following objection from understanding:

(i) One can understand what is said when a conditional is uttered, or understand what a conditional says, without grasping the specific consequence or independence relation that is part of the intuitive communicative content.

(ii) To understand what is said when a sentence is uttered, or to understand what a sentence says, is to grasp its primary communicative content.

(iii) Ergo, the primary and the intuitive communicative contents can be distinct when the intuitive communicative content contains specific consequence or independence relations.

The objection cannot constitute a knockdown argument. Evidence for these premises would have to be weighed against the arguments for relational contextualism. But there is no need for such a weighing. Whereas (i) is plausible given an ordinary
intuitive notion of what it is to understand what has been said when a sentence is uttered, (ii) is quite clearly false given that same notion.

To see why (i) is plausible, consider a case where Jill asserts (1), directed at Jack: “If Sarah has the measles, she will be having a fever.” Suppose further that the intuitive communicative content was that:

(32) The present case is of the kind in which measles causes fever the normal way.

According to relational contextualism, (32) also gives us the primary communicative content of (1): this is the first complete independently identifiable content that Jack would come to grasp in normal successful communication. But it seems that Jack might understand what (1) says without taking it to imply the truth of (32). So if Jill asserted (32) too, that could give Jack further information even if he had already understood what Jill said when she uttered (1). And it might seem that for any indicative conditional, a statement to the effect that the antecedent and consequent stand in some specific kind of relation of consequence or independence can provide new information to a hearer who has already understood what the conditional says. As far as our intuitive sense of what it is to understand an indicative conditional goes, (i) seems plausible enough.

To see why premise (ii) is false according to the kind of intuitive judgments of understanding that seemed to support (i), consider what it takes to understand what sentences say that involve paradigmatic context-dependent expressions such as pronouns and implicitly comparative adjectives like “big” and “expensive” and implicit temporal references. Suppose that we hear a woman utter the following in a brief movie clip:

(33) We looked at a house yesterday, but it was very expensive.

Intuitively, we understand perfectly well what was said. Nevertheless, it is obvious that we have failed to fully grasp the primary communicative content of (33) unless we (a) know the referents of “we” – the speaker and who else? – other than as the intended referent of “we” or as the group including the speaker that was salient when (33) was uttered; (b) know the day of utterance other than as the day of utterance; and (c) know the property referred to by “very expensive” – a high price compared what, given what economic resources? – other than as the property of commanding a high price compared to the intended or contextually salient price, whichever that is. What is tracked by our sense that someone has understood what an utterance says, then, isn’t his understanding of its primary communicative content, but more probably his understanding of the way this content is determined by the context of use or speaker intentions.

Given relational contextualism, we could therefore expect (i) to seem intuitively reasonable. Our sense that that we can understand (1) even though we have failed to identify the intuitive communicative content provided by (32) doesn’t rule out that this content is the primary communicative content. It might just mean that we can understand the general sort of content being communicated and take it that speaker intentions and further attention to aspects of the context will provide the specifics. Such an understanding of a conditional can of course approximate its primary communicative content to various degrees: sometimes it will involve grasping that the consequent follows from rather than holds independently of the antecedent, even though it isn’t clear whether the speaker meant that it follows evidentially rather than
causally, to mention one possibility. But we will also soon see how relational contextualism allows primary communicative contents that are themselves quite non-specific.

Paradigmatic Conditionals: Positives, Negatives, and Independents

Relational contextualism has consequences for how we should further characterize contributions of type (i) through (ix) provided by “if”-clauses in indicative conditionals: our representations of the relations in question need to be ones that are salient, readily available to the interpretation mechanisms. This throws further light on the problems that I raised for standard theories of indicative conditionals in the introduction: as I will explain, the relations of consequence and independence that are intuitively ascribed to conditionals are more readily available than the contents proposed by standard theories. What I will do next is to suggest a way of understanding what I will call paradigmatic conditionals – declarative conditionals of type (iv) and (v), and to some extent (vi) – considering the restriction imposed by relational contextualism – that contents should be salient – and considering the problems posed for traditional accounts in the introduction. I focus on these conditionals, as they are the most discussed, probably the most common, and definitely the most central in philosophy, science and reasoning in general.

Whether standard theories like materialism, expressivism and credalism have ambitions to cover every contribution of “if”, they all take declarative conditionals of these types to fall under one analysis. Instead, I will suggest that they have at least three different albeit related primary communicative contents. Consider some further paradigmatic conditionals, the first two of type (iv) and the third of type (v):

(34) If that is a prime, the result is not an integer.
(35) If the barometer falls, we will have rain.
(36) If he uses every inch of muscle in his body to bend that bar, it will remain straight.

Type (iv) declarative conditionals such as (1), (2) and (5) along with (34) and (35) are “positive consequence conditionals” or “positives” and are understood as representing that the consequent follows from – is a consequent of – the antecedent possibility, or that the antecedent implies the consequent. Type (v) conditionals like (3), (6), (7) and (36) are either (a) “negative consequence conditionals” or “negatives”, representing that it isn’t the case that the negation of the consequent follows from the antecedent, or (b) “independence conditionals” or “independents”, representing that the consequent holds independently of the antecedent. Independents require that the consequent is likely, independently of the likelihood of the antecedent. Positives might be assertible when the consequent is unlikely, but not if the antecedent is likely. Consequence relations transmit likelihood: if As is likely and Bs follows from As, Bs is at least equally likely. Negatives, finally, allow any combination of likelihood for antecedent and consequent.

Positives are easy to intuitively tell from the other two, but negatives and independents are rarely distinguished. To do so, it can help to supply a context in which the antecedent is taken to be likely and the consequent unlikely. Compare the following:
(37) It might start to rain, but we won’t stop playing if it does. However, the increasing wind will probably put an end to the game before too long.

(38) It might well start to rain, but we will play until the scheduled end even if it does. However, the increasing wind will probably force us to stop way before that.

(37) is quite natural, since its conditional is read as a negative, whereas (38) is anomalous, as the conditional is read as an independent.¹

What I will argue is that these three contents all tend to be more salient than the contents proposed by the standard theories. To do so, I will have to say something substantial about what it is for one thing to follow from or being independent of another, and what it is to take them to be so related. I will make a suggestion which is ontologically sparse, making no essential reference to mere possibilia, and which should therefore appeal to naturalistic or empiricist sentiments. Someone might prefer a different account, ² but something fairly substantial needs to be said to yield sufficient explanatory power.

Start with the notion of a regularity fact – a fact to the effect that, within a certain domain, everything that is A is B – and the notion of the supporting conditions of such a fact – the conditions that define its domain. A regularity fact is especially interesting if (a) we can learn to reliably identify the elements of its domain as falling within that domain prior to establishing for each instance whether it is an A or a B, and if (b) some elements within that domain are neither A nor B. Such regularity facts – call them “lawlike” – support learning through experience. Lawlike regularities might involve causes and effects (measles and fever), or two effects of the same cause (barometer falls and precipitation), or events in separate but regular processes (the arrival of the Red Line and the departure within five minutes of Bus 5), but also facts standing in mathematical or logical relationships (the dividend’s being a prime and the quotient’s not being an integer; a conjunct’s being false and the conjunction’s being false). Some lawlike regularities are non-probabilistic laws without domain restrictions – mathematical and logical regularities, if nothing else. Others hold for macroscopic objects within restricted domains, say, or have supporting conditions with an irreducible ceteris paribus character that exclude “freak occurrences”, or range over domains that are in some sense fundamentally indeterminate. Moreover, many lawful regularities are regularities of statistical events to the effect that whenever something is the case, the probability for something else is such and such.

Keeping track of various kinds of lawlike regularities and their domains would seem to be a fundamental cognitive task for any creature capable of adjusting its behaviour to the circumstances. It involves letting experiential exposure to the regularity install a mechanism for producing inferences from A to B, while learning when to activate this mechanism by learning to identify the elements of the domain of

¹ Negative conditionals obviously provide problems for standard theories: on a straightforward application of these theories, (37) should come out as anomalous. Some help might be found in the fact that the clearest negatives have negative main clauses, inviting them to be interpreted as ¬(Q if P) rather than ¬Q if P. This wouldn’t help materialism, however, because negatives might be acceptable also when P→Q is acceptable.

² In particular, one might want to understand consequence and independence in terms of high positive correlations and sufficient differences in correlation rather than in terms of universal regularities or lack thereof within domains, as I do here.
that regularity. Call this recognitional and inferential ability our concept of the regularity in question; and say that the elements fall under or satisfy this concept.

We can form a concept of a particular regularity fact in a number of ways. We can of course be exposed to a wealth of instances of a regularity and learn through inductive reasoning; we can encounter a single instance of the regularity and recognize it as a case of a more general kind of regularity (learning that command + w closes the active window by seeing it happen once and taking it to depend on the normal designed functioning of the operating system, whatever that might be), thereby forming a concept of the specific lawlike regularity; we can use knowledge of more general regularities to deduce particularized regularities; and we can be told that a certain kind of event is universally or most often accompanied by another kind of event, thus inheriting the concept from someone else who has actually encountered the regularity or done the deduction; or we can form such a concept in response to hearing a conditional (“if you press command + w, the active window is closed”). The last case is a bit like seeing a particular instance of a regularity as an instance of a more general kind of regularity, and a bit like being told explicitly that there is a certain kind of regularity.

Returning to the notion of consequence needed here, my suggestion is that when we think that B follows from A in a certain case, or that A implies B in that case, we take the case to fall under the concept of some lawlike regularity, thus in effect assuming, first, that within the domain of the regularity everything A but not everything non-A is B and, second, that the case at hand falls within that domain. When our assumptions are correct, this lets us produce true beliefs about states-of-affairs of one kind given beliefs about another, or to produce and prevent certain effects by producing and preventing actions in instrumental reasoning.

It is not hard to see why we would be interested in communicating that something falls under the domain of a certain lawful regularity fact, or why that content would be salient. And since we have an interest in what follows from what, and given our propensity to make mistakes, it is easy to see why we would be interested in communicating that something doesn’t follow from something else. To think that something doesn’t follow from something else is to refrain from relying on the instantiation, in the present case, of the supporting conditions for a certain kind of regularity fact. In so refraining, we are in effect assuming that there is no regularity fact of the relevant kind, or that the present case falls outside its domain.

Another relation that is of central interest in prediction and instrumental reasoning is independence. Sensitivity to independence is crucial in the very employment of our concepts of regularities that are restricted to certain domains: our utilisation of a regularity in prediction and action will be reliable only to the extent that we know that the supporting conditions of that regularity hold independently of whether the antecedent or consequent holds. Learning about independence is, again, learning about a regularity: learning that under a certain kind of circumstance – in a certain domain – whatever is A and whatever is non-A is B. And taking something, s, to be B independently of whether it is A is to take it to fall under the concept of some independence regularity, thus, in effect, assuming that s falls within the domain of that regularity.

My suggestion, then, is that these kinds of relations – consequence relations and independence relations – are cognitively fundamental relations that we are interested in communicating. Schematically, we can represent these relations as follows, where
“C” signifies the supporting conditions of the regularity fact in question and “s” is the case for which the relation holds:

(39)   Bs followe from As / As implies Bs iff
   (i)   (\(x)((Ax\&Cx)\supset Bx\) &
   (ii)  \(\neg x)((\neg Ax\&Cx)\supset Bx\) &
   (iii) Cs

(40)   Bs holds independently of As iff
   (i)   (\(x)((Ax\&Cx)\supset Bx\) &
   (ii)  \(\neg x)((\neg Ax\&Cx)\supset Bx\) &
   (iii) Cs

Notice that we can think that something follows from or is independent of something else without being able to articulate a definite C in any detail. First, to take the supporting conditions for a certain (kind of) lawlike regularity to hold need not mean knowing the nature of these supporting conditions or the aspects of the connected kinds of events that are responsible, ultimately, for that regularity. Both in everyday life and in science, we successfully learn to rely on regularities long before we understand why they are reliable, or what their supporting conditions are more exactly. Consequently, two people can have different ideas concerning the supporting conditions for one and the same regularity. Third, it is impossible to give a sharp answer as to what a person needs to know about these kinds of events, or about the circumstances under which the regularity holds in order to be focusing on that lawful regularity. Having a concept of a lawful regularity in the relevant sense is a bit like having the concept of a certain concrete being or of an empirical relation: it comes in degrees. The more correct and detailed our understanding of a thing, relation or lawful regularity would seem to be and the better we seem to be at keeping track of it, the more plausible it will be to say that we are indeed keeping track of it, and to ascribe to us a corresponding concept. Conversely, the more erroneous and vague our understanding would seem to be, the less plausible it will be to ascribe that concept.\(^1\)

Relations of both positive and negative consequence as well as independence will tend to be considerably more salient than the kind of relation that materialism, credalism and expressivism take to constitute the content of indicative conditionals, a kind of relation that is neutral as to whether the consequent depends on or holds independently of the antecedent. The salience of a relation in a given context is affected by a variety of factors including the frequency and recency of activation of the corresponding and semantically related concepts, but also, crucially, by what is relevant to our interests in that context. And the very neutrality of the kind of relation postulated by the standard theories will tend to make it less relevant than relations of positive and negative consequence and independence. Neutral relations will have fewer straightforward cognitive and practical upshots of direct relevance to what we tend to be interested in. Consider:

(41)   As is accompanied by Bs iff
   (i)   (\(x)((Ax\&Cx)\supset Bx\) &

\(^1\) I take our grasp of lawful regularities to share many features of our grasp of empirical substances, as understood by (Millikan 2000).
(ii) Cs

As is accompanied by Bs whenever Bs either followsc from or holds independently of As. Now, suppose that we are unsure whether Bs holds, but know that

(42) relative to some C, unknown which, As is accompanied by Bs.

(If there is no restriction on C, this amounts to knowing As ⊃ Bs.) If we learn that As holds and this doesn’t undermine (42), we can then conclude that Bs holds, and if we learn that Bs doesn’t hold and this doesn’t undermine (42), we can conclude that As doesn’t hold (and that Bs followsc from As). However, we very rarely have confidence in something like (42) without having some idea about C and knowing whether Bs followsc from or holds independently of As unless we already know that As and Bs holds. And when we do, neither inference is of use. Moreover, unless we have some idea about C, it is hard to see how we can preserve our confidence in (42) while acquiring new information: we have to accept it on blind authority. Contrast this with a case where we believe that Bs followsc from As and have a good idea about C. Now we have a clear idea of the conditions under which we can conclude Bs given As, or ¬As given ¬Bs, and about whether we can produce Bs by producing As or prevent As by producing ¬Bs. Or take a case where we know that Bs holds independently of As and have a good idea about C: knowing that Cs, we can conclude that Bs without having to worry about As.

The claim, then, is that, generally speaking, a relation between As and Bs that is neutral between different kinds of consequence and independence relations will tend to be considerably less salient than specific consequence or independence relations. Given contextual relativism, we can thus expect the latter rather than the former to be part of the primary communicative content of paradigmatic indicative conditionals.

More on the Interpretation of Paradigmatic Conditionals

Relational contextualism provides straightforward explanations of the distribution of positive, negative and independent readings of conditionals in terms of the conversational salience of their respective contents given Non-Assertoric Introduction. My concern in this section is to map some factors that affect conversational salience.¹

First, we can expect a tendency for conditionals to make salient positive consequence relations rather than negative consequence relations or independence relations. Negative readings of conditionals are likely to be much more far-fetched than positive readings because of their double involvement of negation: negatives

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¹ A complete account would also explain why a variety of other relations that can hold between antecedent and consequent are less salient than the three discussed here, and when they can nevertheless be expressed in the conditional form. Here are a few thoughts: Statistically weaker versions of consequence or independence relations will tend to be less useful and thus less salient unless the weakening is practically insignificant. Some relations are too obvious once independently identifiable contents of antecedent and consequent have been established, in particular spatiotemporal relations between the two events. The relation of As undermining Bs (that is, of As implying ¬Bs) will be much less salient in relation to a conditional “if As, Bs” than the relation of As implying Bs because of the involvement of an unarticulated negation. Other relations will be salient enough given special contexts, however, and contexts like those provided by (8) and (9), and (64) below, seem to make salient that the antecedent is accompanied by the consequent.
convey that the negation of the consequent doesn’t follow from the antecedent. Special linguistic markers are needed to counteract this bias against negatives. Independent readings are likely to be less salient than positive readings because they have the consequent stand in the same relation to both the antecedent and its negation: whenever Bs holds independently of As, it also holds independently of ¬As. Consequently, a conditional will be understood as an independent to the extent that Bs is more noteworthy in relation to As than in relation to ¬As.

Consider some linguistic and extra-linguistic markers that can counteract or strengthen this bias towards positives:

**Negative main clause:** If the main clause is in the negative, as in (3) and (37), negative readings become much less far-fetched, presumably because we can understand the negation in the consequent as having the whole conditional under its scope, thus immediately yielding the negative reading: schematically, ¬Q if P becomes ¬(Q if P).

**Even, still, continue, etc:** Modification by “even” and “still” point in the opposite direction, indicating negatives or independents as in (3), (7) and (38). We saw that (38) was naturally interpreted as an independent, and (7) is another case, being anomalous in contexts where the probability of the consequent is low:

(43) Even if I go to the movies tonight, it will still rain tomorrow. But a high pressure ridge is moving in as we speak and will probably give us clear weather throughout the next 48 hours.

(3), on the other hand, has a negative main clause and can be understood as a negative, allowing contexts where the consequent is improbable but the antecedent probable:

(44) I can see that Julia is speaking to Bill right now, but her efforts will be to no avail: he won’t help us even if she asks nicely. But I plan to offer him my signed copy of *Tractatus* in exchange for his services. Then he will surely give us a hand.

In general, “even” indicates that the part of the sentence to which it attaches is noteworthy and possibly contrary to expectations: “Even Granny had some wine”; “Granny even had some wine”. It isn’t clear exactly how the conventional communicative contribution of “even” is best understood (Bennett 2003, ch. 17; Lycan 2001, ch. 5 & 6), but it is clear how “even if P” could effect a negative or independence reading of a conditional by implicating that one could have expected P to undermine Q. Similarly, “still” indicates constancy in spite of possibly change – change over time, across space, or across conditions – that something holds in spite of possible contrary expectations. Consequently, “if P, still Q” conditionals bring out that we could have expected the introduction of the possibility P to have undermined confidence in Q, thus making negative or independence readings more accessible. And expressions with comparable meaning – “continue”, “go on”, “remain” – can also help a negative or independent reading, as in sentences like (36) above and in:

(45) The game will continue if it starts to rain.
(46) Life will go on if you leave her, you know.

**Then:** Typically, “if P, then Q” indicates a positive:

(47) If he asks her nicely, she won’t help.
(48) If he asks her nicely, then she won’t help.

Conditional (47) can be either positive or negative given the right context; (48), on the other hand, seems to mandate a positive reading. In general, “then” seems roughly synonymous with “in that case / at that time”. When “then” is prepended to the consequent of a conditional, it conveys that the consequent holds in that case: the case or possibility presented by the antecedent. In general, stressing that it holds in that case makes sense only if (a) that case doesn’t exhaust the relevant possibilities and (b) the consequent does not hold in all the relevant possibilities. Thus the anomalous nature of “If John is dead or alive, then Bill will find him” (Iatridou 1993, p. 174) and the implication that the consequent of a “then”-conditional doesn’t hold independently of its antecedent.¹

Comparatives: When the consequent is a comparative statement (“she is bigger/smaller/less angry/more beautiful”) without an explicit object of comparison (“...than George”), this often indicates a positive by suggesting that the antecedent condition is responsible for the difference:

(49) If it starts to rain, the game will last longer.

Worldly knowledge: Worldly knowledge do much to determine the interpretation of a given conditional, apart from linguistic clues. The conditionals of (50) through (52) are clearly positives, in spite of typical signs of negatives and independence conditionals, while (53) is independent even though it lacks any linguistic clues to that effect, and (54) negative in spite of “then”:

(50) He isn’t going to do his job if you disturb him. (negative consequent)
(51) She will still be here tomorrow if you ask her to. (still)
(52) Even if he makes the most insignificant mistake, he will be fired. (even)
(53) She regains her good spirit no matter what. If she breaks a leg during today’s game, she will be singing and smiling by tomorrow. (no marker)
(54) If he uses all his power, then it still won’t move. (then)

Different consequence relations: In general, causal consequence relations are much more salient than others, presumably because we can depend on such relations not only in prediction, but also in instrumental reasoning. This, I take it, is what explains why (4) tends to come out as nonsensical whereas (5) comes out as false. Since the time of the consequent of (4) precedes the time of its antecedent, causal consequence relations are ruled out, and no other relations are salient enough to provide solid candidates. By contrast, (5) could be seen as conveying that there is some causal consequence relation between my cinematic adventures and tomorrow’s weather: and this possibility of a relation, however implausible, is salient enough to give the conditional a content and readers a basis for saying that it is false.

Antecedent-Independent basis for supporting conditions: Finally, neither consequence nor independence relations will be salient when belief in their supporting conditions is obviously dependent on assumptions concerning the truth of the antecedent or its

¹ For discussion of how “then” contributes to the meaning of conditionals, see (Davis 1983), (Iatridou 1993) and (Hegarty 1996).
negation. The reason is simple: these are occasions when we cannot confidently and
usefully rely on the very inferences that make these relations relevant to our cognitive
interests.1 Rachel, William and Josephine all know that the treasure is hidden in one
of three chests, A, B and C. Rachel also knows that it isn’t in C, and this makes her
quite confident that

(55) if the treasure isn’t in A, it is in B.

William, on the other hand, knows that the treasure isn’t in B, and is equally
dependent that

(56) if the treasure isn’t in A, it is in C.

For both Rachel and William, the salient regularity is that when something is in
either of two places and isn’t in the first, it is in the second. Josephine accepts the
supporting conditions for both Rachel’s and William’s conditional thoughts: she
believes both that the treasure is in one of A and B, and that it is in one of A and C.
But she does so only because she is confident that the treasure is in A. For Rachel, the
belief that the treasure is in either A or B is antecedent-independent; for William, the
belief that the treasure is in either A or C is antecedent-independent; for Josephine,
neither is, and both (55) and (56) strike her as unfounded.

**Worries about Overspecification**

To make the suggestion of the last two sections less abstract, and to bring out some
possible problems, let us apply the notion of what follows _C_ form that was defined in
(39), and the notion something’s holding independently _C_ of something else that was
defined in (40). Start with the positive consequence conditional (34): “If that is a
prime, the result is not an integer.” The truth-conditions of its primary communicative

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1 Frank Jackson (1987, pp. 22, e.g.) used “A is robust with respect to B” to mean that the probability of A
given B is high, and argued that although indicative conditionals have the truth-conditions of the
material implication, they conventionally implicate that the consequent is robust with respect to the
antecedent. The requirement of antecedent-independent belief in the supporting conditions is obviously
closely related, but I take it to determine the salience of relations between the antecedent and the
consequent and thus take any implication of robustness to be conversational rather than conventional.

I leave it vague how antecedent-independence is to be understood more exactly. We could define it in
terms of a high probability of supporting conditions, both absolutely and given the antecedent, or define it
in terms of whether the supporting conditions would also be rationally acceptable if we came to believe
that the antecedent is true: roughly what Lewis (1986, p. 155) calls robustness1 and robustness2,
respectively. An example from Vann McGee (2000) suggests that these two conditions come apart when
the antecedent’s disposition to undermine belief in supporting conditions is sufficiently indirect. However,
since they come apart in cases where the violation of robustness2 is non-obvious, this doesn’t matter for
our purposes: what affects salience are obvious violations. The other well-known violation of robustness2
is also less disturbing when we are interested in effects on salience rather than conventional implicatures.
“If Reagan was a spy for the KGB, we will never believe it” might be acceptable even though we would
give up confidence in its supporting conditions if we came to believe that Reagan was a spy for the KGB.
In such cases, however, the conversational point is to convey an interesting fact about our cognitive
predicament (that it satisfies the supporting conditions in question) and this conversational point doesn’t
require the application of modus ponens or acceptance of the consequent independently of beliefs in the
antecedent.
content are given by (39): \((x)((Ax\&Cx)\supset Bx) \& \neg(x)((\neg Ax\&Cx)\supset Bx)\) \& Cs. Here is a possible interpretation:

- A = X1 is a prime
- B = the result of X2 operating on X1 is not an integer
- C = X2 is a division by a natural number other than X1 or 1
- x is an ordered pair, (X1, X2)
- s = (the number in question, the mathematical function in question)

Negatives are exemplified by:

(57) We won’t stop playing if it starts to rain.

Its truth-conditions are given by the negation of (39), possibly interpreted as follows:

- A = X1 takes place
- B = X2 ceases to engage in activity X3
- C = X1 provides an inconvenience to X2 when engaging in X3 that outwights the perceived benefits to X2 of engaging in X3 and X2’s engagement in X3 is appropriately sensible to such weighing.
- x is a triple, (X1, X2, X3)
- s = (rain during the game, we, playing)

This case illustrates that neither the “if”-clause nor the main clause need contain predicates signifying properties A and B.

Independence conditionals are exemplified by (7): “even if I go to the movies tonight, it will still rain tomorrow.” The truth-conditions are given by (40): \((x)((Ax\&Cx)\supset Bx) \& (x)((\neg Ax\&Cx)\supset Bx)\) \& Cs. A possible interpretation is:

- A = X1 occurs at time X2
- B = it rains at time X3
- C = the major atmospheric conditions at X4 are such that there will be rain at X3 and X1 is a kind of event that makes no short term difference to major atmospheric conditions and the time between X2 and X3 is short
- x is a quadruple, (X1, X2, X3, X4)
- s = (my going to the movies, tonight, tomorrow, now).

Applications like these might raise worries that the content has been overly specified, for it seems that we can understand the conditionals in question without having these specific conditions in mind. It is clear that we don’t have to know exactly why someone thinks that a conditional is true in order to understand it, but also that we can believe that a conditional is true without knowing exactly why it is true. For instance, I can understand and accept (34) without knowing the relevant property of the mathematical function involved that makes it true.\(^1\) To some extent, I have already dealt with this problem: to understand a sentence doesn’t necessarily involve grasping...

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\(^1\) Jonathan Bennett raises exactly that problem in relation to Roderick Chisholm’s suggestion that the point of uttering a counterfactual conditional is “calling attention to, emphasizing, or conveying, one or more premises [=the presuppositions], which, taken with the antecedent, logically imply the consequent.” See (Chisholm 1955, p. 101). For the general claim that we do not need any idea concerning the laws that make the counterfactual true in order for us to believe it, see (Bennett 2003, pp. 223, 38–9, 302, 06 and 24). For an argument similar to Bennett’s see (Stalnaker 1984, pp. 110-11).
its primary communicative content. But interrogative conditionals seem sharpen the problem: surely I can meaningfully ask whether the result of an operation is an integer if the input is a prime without having specific knowledge about the relevant mathematical properties.

Fortunately, the suggestion that specific relations of consequence or independence provide the primary communicative content of indicative conditionals allows that we do without such knowledge. For example, the C that gives the truth-conditions of the communicative content of (34) in a given context might be as indefinite as:

\[ C = \text{there are some mathematical properties } F \text{ of } X_2 \text{ and } F' \text{ of } X_1 \text{ such that a function with } F \text{ which operates on a number with } F' \text{ never results in an integer.} \]

Intuitively, the content of (34), or a corresponding interrogative conditional, would be that the consequent would follow mathematically from the antecedent, rather than that it would follow given the properties of being a division by non-identical natural number other than 1. Such more abstract or general consequence relations are often definite enough given the communicative purposes to be highly salient. Having been told by one’s doctor that one’s athlete’s foot will be cured in ten days if one puts on a certain ointment twice daily, it might be enough to think of the relevant lawful regularity as that which is instantiated in normal successful treatments by this method, say. A biochemist might suspect a variety of mechanisms that could be involved, but might have no practical or communicative need for distinguishing which: it is enough to know that some kind of local causal mechanisms are at play.

However, other cases demand that we grasp even less than that the supporting conditions for some rough sort of regularity hold on the occasion. Consider:

(58) Kripke was there if Strawson was.

This conditional seems intelligible enough for communicative success even though we have no definite idea about how Kripke’s presence was tied to Strawson’s and no idea of whether Kripke’s presence at the event is supposed to be causally or merely epistemically related to Strawson’s: perhaps Kripke was eager to talk to Strawson, perhaps Strawson only went to one event of the relevant kind during the relevant period, and met Kripke there? But this too is perfectly consonant with both relational contextualism and my suggestions concerning the primary communicative contents of paradigmatic conditionals: there is no demand that the contextually determined relation should be very specific or even non-disjunctive. In the case of (58), we can fairly easily think of kinds of regularity facts that could relate truths about Kripke’s and Strawson’s whereabouts, and so let C in (39) take a vague and massively disjunctive or highly abstract value, or think of a disjunction of (possibly vague) interpretations of (39) that would provide salient contents. In some contexts, that might be quite sufficient for our communicative needs. If we can rely on the obtaining of those vague and disjunctive consequence relations, we know enough to run modus ponens and modus tollens on (58). Given restricted communicative needs, then, even a vague and disjunctive idea of values for the contextual variable might be salient enough. (But notice: that doesn’t mean that we understand conditionals as having more specific contents by first grasping these non-specific relations and then pragmatically enrich them. In most contexts, more specific relations will tend to be more salient, and thus more likely to attract our interpretation mechanisms.)
The possibility of understanding a paradigmatic conditional with only a non-specific kind of correlation in mind explains a well-known puzzle concerning embedded conditionals. Many constructions that embed conditionals seem perfectly intelligible:

(59) If Jack will be happy if you hold his hand, he will be ecstatic if you give him a kiss.

But some are very hard to grasp, even though the embedded conditional isn't. Take a familiar case from Allan Gibbard (1981), where (58) is embedded in (60):

(60) If Kripke was there if Strawson was, then Anscombe was there.

Whereas (58) seemed to make good sense, (60) does not. This contrast has been taken to suggest that there is no general way of decoding embedded conditionals, and thus to provide prima facie evidence that conditionals lack truth-conditions. But it is just what we should expect given relational contextualism. The lack of a non-disjunctive value for C in our understanding of (58) makes the antecedent of (60) correspondingly indeterminate. And lacking a determinate idea about the antecedent makes it very hard to see how it might relate to the consequent. (60) appears to be almost completely unintelligible for the very same reason that (4) does.

**Worries about Ambiguity**

If relational contextualism is correct, two people might very well use the same conditional to express two quite different contents involving those conditions. Before closing, I will discuss an objection that takes its force from this fact, and explain how it can be met once we pay attention to kind of context-dependence postulated by relational contextualism. Begin with two examples:

*The Assassination of Abraham Lincoln:* John Wilkes Booth has just shot Abraham Lincoln at the Ford's Theatre. One conspirator, call him “Caine”, has yet to hear the news, but thinking that there is a failsafe backup for Booth, he says, by way of assuring a nervous accomplice:

(61) If Booth didn’t do it, someone else did.

At the same time, Smith, who has no thoughts about conspiracies, has just heard that Lincoln has been shot, possibly by Booth. When someone expresses doubts that Booth would have done such a thing, Smith replies, sadly, using the very same expression as Caine: “If Booth didn’t do it, someone else did.” Both intend their utterances to convey positive consequence contents, but they had different regularity facts in mind. The regularity fact that Caine had in mind and wanted the accomplice to consider was one relying on the presence of a backup plan. The regularity fact that Smith had in mind and wanted to convey was the logical or metaphysical regularity fact that all xs that have been shot by someone and have not been shot by y have been shot by someone other than y. According to relational contextualism, although both utterances express positive consequence relations, they have different primary communicative contents.

*Flipping the Switch:* The heavy door in front of Alice and Claire has two brass switches. At this time, the right switch is flipped down, the left is up. Alice thinks that both switches must be flipped down in order for them to be able to pull it open: that is the way the door functions. She tells herself that:
(62) If the left switch is flipped down, the door will open when we pull it.

What she has in mind is a positive consequence relation. Meanwhile, Claire has a hard
time remembering whether the left switch needed to be flipped up or down. For a
while, she thinks that it needs to be up, saying to herself: “If the left switch is
flipped down, the door won't open when we pull it.” But on further thought, she
concludes that the left switch doesn't matter as long as the right is flipped down: that
is the way the door functions. Correcting herself, she now silently utters the very
words that Alice had used: “If the left switch is flipped down, the door will open when
we pull it”. But unlike Alice, Claire’s words encode an independence relation.
According to relational contextualism, then, Alice’s and Claire’s utterances of (62) have
quite different primary communicative contents.

The problem these cases pose for relational contextualism is that the following claims
seem plausible enough:

(63) Smith and Caine both believe, and both expressed their belief, that if
Booth didn't shoot Lincoln, someone else did.

(64) Alice and Claire both believe, and both expressed their belief, that if the
left switch is flipped down, the door will open when they pull it.

This suggests both that there is a content that two positive conditionals with different
intended communicative contents can have in common – the content ascribed to
Smith’s and Caine’s utterances and beliefs in (63) – and that there is a content that a
positive and a negative conditionals can have in common – the content ascribed to
Alice’s and Claire’s utterances and beliefs in (64). ¹

There are two ways to show that the acceptability of (63) and (64) is compatible
with relational contextualism. One is to show both that Smith and Caine accepted and
expressed the same context-relative content and that reports of what people say or
believe can be expected to track such context-relative rather than fully specific
contents in these cases. Compare: when I say that two people believe that their
cometown is pretty, I do not imply that they believe about the same town that it is
pretty. Another is to explain how relational contextualism allows that there was a
content that both Smith and Caine expressed and believed, and a content that both
Alice and Claire expressed and believed. I will start with the latter.

¹ For Bennett (2003, pp. 352-3), the content of conditionals is shown to be independent of the grounds on
which we accept them by the fact that we can intelligibly say such things as “Two people accept, although
on different grounds, that if Booth didn’t do it, someone else did” and “Unless you have good grounds for
it, don’t accept that if Booth didn’t do it, someone else did.” But this could show at most that not any
difference in grounds for a conditional implies a difference in its content, and unlike some other forms of
contextualism, relational contextualism clearly allows that we can have different grounds for accepting
one and the same conditional content.

For related arguments, see (Edgington 1991, pp. 198-9, 1995, pp. 307-8). In a similar vein, Paul
Horwich (1987, pp. 162-3) argues that a theory of conditionals that allowed this much context-dependence
would float the fact that disagreements with respect to counterfactual conditionals typically are settled by
reference to empirical evidence. Horwich’s criticism is directed at Bas C. van Fraassen’s (1980, pp. 114-8)
suggestion that a counterfactual conditional is a logical entailment claim whose antecedent is only
partially explicit and residually tacit.
In the case of (64), the suggestion is that the embedded conditional takes a content that is neutral between positives and independents, a content that both Alice and Claire do accept and did express in the scenario, namely that

\[(65)\text{ there is some C related to how the locking mechanism of the door works such that the left switch's being flipped down is accompanied by the door's opening when pulled.}\]

So interpreted, (64) comes out as true, even though the contents that Alice and Claire expressed to themselves were stronger. Moreover, something like this seems to be the interpretation that we do give to (64). Of course, earlier I argued that relations between antecedent and consequent that are neutral between positive consequence and independence relations will tend to be much less salient than more specific relations, because they would allow for little more than the application of modus ponens. But in some contexts, such as those of (8) and (9) or that of reporting what is going on in *Flipping the Switch*, this might be exactly that we need.

Now, it might seem that by allowing contents that are neutral to a variety of contextually given interpretations, a contextualist view is left open to an argument from simplicity. For it would seem that a *maximally* neutral content coupled with pragmatic mechanisms is all we need to explain the behaviour of indicative conditionals. To keep semantics simple, this argument goes, we should therefore assign this maximally neutral content to indicative conditionals (Bennett 2003, pp. 351-53).

But the argument from simplicity should be resisted, for reasons already given. The account of the conventional contribution of the conditional form provided by *Non-Assertoric Introduction* is no less simple than those provided by standard theories, and relational contextualism offers a *simpler* account of how we encode and decode conditionals. Moreover, if some neutral content of the form suggested by expressivism, materialism or credalism gave the basic meaning of indicatives, people should not find (4) nonsensical and (5) false unless subjected to disambiguation. If a complete independently identifiable content were subject to pragmatic modifications along Gricean lines, we should at least have a reasonably clear idea of what it is that we are modifying: we have such an idea when conjunctions seem to imply temporal order or causal relation, and we have such an idea when “can you pass the salt” is understood as a polite request rather than a question. But people have no clear awareness of such a content in the case of indicatives.

I do have some misgivings about whether it is possible to find a neutral content that makes (63) true, however. The most plausible suggestion is that the embedded positive conditional has as its supporting condition that *someone shot Lincoln*: this is something that both Smith and Caine believed, and that both their conditionals imply. So interpreted, (63) would *seem* to come out true, but it really doesn’t. Although Caine believed that someone had shot Lincoln, he never had a positive consequence content in mind with that supporting condition. On relational contextualism, then, this *wasn’t* part of a belief that he expressed, so (63) wouldn’t be true, *strictly speaking*. Fortunately, this is not a serious problem. First, at least some people do take (63) to be less straightforward than (64), so a failure to render it strictly speaking true might be acceptable. Perhaps more importantly, however, reports to the effect that several people have said and believed X do not in general imply that they have expressed or accepted exactly the same content.
Here is one example: Ms. Åkerberg is walking the streets of Stockholm while Ms. Takagi is strolling through central Tokyo. They both carry umbrellas, because

(66) they both believe that it will rain.

The reading that makes this statement perfectly acceptable is that each believes that it will rain where she is. The beliefs ascribed have different contents, but (66) is acceptable because the contents relate to their different contexts in the same way. Similarly, we can say that before she left her home,

(67) Ms. Åkerberg told friends that she would look for a foreign foods market, and so did Ms. Takagi.

Since different foods are foreign relative to different nationalities, what Ms. Åkerberg told her friends is likely to have had a different content than what Ms. Takagi told hers, even though those contents are identified using one expression: “she would look for a foreign foods market”. Again, this is presumably because the contents ascribed play a similar role in their respective contexts: each could be looking for a market selling food that is foreign relative to her nationality or the country in which she finds herself.

The suggested explanation of why (63) seems acceptable, then, is that, holding in mind the context of Smith’s utterance and belief, it makes sense to say that Smith believed and expressed that if Booth didn’t do it, someone else did, and holding in mind the context of Caine’s utterance and belief, it makes sense to say the same about Caine. And similarly for (64): the ascription of content is acceptable in relation to each context of utterance and belief.

Even though this provides a possible explanation of our reactions to (63) and (64), it is important to note that not all expressions with context-dependent contents allow for this kind of coordinated ascription of different contents. Demonstratives and pronouns typically do not.¹ For example, suppose that, when asked who is the taller, my brother and I both answer, sincerely: “I am the taller”. Now it would be obviously false to say:

(68) My brother and I both believe, and expressed our belief, that I am the taller.

Or suppose that at 5 pm, my brother thinks to himself, “we should go now”, and that at 5:15 pm, I think to myself, “we should go now”. This doesn’t warrant:

(69) My brother and I both believe, and both expressed our belief, that we should go now.

The question is what explains this difference between pronouns, demonstratives and spatiotemporal indexicals like “here” and “now” on the one hand, and “it will rain” or “foreign” on the other. If relational contextualism takes conditionals to be more similar to the former in this regard, it cannot appeal to (66) and (67) in explaining the acceptability of (63) and (64).

¹ Plural pronouns can be given both a collective and coordinated reading, depending on context. The sentence “Ms. Åkerberg and Ms. Takagi said that they would look for foreign foods” can be interpreted such that each is talking about her own actions, or such that they, as a collective, are talking about their collective action. For some further complications, see (Stefano 1996).
My suggestion is this: the contents or referents of expressions like pronouns and demonstratives are more sensitive to a highly variable part of conversations than are the contents of expressions like “foreign” and “it will rain”. In the case of pronouns as well as “here” and “now”, the content is strongly tied to the identity of the first and second person and the place and time of utterance, respectively. In the case of “this” and “that”, as well as third person pronouns and, to some extent, plural first and second person pronouns, the high conversational variability of content is due to its reliance on the conversational direction of attention at the moment of utterance. We might say that the contextual dependence of the content of these kinds of expressions is *utterance-centred*. When utterance-centred expressions occur in sentences that ascribe content to psychological states or speech-acts, such as (68) and (69), they will get their content from their own contexts of utterance rather than from the contexts of the psychological states of speech-acts that they concern. By contrast, expressions like “foreign” and “it will rain” get their content from more stable features of the conversational context: places and nationalities that the interlocutors are concerned with that may or may not coincide with the place of the utterance or nationality of the speaker. We might say that the determination of content of these expressions is *topic-centred*. When these topic-centred expressions occur in sentences like (66) and (67), we look for places or nationalities that are relevant to the topic at hand, and the two believers or speakers provide separate topics, forcing two different but parallel interpretations of the expression.

It is clear that, unlike credalism, relational contextualism takes the content of indicative conditionals to be primarily topic-centred. The variable content is determined by the salience of relations of consequence and independence and so forth between antecedent and consequent, which in turn is largely determined by the content of antecedent and consequent and general conversational interests rather than by particular features of the utterance. This is not to deny that the epistemic perspective of speakers and hearers can make different consequence relations more or less salient: relations without antecedent-independent supporting conditions will tend to be much less salient, for example. But antecedent-independence is not itself utterance-centred: in most contexts, it is independent of whom the speaker is, the exact time or place of utterance, and so forth. On relational contextualism, we should therefore expect (63) and (64) to follow the pattern of (66) and (67) rather than that of (68) and (69). And if that is correct, the acceptability of (63) and (64) doesn’t tell against relational contextualism, even if there should be no neutral contents that could explain that acceptability.

Before taking stock and closing, let me point out one further property of the context-dependence of indicative conditionals, as portrayed by relational contextualism: they will seldom call for disambiguation and clarification. This is in part because of their topic-centrism, but also because of the relative stability of content for a given conditional across contexts. Topic-centered context-dependent expressions like “to the right” or “on the left”, “local”, “foreign”, or “tall” will relate to different perspectives, locations, nationalities or scales in different context. Similarly for the “if P, Q” *form*, which relates propositions in a variety of ways. But the content of most concrete conditionals like “if you boil the eggs for ten minutes, it will be hard” will typically stay constant in just about every readily imaginable scenario in which it is uttered (once the context-dependent expressions of antecedent and consequent have been given a fixed content). And for that very reason, we can expect the context-dependence of indicative conditionals to be relatively non-obvious. This is good news
for relational contextualism: if context-dependence had been obvious, it would have been surprising that so many people have denied it.¹

**Concluding Remarks**

This concludes my defence of relational contextualism. I have presented two sorts of reason to think that it might be correct. The first is that it provides a better explanation of intuitive reactions to conditionals like (4) and (5) than do materialism, credalism or expressivism. The second is that it provides a more economic model of how we decode and encode indicative conditionals, given *Non-Assertoric Introduction*. We need special reasons to assume that the variety of contents communicated by indicatives are arrived at by deriving pragmatic implicatures from “neutral” primary communicative contents of the kind postulated by standard theories of indicatives, and our apparent ignorance of such neutral contents in readings of (4) and (5) suggests that no such reasons are forthcoming.

To develop relational contextualism enough such that it can be compared to standard theories of indicatives, I have provided regularity-based analyses of the relations of consequence and independence that are communicated by paradigmatic conditionals, and discussed how various linguistic and extra-linguistic factors affect the salience of these relations.

Three common first complaints about relational contextualism have been addressed. I have explained (i) why relational contextualism is compatible with common intuitions about what it takes to understand what an indicative conditional says; (ii) how relational contextualism allows for successful communication where neither speakers nor hearers have any specific consequence or independence relation in mind; and (iii) how relational contextualism is compatible with our sense that two people can believe and express the same conditional thought even in cases where relational contextualism assigns different contents.

But these are just beginnings. Only so much can be done in one paper, and since relational contextualism provides a radical divergence from standard theorising about indicative conditionals, much is left to do. Even though I believe that the theory can be nicely extended to subjunctive conditionals, I have said nothing about what the difference between the two would be. The obvious first suggestion is that the differences in presupposed epistemic attitude towards the antecedent that distinguish indicatives from subjunctives might explain how the two make different consequence and independence relations salient, but this suggestion needs to be worked out in detail. I have also ignored conditionals that are concerned with indeterministic or probabilistic cases, and merely mentioned the possibility of understanding relations of

¹ See (Bennett 2003, p. 351). On the other hand, it might be bad news for credalism, which postulates that the semantic content varies with the epistemic state of the speaker or members of the conversation.

Herman Cappelen and Ernie Lepore claim that it would be surprising if there were non-obvious cases of context-dependence. Since communication most often works swiftly and smoothly, the following needs to be true: “If an expression e has its semantic value fixed in a context of utterance, that had better be obvious to all of us.” (2005, p. 112) But the argument misrepresents what needs to be obvious, and equivocates between know-how and know-that. What needs to be obvious (enough) is the referent or relation that is fixed in the context of utterance, not the metalinguistic fact that the value is supplied by context in such and such a way; what we need to know is how to identify the values in question, not that these are contextually determined.
consequence and independence in terms of weaker statistical notions than those of universal regularities. These are obviously important areas for further work. And I have said almost nothing about the logic of conditionals or conditional contents, other than by providing truth-conditions of paradigmatic conditionals in straightforward first-order predicate logic. More work is obviously needed to show how to explain why certain rules of inference seem stable across contexts whereas others do not, and something needs to be said about well-known difficulties with embedded conditionals in general, even though I have indicated how relational contextualism is particularly well placed to account for both the seeming unintelligibility of some cases, like (60), and the straightforward intelligibility of cases like (59). But the work that I suspect will most increase our understanding of our use of conditionals will concern the factors that affect the salience of various relations between antecedent and consequence, and I have merely begun characterizing the most important variables. What I believe, though, is that enough has been said here in defence of relational contextualism to motivate further investigations.

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1 For arguments to the effect that conditionals offer no systematic embedding see e.g. (Edgington 1995, pp. 280-4; Gibbard 1981). For criticism, see (Lycan 2006).


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