Overview: It's widely held among epistemologists that knowledge entails or requires belief. This view—labeled the entailment thesis—stretches at least back to Plato, is present in pre-Gettier analyses of knowledge, preserved in post-Gettier analyses of knowledge and indeed is even retained in Timothy Williamson’s primitivist break from orthodoxy. One of the key reasons that it is widely held among epistemologists that knowledge entails belief is that it seems obvious that a subject can’t know a proposition if she doesn’t even believe it. For instance, if a subject were to assert “I know that I have hands but I don’t believe that I have hands”, this would presumably strike us as a very odd assertion. How can one know that she has hands if she doesn’t even believe it? So the idea that knowledge entails belief is taken to be obvious and leading analyses of knowledge reflect this.

This view, however, has been challenged by Colin Radford who presents a case (the case of the Unconfident Examinee) where it seems obvious that a subject can indeed know some proposition yet fail to believe it. But the leading response among epistemologists to Radford’s case was that it was too unclear to topple an independently plausible plank of orthodoxy. Recent work by Blake Myers-Schulz and Eric Schwitzgebel however suggests that non-philosophers readily attribute knowledge without belief. In a somewhat different vein, Jennifer Nagel focuses on work in cognitive science centered on children’s performance in knowledge-ignorance and false-belief tasks. To take one example of these tasks from a study by Hogrefe, Wimmer and Perner, pairs of children were given a domino box with picture dominos in it. One child from each pair was then sent out of the room, and in his/her absence the other witnessed the contents (the picture of dominos) being replaced with a different item. The second child was then asked two questions: (1) Does [name of absent child] know what is in the box now, or does he not know? (2) If we ask [name of absent child] what is in the box, what will he say? The first question was aimed at probing children’s ability to distinguish knowledge from ignorance while the second question was aimed at probing children’s capacity to attribute false beliefs. Hogrefe et al., find that children pass the first question at an earlier age. Nagel takes this to suggest that children acquire the concept of knowledge prior to belief, which suggests in turn that knowledge may not require belief.

David Rose and Jonathan Schaffer distinguish between occurrent and dispositional belief and provide evidence suggesting that knowledge entails dispositional belief; Wesley Buckwalter, David Rose and John Turri distinguish two categories of belief—thick and thin belief—and provide evidence that knowledge entails thin belief. Finally, David Rose suggests that performance in false belief tasks is not a good guide for whether children understand belief. Instead one should look at performance in diverse belief tasks which only require children to (1) correctly judge that two persons have different beliefs, and (2) correctly judge how a person’s action follows from their belief (in contrast to the child’s own opposite belief) when the child does not know which belief is true. When doing so, the evidence suggest that children understand belief prior to knowledge. Putting this altogether: the debate over whether knowledge entails or requires belief turns largely on details about how belief should be understood and whether empirical evidence can vindicate the view that belief (properly understood) is required for knowledge. One key shortcoming of the extant work is that it has largely been focused on how belief is
understood among ordinary English speakers. Thus, one key way to move the discussion forward would be to undertake cross cultural research on how belief is understood and how it is connected to knowledge.

**Bibliography**


Introduction of two categories of belief in folk psychology, thick and thin belief. Empirical support provided for the view that knowledge requires thin belief but may not always require thick belief in folk psychology.


Study with Austrian children from 3-5 years of age. Children performed false belief task and knowledge ignorance task. 3 and 4 year old children pass knowledge ignorance task before false belief task.


Results building on Myers-Schulz and Schwitzgebel (2013) suggesting that knowledge does not require belief. Empirical results suggesting against Rose and Schaffer’s (2013) claim that knowledge requires dispositional belief.


Provides empirical support for Colin Radford’s (1966) contention that knowledge does not require belief. Five different cases studied showing that U.S. participants tend to attribute knowledge but deny belief.


Argument that knowledge is not composite, drawing on research in psychology suggesting that children pass knowledge-ignorance tasks well before false belief tasks. This suggests that knowledge is understood well before belief.


Theory of mind scale examined for deaf and hearing children. Children drawn from USA and Australia. Same basic sequence in theory of mind development with children understanding diverse belief prior to knowledge.


Theory of mind scale examined for children who are deaf, have Asperger’s, autism or are typical. Same basic developmental sequence in theory of mind understanding between these groups with diverse belief being understood prior to knowledge.

Presentation of the case of the Unconfident Examinee. Argument that this case suggests that a subject can know some proposition yet fail to believe it and so knowledge does not entail belief.


Argument that failing false belief tasks while passing knowledge-ignorance tasks doesn’t show that knowledge is understood prior to belief. Diverse belief tasks are sufficient to reveal an understanding of belief. Assessment of evidence favoring the view that understanding of diverse belief emerges prior to knowledge.


Argument that Myers-Schulz and Schwitzgebel’s (2013) results are due to people understanding belief to be occurrent belief. Results with U.S. participants showing that knowledge requires dispositional belief.


Presentation of theory of mind scale which maps developmental progression in mental state understanding. One of the key findings is that children pass diverse belief tasks prior to knowledge-ignorance tasks. Also knowledge-ignorance tasks passed before false-belief tasks.

**Further Reading**


1.2 Factivity

**Main Category:** Epistemology

**Discipline:** Cognitive Science, Epistemology, Language

**Keywords:** truth, factivity

**Related topics:** factive verbs, factive presupposition, protagonist projection

**Overview:** One key feature that is thought to be required for knowledge is that the relevant proposition is required to be true. To see why, consider the following: Andy left his watch on his dresser. Unbeknownst to him, his daughter has moved the watch. Andy is discussing the watch with his wife and says “I know that my watch is on the dresser”. Does Andy know that his watch is on the dresser? Presumably, no. The reason why is because it is false that his watch is on the dresser. So knowledge requires that the relevant proposition be true. This view is typically called the factivity thesis.

But some have suggested that there are cases which undermine that factivity thesis. For instance, Allan Hazlette claims that this statement is perfectly acceptable” “Everyone knew that stress caused ulcers, before two Australian doctors in the early 80s proved that ulcers are actually caused by bacterial infection.” If this is right, then perhaps knowledge does not require factivity. In response to cases such as these, some (e.g. John Turri) have suggested that knowledge allows for approximate truths; others (e.g., Keith DeRose) have suggested that contextualist treatments of knowledge can allow for cases of false belief amounting to knowledge; still others (e.g., Wesley Buckwalter) have suggested that people do not literally ascribe knowledge of falsehoods and only find statements involving knowledge of falsehoods acceptable because of “protagonist projection”. The question of whether knowledge requires factivity has been relatively understudied empirically. Moreover, no cross-cultural research has been conducted investigating whether knowledge requires factivity across cultures and languages.

**Bibliography**


Empirical results suggesting that non-factive knowledge ascriptions are not literal. Instead they are due to protagonist projection. Conclusion that the ordinary concept of knowledge does indeed require factivity.

Suggestion that contextualism about knowledge can admit and handle cases of knowledge when a subject has false belief.


Presents a range of cases where it appears that ordinary speakers ascribe knowledge of falsehoods. Argues that we should take this seriously and defends the view that truth is not a requirement for knowledge.


Overview of literature on attempts to analyze knowledge, including discussion of truth being a necessary condition on knowledge. Suggestion that the truth requirement on knowledge is widely held and taken to be a central part of philosophical orthodoxy.


Criticism of Hazlett (2010) casting doubt on the view that the ordinary view of knowledge is non-factive. Suggests that knowledge, on the ordinary view, may require only approximate truth.

**Further Reading**


1.3. Reliability

Main Category: Epistemology

Discipline: Cognitive Science, Epistemology

Keywords: reliability, knowledge, belief forming processes

Related topics: probability, sources of knowledge

Overview: Knowledge seems to be incompatible with luck, with a belief being accidentally true or true by chance. For instance, suppose that Suzy flips a coin and believes that it will turn up tails. The coin turns up tails and so Suzy’s belief is true. Did Suzy know that the coin would turn up tails? Presumably no. The reason why is that her belief was true merely by chance, it was sheer coincidence that her belief was true rather than false. So knowledge must be reliably produced in that, for instance, it requires that beliefs be produced in such a way that they tend to mostly be true.

Though there is disagreement as to what makes certain belief forming processes unreliable, many agree on the kinds of belief forming processes that are unreliable. For instance Alvin Goldman lists the following processes as being unreliable belief forming processes: confused reasoning, wishful thinking, reliance on emotional attachment, mere hunch or guesswork, and hasty generalization. Moreover, a number of epistemologists think that reliability is one key feature of the ordinary understanding of knowledge, endorsing what John Turri calls a “proto-reliability” view about knowledge. Though little empirical work has been conducted on this topic, what has been done has turned up conflicting results: some empirical evidence suggests that knowledge may not require reliability; other empirical evidence suggests that knowledge may require reliability. Aside from these mixed results, one important finding has emerged regarding how people think about probabilistic information which bears on how reliability is being assessed in connection with knowledge. If people learn that a lottery ticket is 99% likely to lose, then when considering whether their own ticket will lose, people tend to deny that they know that their own ticket will lose. But this is reversed when people learn that their own ticket has a 99% chance of losing. In such a case, people tend to think that they know that their ticket will lose. These two
differences in the presentation of the statistical information concern, respectively, whether the information is “Outside” information (i.e., generic information pertaining to a population) or “Inside” information (specific information concerning an items propensity). One important limitation of the research on reliability and its connection to knowledge is that all of the current studies have been conducted exclusively with English speaking Westerners. So it’s an open question whether knowledge requires reliability, what kinds of sources affect assessments of reliability and whether an assessment of reliability reflects an aspect of knowledge that transcends linguistic and cultural boundaries.

Bibliography


Argument that knowledge requires reliability. Discusses two classes of causes which produce knowledge and argues that members on one list of causes have in common the feature of being reliable while members on the other list are not.


Argument that one task of epistemology is to elucidate our epistemic folkways and that an adequate epistemology must have its roots in folk epistemology. Suggestion that folk epistemology embraces reliabilism in that our intuitions about knowledge are tied into reliability.


Empirical results relevant to the generality problem for process reliabilists. Two studies are freenaming studies suggesting that there is a basic level of belief-forming processes. The third study suggests that reliability judgments for the basic-level belief-forming processes are correlated with justification and knowledge judgments.


Presents and defends two arguments that unreliable knowledge is possible. The first is that knowledge is an achievement and achievements can proceed from unreliable abilities. The second is that explanatory inference produces knowledge even if it isn’t reliable.


Presents a range of empirical evidence suggesting that commonsense embraces unreliable knowledge. Ordinary knowledge judgments appear to be completely insensitive to information about reliability.


Results suggesting that knowledge denials in lottery case are due to a qualitative difference in whether the statistical information is “Outside” or “Inside”. When the statistical information is “Outside” people tend to say that they do not know that their own ticket will lose the lottery;
when the statistical information is “Inside” people tend to say that they know that their own ticket will lose.

Further Reading


1.4. Gettier Cases

**Main Category:** Epistemology

**Discipline:** Cognitive Science, Epistemology

**Keywords:** Gettier cases, JTB

**Related topics:** luck, false lemmas, epistemic closure

**Overview:** One main project in epistemology has been to provide an analysis of knowledge, where providing an analysis of knowledge consist in offering a list of conditions that are individually necessary and jointly sufficient for knowledge. One of the main analyses of knowledge has it that knowledge is to be analyzed in terms of justification, truth and belief. But Gettier cases are aimed at showing that this is inadequate. Gettier cases are cases where a subject has a justified, true belief but yet (according to most philosophers) fails to have knowledge. For instance, following Edmund Gettier, suppose that Smith and Jones applied for a job. Smith has it on good authority that Jones will get the job and believes that Jones has ten coins in his pocket, since Smith counted the coins. So Smith believes that “Jones will get the job and has ten coins in his pocket”. And from this Smith deduces that “the man who will get the job has ten coins in his pocket”. But it turns out that Smith gets the job and, unbeknownst to him, has ten coins in his pocket. Smith’s belief that “the man who will get the job has ten coins in his pocket” is true and justified but yet it has seemed to many philosophers that Smith does not know that “the man who will get the job has ten coins in his pocket”.

Though epistemologists disagree about what feature(s) or Gettier cases undermine knowledge—with e.g., Alvin Goldman thinking that it is the feature of a causal disconnect between the fact justifying belief and the fact making the belief true and with e.g., Duncan Pritchard and John Turri thinking that it is a feature of “double luck” whereby the bad luck interferes with the justified, true belief but then good luck interferes canceling out the bad luck—they agree that Gettier cases pose a problem for analyses of knowledge in terms of justification, truth and belief. But some recent empirical evidence suggests that laypeople may not view Gettier cases as constituting instances of non-knowledge. Other work has suggested that there are cross cultural differences in whether knowledge is attributed or denied in Gettier cases. Still other work has suggested that there are not cross cultural differences. And some work has suggested that there are culturally widespread framing and order effects that play a role, at least in part, in whether Gettier cases as view as cases of knowledge or non-knowledge.

**Bibliography**


Presentation of a pair of cases which suggest that a subject can have a justified, true belief yet fail to have knowledge. Suggestion that justification, truth and belief are not sufficient for knowledge.


Attempt to replicate result from Weinberg et al (2001) indicating difference between Westerners and East Asians in the extent to which knowledge is attributed in Gettier cases. Results failed to replicate the cross cultural difference for one kind of Gettier case reported in Weinberg et al.

Results suggesting that people in Brazil, India, Japan, and the USA share the Gettier intuition when presented with a pair of Gettier cases.


Order effect results showing that Gettier intuitions are affected by whether the Gettier case is presented first or following a clear case of non-knowledge. Also evidence of a framing effect whereby two structurally similar Gettier cases that vary only in their content produce different knowledge judgments. These results found for people in Brazil, India, Japan, and the USA.


Results indicating that that non-philosophers do not take knowledge to amount to justified, true belief. Instead, like philosophers, they view some cases, such as Gettier cases, as being cases where a justified true belief fails to amount to knowledge. In addition to finding no difference in knowledge attribution between non-philosophers and philosophers, results indicate that knowledge attributions are unaffected by gender or ethnicity.


Attempt at replicating the results of Weinberg et al (2001) showing cross cultural variation in epistemic intuitions. Failed to replicate Weinberg et al.’s results indicating differences in knowledge judgments among USA, East Asian and Indian participants.


Evidence presented that non-philosophers only attribute knowledge when a belief is true, justified and based on authentic evidence. Results indicating that U.S participants also attribute knowledge in Gettier cases. Suggest that non-philosophers may have a very different conception of knowledge than philosophers.


Argues that cross cultural differences in Gettier intuitions due to failure of participants to appreciate the tripartite structure of the cases. Evidence presented that when making salient the tripartite structure of Gettier cases, lay participants, like philosophers, deny knowledge in Gettier cases and the cross cultural difference reported in Weinberg et al (2001) disappears.


Found differences among USA, East Asian and Indian participants in the extent to which knowledge was attributed when confronted with Gettier cases and other cases. Also found differences among those with high and low socioeconomic backgrounds.
Further Reading


### 1.5. Indigenous Epistemologies

**Main Category:** Epistemology

**Discipline:** Indigenous Philosophy, Epistemology

**Keywords:** conceptions of knowledge, pluralistic knowledge

**Related topics:** non-Western epistemology

**Overview:** Western philosophers spend a great deal of time attempting to characterize knowledge. One of the key projects has been to discern key components of knowledge e.g., belief, truth, justification etc. Yet when looking at an understanding of knowledge beyond the West, different conceptions of knowledge emerge. In particular, “indigenous knowledges”—bodies of knowledge developed by indigenous peoples in particular geographic areas through interactions with their lived environment—depart from Western philosophical conceptions in important and striking ways. To take one example, the South African indigenous conception of knowledge has a number of conceptual features which depart, to varying degrees, from Western conceptions: it is plural (i.e., derived from diverse indigenous peoples), practical, relational, and revealed through dreams and visions. Myths, proverbs, folk tales, etc., serve as important vehicles for transmitting indigenous knowledge. This kind of “indigenous epistemology” or indigenous way of knowing is importantly different from Western conceptions which largely focus of justification, truth, belief, etc. Indeed, due to some of the important differences between Western and indigenous conceptions of knowledge, some indigenous scholars have advocated a kind of “epistemological pluralism” where indigenous conceptions of knowledge should also be recognized in formal education settings, alongside Western conceptions. Moreover, some indigenous scholars have suggested that by recognizing and taking seriously indigenous epistemology, we’re able to enrich our research methodologies. In light of all of this, there are important questions about the ways conceptions of knowledge varying among Western and various indigenous groups. There are also important questions about how these different conceptions should affect education, how they should be viewed among philosophers coming from different philosophical traditions, and how recognizing epistemological pluralism might lead to enriching research methodologies.

**Bibliography**


Discussion of indigenous theories and research methodologies with a number of proposals for indigenous research methodologies that can be used in research with indigenous peoples.

Overview of various aspects of indigenous epistemology with a focus on indigenous knowledge being revealed through dreams, visions and spiritual institutions.


Argument that indigenous knowledge, as a system of African knowledge, provides a framework for Africans to participate in their own education in that it provides a framework that respects diversity, acknowledges lived experience and challenges the hegemony of Western forms of universal knowledge.


Overview of philosophers' skepticism toward objectivism, and agreement among some scientists that knowledge is, in important respects, human-centered or driven by human interests. Suggestion that this should lead us to take more seriously indigenous epistemologies.


Discussion of African knowledge, and various features of knowledge that are characteristic of indigenous epistemologies or indigenous way of knowing.


Overview of and discussion of proposals for how recognizing indigenous knowledge can lead to important, positive changes in education.

Further Reading


### 1.6 Knowledge Ascriptions

**Main Category:** Epistemology

**Discipline:** Epistemology, Linguistics, Philosophy of language

**Keywords:** Context-dependence, skepticism, contextualism, invariantism, relativism, pragmatics, experimental semantics

**Related topics:** Skepticism, the semantics of epistemic expressions, contextualism

**Overview:** According to epistemic contextualism, originally envisaged to counter skeptical paradoxes, the extension of knowledge ascriptions depends on certain features of the context of utterance. The claim ‘Moore knows that he has hands’ is true relative to the epistemic standards at play in most ordinary conversations, though false relative to the more stringent standards of a skepticism seminar. Early
contextualist views proposed by DeRose (1992, 1999) and Cohen (1999) liken the linguistic behaviour of the verb ‘to know’ to that of gradable adjectives (e.g. ‘tall’, ‘rich’, ‘slow’), which are also sensitive to contextually salient standards. A different version of contextualism called contrastivism (Schaffer, 2004) argues that knowledge ascriptions are sensitive to contrast propositions. On this view, ‘S knows that p’ takes the form ‘S knows that p rather than q’, where q is a contextually salient contrast proposition.

Invariantism disputes the context-sensitivity of knowledge ascriptions. According to subject-sensitive invariantism, advocated inter alia by Fantl and McGrath (2002) and Stanley (2004, 2004, 2005), knowledge attributions can vary with salient error possibilities; according to strict invariantism, they are entirely insensitive to the context of utterance and the thinker’s situation. A final position, relativism (MacFarlane 2005, 2011), is similar to contextualism in so far as it conceives of the verb ‘to know’ as context-sensitive, yet differs in so far as the extension of knowledge claims is supposed to depend not on features of the context of utterance, but on features of the context of assessment.

All main positions build on strong empirical premises that can easily be tested. There is a small empirical literature, which focuses near-exclusively on native English speakers. Whereas the first wave of experiments predominantly produced null results for stakes and error possibilities, the evidence reported in the second wave is rather disparate and, taken together, does not lend clear support to any of the main positions. Feltz and Zarpentine (2010) as well as Buckwalter (2010) find no significant effect for either stakes or error possibilities. May et al. (2010) report some evidence in favour of the sensitivity of knowledge to stakes yet none for error possibilities. Schaffer and Knobe’s (2012) results show knowledge ascriptions to be sensitive to contrast propositions and error possibilities. Hansen & Chemla (2013) report a significant difference in knowledge ascriptions across contexts invoking different stakes.

**Bibliography**


Cohen defends a contextualist account of knowledge ascriptions, and argues that if it is coupled with a particular understanding of the structure of reasons, the skeptical paradoxes can be dissolved. The fact that in extremely demanding ‘skeptical’ contexts most knowledge ascriptions are false does not mean that they are also false in ordinary contexts, in which the salient standards are less stringent.


This paper launched the debate and introduced the well-known ‘bank cases’, which revolve around the question of whether the protagonist, who needs to deposit a check, knows the bank to be open on Saturdays. The cases differ both with respect to what is at stake (high v. low stakes) and salient error possibilities (present v. absent). DeRose argues that knowledge ascriptions are context-dependent, since the cases illustrate that we are less inclined to attribute knowledge to the protagonist in the high-stakes/salient error case than in the lows stakes/non-salient error case.


Feltz & Zarpentine test ‘bank cases’ drawn from Stanley (2005) as well as a variety of new ones in which stakes and salient error possibilities are helpfully dissociated. They report that neither factor (i.e., stakes or salient error possibilities) produces significant difference in knowledge ascriptions when considering bank cases.

MacFarlane assesses the merits and shortcomings of invariantist and contextualist positions. He argues that a relativist view of knowledge, according to which the relevant epistemic standards are determined by the context of assessment rather than the context of utterance, can circumvent the flaws of both positions while maintaining their virtues.


In a 2 (stakes: high v. low) x 2 (error salience: present v. absent) experiment using standard bank cases, May et al. found no significant effect for either fixed factor.


Schaffer argues that knowledge must not be conceived as a binary relation holding between a subject $s$ and a known proposition $p$. Instead, he suggests, it is a ternary relation between a subject $s$, the target proposition $p$ or fact to be known and a *contrast* proposition $q$ or foil. Knowledge, on this account, takes the form $s$ knows that $p$ rather than $q$.


Using a range of new scenario, Schaffer & Knobe report results according to which knowledge ascriptions of ordinary English speakers are sensitive to contrasts and salient error possibilities but not to stakes.


Stanley criticizes contextualism about knowledge ascriptions on linguistic grounds. He particularly takes issue with the proposal of Cohen (1999) and DeRose (1999) that ‘know’ and cognates behave like gradable adjectives and concludes that the truth of knowledge ascriptions is insensitive to contextual features. In his (2005), Stanley develops a subject-sensitive version of invariantism.

**Further Reading**


1.7 Epistemic Modals

Main Category: Epistemology

Discipline: Epistemology, Linguistics, Philosophy of language

Keywords: Context-dependence, modality, context-dependence, contextualism, relativism

Related topics: Semantics of perspectival expressions, contextualism, epistemic reasons

Overview: Bare epistemic modal claims, i.e. claims involving expressions such as ‘might’, ‘must’ or ‘possibly’ are context-sensitive. More precisely, claims of this sort are sensitive to an individual’s information, evidence, or epistemic perspective. Utterances such as ‘Sally might be on holiday’ are standardly used to express uncertainty vis-à-vis the embedded claim, whereas utterances invoking its dual ‘must’ are used to express certainty. Epistemic modal claims have received a lot of attention over the last decade, both from linguists and philosophers of language.

At the heart of the debate are three questions, whose importance generalizes to perspective-dependent claims tout court: Firstly, a question arises whether perspective-dependent claims such as epistemic modals are adequately captured by standard truth-conditional semantics, or whether they are best modelled by alternative semantic approaches (cf. e.g. Yalcin (2007, 2008) for an expressivist view and Von Fintel & Gillies (2011) for proposition plurality). Secondly, those advocating a truth-conditional semantics face a choice between anchoring the epistemic perspective in the content of the proposition expressed, for instance as a tacit indexical, or else as parameter in the circumstance of evaluation. This is the debate between indexicalists (e.g. Capellen & Hawthorne 2009, Schaffer 2009) and nonindexicalists of various stripes (e.g. Kölbl 2004; Egan, Hawthorne & Weatherson 2005; MacFarlane 2009, 2014). A third question focuses on the type of context which provides the salient epistemic perspective. Contextualists advocate a view according to which the perspective is dependent on the context of utterance (DeRose 1991; Kölbl 2004; Dowell 2011; Yanovich 2013), relativists (Egan, Hawthorne & Weatherson, 2005; Egan, 2007; MacFarlane, 2009, 2014) advocate a view according to which it depends on the context of assessment.
Bibliography


One of the first contextualist approaches to epistemic modals. DeRose focuses on claims of the form ‘It is possible that P’, which he argues to be true if and only if no member of a contextually salient group knows, or can easily come to know, that P is false.


Egan et al. criticize contextualism and invariantism about epistemic modals. Drawing on MacFarlane’s (2003) work on future contingents, they propose a relativist view according to which epistemic modal claims are not dependent on the context of utterance, but the context of assessment.


Experimental paper that casts doubt on the central tenets of relativism. The truth of epistemic modal claims does not seem to be assessment-sensitive, previously uttered epistemic modal claims whose prejacent turns out false do not stand in need of retraction.


In this highly influential paper, Kratzer lays out what has become the canonical semantics of modal expressions (epistemic, metaphysical or deontic). Modal expressions are treated as quantifiers ranging over sets of possibilities restricted by context. A phrase containing a modal expression is true if the proposition expressed by the prejacent is in the set of relevant possibilities.


MacFarlane discusses a variety of data concerning disagreement and the retraction of previously uttered epistemic modal claims to argue against contextualism. He proposes a nonindexical, assessment-sensitive treatment of epistemic modals.


The authors argue against a relativist semantics of epistemic modals, and instead propose a ‘cloudy’ contextualist view. Disagreement is explained by the fact that assertions sometimes give voice to a ‘cloud’ of multiple propositions and that the contradiction need not arise with respect to the proposition literally expressed. Furthermore, disagreement is itself plural and can sometimes target the prejacent and sometimes the epistemic modal claim as a whole.

On the basis of data regarding epistemic contradictions, Yalcin rejects standard truth-conditional semantic approaches to epistemic modals and develops an expressivist view.

Further Reading


