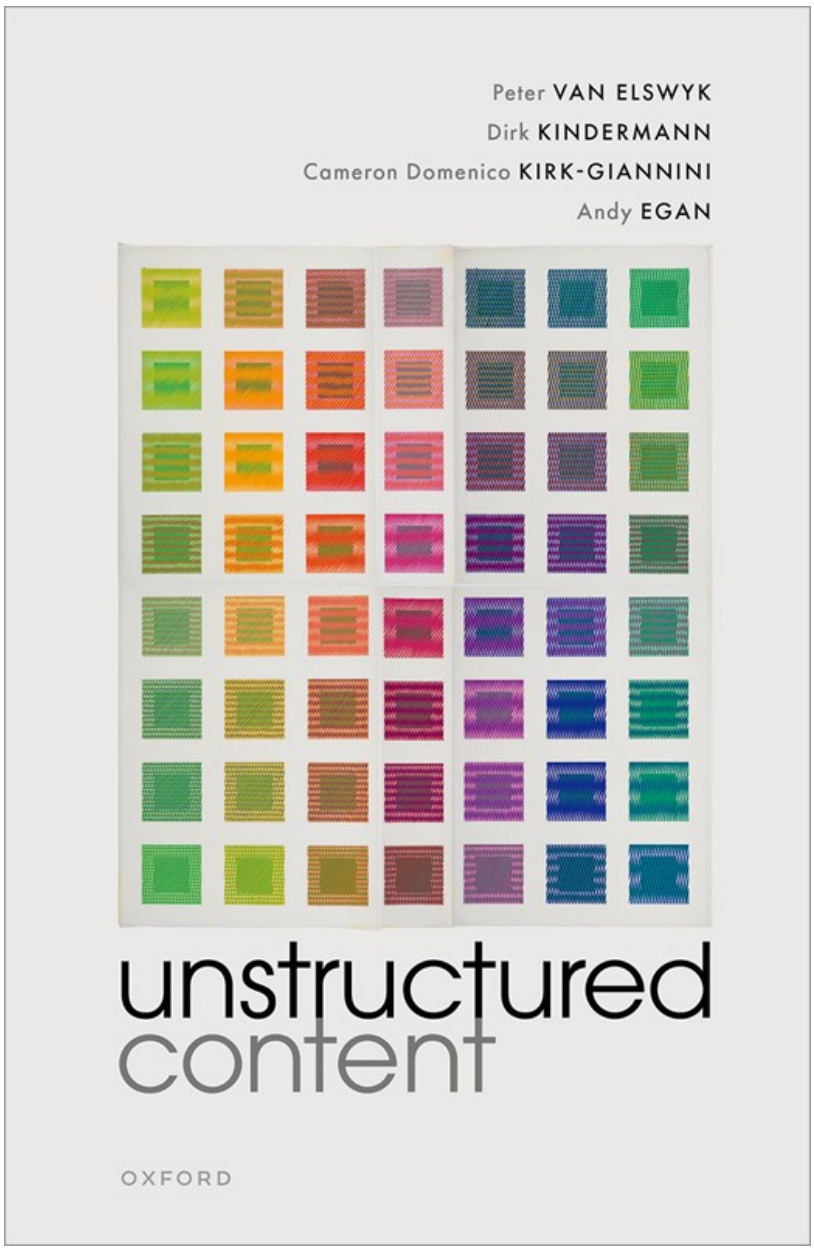

Unstructured Content

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FRONT MATTER

Unstructured Content: Introduction

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Abstract

In this introductory chapter, the editors begin by explaining the theoretical roles propositional contents are posited to play. They then introduce unstructured theories of propositions, according to which propositions are sets of truth-supporting circumstances, and discuss how well equipped such theories are to play those roles. Unstructured theories provide particularly direct explanations of the role of assertoric content in discourse and inferential relations between sentences, propositions, and propositional attitudes. However, they struggle with issues related to the individuation of propositional contents, since they hold that necessarily equivalent contents are identical. The editors discuss several possible responses to this objection. The chapter concludes by summarizing the contributions contained in this volume.

Keywords: propositions, propositional attitudes, cognitive significance, unstructured content, structured content, possible worlds, truthmaker semantics

Subject: Philosophy of Language, Metaphysics, Philosophy of Mind

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Why posit propositional contents?[1] The usual answer is that the existence of such contents is mandated by our leading theories. We can divide the theoretical roles that propositions are needed to play into three categories: linguistic, logical, and cognitive (van Elswyk 2023). The following list illustrates some of these roles:

(I). Be the meanings of declarative sentences

(II). Be the designata of linguistic expressions

(III). Be the contents of illocutionary acts

(IV). Be the relata of entailment relations

(V). Be the bearers of alethic properties

(VI). Be the bearers of modal properties

(VII). Be the objects of cognitive attitudes

(VIII). Be the contents of perception

A theory of propositional contents, then, needs to perform two explanatory tasks: specify what propositions are, and elucidate how propositions perform roles like (I) through (VIII). An anti-realism about propositions has a different task. It needs to specify what performs each role as opposed to a proposition and/or explain why the roles are not needed by theories of language, logic, and cognition.

Theories of propositions can broadly be divided into four kinds: primitivist, act-typic, structured, and unstructured. *Primitivist theories* take propositions to be unanalyzable entities (Bealer 1998, Merricks 2015, *a.o.*). According to the primitivist, propositions cannot be analyzed as having parts or assimilated to a more familiar ontological category (e.g. sets, sums, collections, act types). Instead, they are sui generis objects. *Act-type theories* take propositions to be the types that correspond to cognitive acts of representing objects as being a certain way (Hanks 2015, Soames 2015, *a.o.*). *Structured theories* regard propositions as entities which have parts or constituents that are put together in a particular way (Salmon 1986, Soames 1987, King

p. x 2007, *a.o.*). Typically, the parts or constituents ↳ involve an object and a property or relation instantiated by that object. Theories differ on how they are glued together, metaphysically speaking. Finally, *unstructured theories* identify propositions with sets or collections of truth-supporting circumstances (Stalnaker 1984, Lewis 1986, *a.o.*). By *truth-supporting circumstances*, we leniently mean worlds, situations, facts, events, and whatever else is a maximal or non-maximal way things are at which statements are true.

This collection of essays is about unstructured theories of propositions. Recent years have seen considerable attention given to rival theories. An assumption that is occasionally detectable in such literature is that unstructured theories have been relegated to the dustbin of history. But this assumption merits investigation, especially given the ubiquity of unstructured theories in cognate fields like linguistics. The original essays in this volume explore the prospects of the unstructured conception of propositions. Before introducing what's to come, though, we will briefly survey work on unstructured theories. Doing so will situate the volume's essays and help illustrate the initial plausibility of unstructured theories, especially when it comes to performing theoretical roles like (I) to (VIII).

I The Linguistic Roles

A natural starting place for our discussion is the work of Richard Montague. Montague conceived of natural language—its syntax and semantics—as a branch of mathematics rather than psychology. He dismissed "the contention that an important theoretical difference exists between formal and natural languages" (1968 [1974], 188). Natural language could therefore be investigated with the formal precision facilitated by mathematics. To this end, Montague developed a formal system that borrowed from set theory, logic, algebra, and model theory. This system enabled him to model English in a way that overcame a number of limitations of earlier proposals.

An extensional semantics contains an interpretation function that assigns *semantic values* to expressions of natural language. But that interpretation function is limited in what objects can be semantic values. It can only assign two types of objects—entities and truth-values—and functions to and from those objects. By itself, this enables what we can call *functional compositionality* (Cresswell 2002, 645). Every simple expression is assigned one of the basic objects or a function between them, and the meaning of every complex expression is the semantic value that results from applying the function from one component to the semantic value of the other component. For illustration, consider (9). The name *Sonia* can be understood as denoting an entity and the verb *sneezed* can be understood as denoting a function from objects to truth-values.

> (I) Sonia sneezed.

p. xi What (1) denotes on the extensional proposal is therefore a truth-value. The shortcoming of this approach is, as Thomason (1974, 43) put it, that there is "no way of linking expressions to semantic values other than [through] the relation of denotation." As a result, an extensional semantics cannot explain intensional phenomena, as illustrated by the fact that (1) has the same semantic value as every other true sentence.

Montague's way of overcoming this problem involved the bits that his system borrowed from model theory. Montague relativized the interpretation function so that it did not assign semantic values full stop, but rather semantic values were assigned relative to a variety of factors. The most obvious factor was a model. But the model-theoretic component of his system also enabled him to explain intensionality as another relativity of the interpretation function. It could now be sensitive to indices like worlds or times. That made the interpretation function a more complex function. Instead of being just a function from an expression of natural language to a denotation, it became a function from an expression of natural language *and* indices to

a denotation. Expressions could thereby be linked to semantic values via intensions, or the indices of the interpretation function.

Consider (1) again. Though its final denotation is still a truth-value, that denotation is relative to one or more indices. We can therefore characterize (1) by the set of indices where it is true. For example, assume that the interpretation function is sensitive to a world. Then the characteristic set for (1) is just the set of those worlds where (1) is true. That ensures that (1) no longer has the same semantic value as every other true sentence. Sentences will differ according to what worlds are in that set. What results is a conception of content according to which the content of a sentence is a set of possible worlds.

An unstructured theory of content is therefore the natural result of intensionalizing a semantics that (*a*) is functionally compositional, and (*b*) posits only entities and truth-values as basic entities. Though many of the idiosyncrasies of Montague's system have fallen away as formal semantics has matured, functional compositionality remains the primary notion of compositionality (Heim and Kratzer 1998, 13). Since that is the conception of compositionality that has animated much of the advances made by formal semantics, to abandon it is to abandon what semanticists use to illuminate natural languages. Accommodating functional compositionality is therefore a key virtue of unstructured theories. As Pickel (2019) details, structured theories like those offered by Salmon (1986), Soames (1987), and King (2007) give up functional compositionality, and there is no prima facie reason to think that the semantic theories they enable can perfectly replicate what has done in linguistics by theories with functional compositionality. So when it comes to a theoretical role like (I), unstructured theories in a Montagovian lineage have an upside.

This is not to claim that an unstructured conception of content is forced if one adopts functional
p. xii compositionality. As flagged above, an unstructured ↳ conception is the natural result if we also start with the assumption that the only basic objects are entities and truth-values. We can perhaps ditch this assumption to treat propositions as basic objects alongside entities and truth-values (Thomason 1980, Muskens 2004, Pickel 2019). Pickel (2019) argues that a structured conception of propositions is compatible with functional compositionality if we take this route. However, we want to highlight that the way a proposition fulfills a theoretical role like (I) turns on complex decision-points regarding how to set-up the architecture of a semantic theory. An unstructured conception has historically navigated these decision-points with ease in contrast to the competition.

Another central linguistic role is (III): being the content of an illocutionary act. If we draw the familiar distinction from Frege between the *content* and *force* of an utterance, then a theoretical role emerges wherein a proposition is what we forcefully present with the performance of an illocutionary act. We can therefore look to what we do with propositions to better understand what they are. On this front, Stalnaker (1978, 2002) has proposed that the speech act of assertion—the default act associated with the use of a declarative—has an essential effect. If the proposition asserted by a speaker is accepted by conversational participants, then that proposition becomes *common ground*. Here, the common ground is understood as a set of propositions that participants commonly accept. Though in principle a set of propositions can be a set of whatever entity propositions are, Stalnaker adopts an unstructured theory. That has a useful outcome. If we treat propositions as sets of truth-supporting circumstances like worlds, then we can perform set-theoretic operations on the common ground. For example, we can take the intersection of every proposition in the common ground. This intersection forms what Stalnaker calls the *context set*, a set of worlds that are the "live options" for being the actual world. Inquiry can then be understood as narrowing down the context set. We know everything there is to know when the context set contains only the actual world.

The context set has proven a very useful idea for work in semantics and pragmatics. An unstructured conception of propositions plays an important role in this usefulness. For example, consider a traditional semantics for interrogatives on which they denote sets of propositions (Hamblin 1973). If propositions are sets of worlds, a question denotes a set of sets of worlds. A question can therefore be understood as a

partition over worlds (Groenendijk and Stokhof 1984). From there, we can take the illocutionary effect of a question to partition the context set. Unlike an assertion, which proposes to shrink the context set by adding a proposition to the common ground, a question structures the context set.

Once again, the fruitfulness of the unstructured conception does not mandate its adoption. One may, as King (2007) does, take structured propositions to determine sets of worlds. A similar proposal may perhaps be offered by primitivist and act-type theories. Then we can still arrive at the context set and put it to theoretical use; the context set is just not strictly speaking an intersection of the propositions ↳ in the
p. xiii common ground. But, still, the point remains that an unstructured conception offers an elegantly integrated account of how a proposition fulfills the linguistic roles.

II The Logical Roles

Some sentences are true, while others are false. More than that, some sentences seem to be true contingently (e.g. *Napoleon was defeated at Waterloo*), while others seem to be true necessarily (e.g. *Seven is a prime number*). And some sentences seem to guarantee the truth of other sentences. For example, the truth of the sentence *Seven is a prime number* seems to guarantee the truth of the sentence *There are prime numbers*. What can be said about sentences can also be said about assertions and mental states like belief. They too can be described as true contingently or necessarily and guarantee the truth of other assertions or beliefs.

These facts about sentences, assertions, and mental states are typically explained by appealing to propositions: sentences, assertions, and mental states are true or false, have modal properties, and enter into relationships of entailment with each other because they express propositional contents which themselves have alethic and modal properties and enter into entailment relations with one another. According to this kind of approach, it is propositional contents which have these properties essentially. Since propositions perform the logical roles (IV), (V), and (VI), and propositions are expressed by sentences, illocutionary acts like assertion, and cognitive attitudes like belief (e.g. they perform roles (I), (III), and (VII)), the latter inherit the properties form propositions.

Unstructured theories of content have an especially simple story to tell about how propositions come to have the logical properties they do (Stalnaker 1984, Lewis 1986, *a.o.*). Consider first having alethic properties, or theoretical role (V). If propositions are sets of truth-supporting circumstances like worlds, then we can say that what it takes for a proposition to be true at a circumstance like a world is just for that world to be in the set which constitutes the proposition. Correspondingly, we can say that what it takes for a proposition to be false at a circumstance is for that circumstance *not* to be in the set which constitutes the proposition. Since every proposition partitions the set of all possible circumstances into those which it contains and those which it does not contain, the unstructured theory of propositions guarantees the truth of the desirable principle that every proposition is either true or false.

Once we have told an unstructured story about alethic properties, it becomes possible to account for modal properties and entailment relations—i.e. performing roles (IV) and (VI)—in a straightforward way using the tools of set theory. A proposition is necessary if it is true in every possible circumstance. Thus a necessary
p. xiv proposition is the union of all other propositions. Correspondingly, ↳ a proposition is contradictory if it is false at every circumstance. Thus the contradictory proposition is the intersection of all other propositions, which is just the empty set of circumstances. A proposition is contingent just in case it is true at some but not all circumstances—that is, just in case it contains some but not all truth-supporting circumstances.

If one proposition entails another, it guarantees its truth. On the unstructured picture, entailment can be thought about in terms of containment. Consider a proposition *P* consisting of some set *S* of circumstances.

P entails another proposition *Q* just in case *Q* must be true at any circumstance where *P* is true. This condition obtains just in case *P* is a subset of *Q*: any circumstance where *P* is true (that is, any member of *P*) is also a member of every superset of *P* (that is, a circumstance where that superset is true).

Act-type, structured, and primitivist theories of propositions cannot appeal directly to the resources of set theory to explain the logical properties of propositions in the same way as the unstructured view. Of course, other theories could posit a function mapping propositions to sets circumstances like possible worlds and then define the logical properties of propositions as above. But this introduces a layer of complexity that the unstructured view avoids. It can help itself immediately to the resources of set theory.

III The Cognitive Roles

Attitudes like belief, desire, hope, and regret have content. It is natural to take this content to be the same content as what performs some of the other theoretical roles. When a speaker uses a declarative sentence to perform an assertion and an addressee believes what is asserted to them, for example, the same content is presumably what is asserted and then believed. What performs roles (I) and (III) is what performs role (VII). This natural step is convenient, too. It allows for a straightforward interface between theories in philosophy of language and nearby theories in philosophy of mind.

Propositional attitudes are representational mental states. They represent how things are. An unstructured theory of propositions offers a way to understand the nature of such representation. Since propositions as the objects of attitudes are sets of possibilities, representation is accounted for as a way of distinguishing between possibilities (Stalnaker 1984). Representation is possibility-carving. To believe *P* is to take a stand on how things are, and to take a stand on how things are is to rule out the not-*P* ways for things to be. Desire, similarly, is a matter of distinguishing between possibilities, by favoring some possibilities over others (Heim 1992). We then treat belief, desire, hope, and regret as relations between a subject and a set of circumstances or a region of a possibility space.

p. xv A virtue of how an unstructured theory of content cashes out the nature of representation is its minimality. It follows rather effortlessly from treating propositional contents as sets of truth-supporting circumstances. Such minimality is a frequently cited selling point for unstructured content. Whether one is initially attracted to a possibility-carving picture of representation, it's independently plausible that whatever else the objects of propositional attitudes do, they *at least* distinguish between possibilities. If we can get by with saying that that's what such attitudes do, we are left with a theoretical framework that avoids unnecessary commitments. Minimality plays nicely with multiple realizability, too. If we are trying to explain how attitudes like belief represent generally rather than how belief as realized in humans represents, it's valuable to have an account that's minimal. It allows us to avoid building extra assumptions into our analysis of what was supposed to be a very general, massively multiply realizable phenomenon.

A possibility-carving approach to representation fits elegantly with a functionalist account of mental states. To illustrate, here's a first pass at a functionalist account of belief: A belief that *P* is a state that (a) indicates that *P*, and (b) tends, together with a desire that *Q*, to cause behavior that would bring about *Q* if *P* were true. This kind of functionalist account will work best with coarse-grained contents. It will be insensitive to finer-grained distinctions (Stalnaker 1984, Parikh 2008). Here are a few examples. If getting on the train moving with an average speed of 80 mph will get me to the meeting on time, getting on the train moving with an average speed of 129 kph will, too. Likewise, water at 212 degrees Fahrenheit causes exactly the same kinds of burns as water at 100 degrees Celsius. As such, the kinds of causal relations that will be the bread and butter of a functionalist account of the mind look to be sensitive only to coarse-grained content, and not to the sorts of distinctions that would distinguish moving at 80 mph from moving at 129 kph, or having temperature 212 degrees Fahrenheit from having temperature 100 degrees Celsius.

IV Challenges

Theories of propositions face metaphysical challenges. These challenges typically sort into two categories. The first category concerns the theoretical roles. Once a proposition has been identified with something, it is a further question whether that something can perform the various roles or at least a proper subset of them. If that something cannot, there is good cause to doubt that a proposition is that thing as opposed to something else. The second category concerns identity and distinctness. As Quine (1960, 200) famously quipped, "little sense has been made of the term ["proposition"] until we have before us some standard of when to speak of propositions as identical and when as distinct." A successful theory of ↳ propositions will
p. xvi offer some standard that distinguishes between distinct propositions and between propositions and non-propositions. If it cannot, we again have cause to look elsewhere.

Incredulity is regularly expressed that propositions qua sets of truth-supporting circumstances can meet the first challenge. For example, Bealer (1998, 2) writes: "most of us have difficulty honestly believing that the very propositions we believe and assert are really functions or ... sets." The most common argument advanced along these lines maintains that, to perform the roles, propositions must non-accidentally represent objects as being a certain way (Plantinga 1987, Jubien 2001, Soames 2014, Merricks 2015, *a.o.*). Only representations can be true or false, be believed, be asserted, and so forth. But sets do not represent anything non-accidentally or otherwise; they are not representational entities. So sets of truth-supporting circumstances cannot be propositions.

Various responses to this argument have been offered. One response is to deny that propositions are representational entities. Though the question of whether propositions are representational is a common point of disagreement between those who favor an unstructured theory and those who do not, it is a separate issue. Accordingly, some deny that propositions are representational even while remaining neutral on what propositions are, or while denying that propositions are sets of truth-supporting circumstances (Speaks 2014, Brown 2021). Another response is to argue that *interpreted* sets can be representational (Lewis 1986, Heller 1998). Still another kind of response is to argue that the right kind of truth-supporting circumstances can be representational. For example, Charlow (2015) takes unstructured content to be representational if the elements of the set include a *perspective*. So sets of centered worlds are representational, even if sets of worlds are not.

Where unstructured theories draw the most criticism is with respect to the second challenge of correctly individuating propositions. Suppose the proposition expressed by a sentence is the set of worlds in which the sentence is true. Then an unstructured theory treats two sentences as expressing the same proposition when those sentences are true in all the same worlds. But this identification appears to get things wrong. Consider this pair of mathematical sentences:

> (II) $2 + 2 = 4$.
>
> (III) $\sqrt{49} = 7$.

As necessary truths, these sentences are true in all the same worlds. So if the proposition expressed by a sentence is the set of worlds in which the sentence is true, (2) and (3) are equated. Consider two more:

> (IV) Sonia sneezed.
>
> (V) Sonia sneezed and$\sqrt{49} = 7$.

p. xvii Neither (4) nor (5) is a necessary truth. But, even still, these sentences are true in all the same worlds. (The proposition expressed by (5) is just a proper subset of the proposition expressed by (3).) So (4) and (5) are

rendered equivalent too. Consider a final pair:

> (VI) The groundhog burrowed under the fence.
>
> (VII) The woodchuck burrowed under the fence.

"Groundhog" and "woodchuck" are equivalent terms for the same waddling rodent. As such, (6) and (7) are true in all the same worlds. An unstructured theory looks like it is committing to their equivalence too.

These unwanted equivalences can be developed into an objection in different ways. One might add that these equivalences are intuitively incorrect and leave the problem there. Another way to develop the equivalences into an objection is to consider how these equivalences interact with the other theoretical roles propositions are alleged to play. Consider (VII), or being the object of an attitude like belief. Some develop these equivalences into an objection by noting that people can seemingly believe the proposition expressed by one member of the pairs above without believing the other (Soames 1987, Richard 1990, King 2007). Still another way to develop the equivalences into an objection is to return to the issue of representationality again. For example, Merricks (2015) argues that the pairs above *represent* things differently. (4) represents Sonia as being a certain way whereas (5) does more than that. It represents Sonia as being a certain way and $\sqrt{49}$as being a certain way. But these are different representations.

However these unwanted equivalences are developed into an objection, most opponents to an unstructured theory cite this problem as the decisive problem. It is no wonder, then, that a wide array of responses to the problem have been offered. We highlight a few common ones. The first response is to argue that such equivalences are not as unwanted as they may initially seem. For example, Stalnaker (1987, 24), focusing on role (VII) (being the object of cognitive attitudes), maintains that "the identity conditions for the objects of desire and belief are correctly determined by the possible-world account of propositions" because they do not distinguish the propositions expressed by the above pairs. Our earlier discussion of how unstructured content works well with certain functionalist approaches to mental states is relevant here.

Another option is to tinker with what the truth-supporting circumstances are. Suppose there are possible worlds and *impossible worlds*. The latter can be glossed as ways things cannot be, or worlds where the laws of logic do not hold. With such worlds, some argue that unwanted equivalences can be avoided (Ripley 2012, Berto and Jago 2019, *a.o.*). For example, (2) and (3) may be true in all the same possible worlds but remain distinct because they are not true in all the same impossible worlds. Another option is to work with truth-
p. xviii supporting circumstances ↳ that are partial or incomplete. Barwise and Perry's (1983) situation semantics provides an important example of this route. Truthmaker semantics, which this volume contains numerous essays about, can be understood as descending from this tradition of working with non-maximal circumstances.

A final common suggestion is that minds are fragmented in what they believe (Lewis 1982, Stalnaker 1984, Braddon-Mitchell and Jackson 2007, Yalcin 2018, *a.o.*). Suppose the total state of an agent's beliefs is not integrated. Instead, there are belief *states*: different compartmentalized clusters of belief. Then an agent may count as believing (6) but not (7) by virtue of having the proposition that sentence (6) expresses in the belief state that is active relative to questions about groundhog behavior but not in the belief state that is active in response to woodchuck behavior. Whether fragmentation helps with the problem of unwanted equivalences is an on-going area of research.

V Summary of Contributions

We turn now to outlining the essays collected in this volume. These divide naturally into three categories. First, Daniel Hoek, J. Robert G. Williams, and Robert Stalnaker explore ways in which unstructured theories of content which take propositions to be sets of possible worlds can be enriched to provide explanations of a number of interesting semantic and epistemic phenomena. Second, Kit Fine, Stephen Yablo, and Friederike Moltmann develop and apply a more fine-grained unstructured approach which identifies contents with sets of states of affairs or circumstances. Third, Jeffrey King, John Perry, Susanna Schellenberg, Katharina Felka, and Alex Steinberg consider the advantages and disadvantages of unstructured accounts of content as compared with structured accounts.

Enriching the Possible-Worlds Approach

In his contribution, Daniel Hoek develops an unstructured approach to the problem of defining a notion of *minimal rationality*. While fields like decision and game theory often assume that agents are perfectly rational, ordinary people fall far short of this standard: we struggle to ensure that our beliefs are consistent and to understand their logical consequences. In fact, many mundane practices like teaching children arithmetic in grade school would be unintelligible if we were ideally rational. And yet, though they fail to be ideally rational, ordinary people are not completely irrational. The problem of minimal rationality is the problem of characterizing the kind of rationality that everyday people can be expected to have.

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At first glance, it may seem that unstructured theories of content are ill-suited to feature in an explanation of minimal rationality. If propositions are identified ↳ with sets of possible worlds, then to believe any proposition is to believe its conjunction with any proposition it entails. Thus to believe the axioms of set theory is, ipso facto, also to believe all of their consequences. But while the beliefs of ideal agents might be representable in this way, ordinary people must work to appreciate the consequences of their beliefs. To solve this problem, Hoek augments the unstructured approach with the logical machinery required to model the semantics of questions. When beliefs are understood as question-sensitive, it becomes possible to explain the requirements of minimal rationality as holding only over beliefs which pertain to the same subject matter. This allows Hoek's theory to avoid the traditional problems associated with unstructured views of minimal rationality without having to abandon the unstructured framework.

In his contribution, J. Robert G. Williams is interested in a puzzle about commitment. On the one hand, it is natural to hold that agents can be committed to propositions that they do not believe. This happens, for example, when an agent fails to recognize that a proposition is a consequence of some of her beliefs. On the other hand, because they are not logically omniscient, agents often have beliefs which are logically inconsistent. But then, since an inconsistent set of propositions entails every proposition, it seems that we have to hold that most or all agents are committed to *every* proposition. This consequence threatens to trivialize the idea of commitment, and Williams is interested in developing the resources to avoid it.

To resolve the puzzle about commitment, Williams draws on a structural similarity between theories of commitment and Robert Stalnaker's account of belief as articulated in his 1984 book *Inquiry*. For Stalnaker, agents are belief-related to sets of possible worlds called belief states, and a proposition counts as believed by an agent just in case that proposition is entailed by a belief state to which she is related. Just as a simple theory of commitment threatens to entail that an agent with inconsistent beliefs is committed to every proposition, Stalnaker's account of belief threatens to entail that an agent with inconsistent beliefs believes every proposition. Stalnaker's solution to this problem is to hold that agents can have *fragmented* beliefs: they can be related to multiple internally consistent but jointly incompatible belief states. When this happens, they can believe inconsistent propositions without believing every proposition as long as the inconsistent propositions are located in different fragments. Williams develops a similar strategy for

thinking about commitment: beliefs can either be *co-believed* or not, and an agent is committed to the consequences of a set of beliefs only if those beliefs are co-believed.

In his contribution, Robert Stalnaker considers the best way to understand expressivism as a semantic thesis about normative discourse. Focusing on the expressivist framework of Alan Gibbard, he outlines two possible philosophical interpretations of the formalism required to solve the Frege-Geach problem. According to the first interpretation, favored by Stalnaker but rejected by Gibbard, the expressivist is in the
p. xx business of specifying in a mind-independent way the set ↳ of possible normative contents which can be expressed in language and then explaining why certain sentences or speech acts express the normative contents they do. On this interpretation, the project of the expressivist is structurally similar to the project of the semanticist interested in factual discourse: to interpret factual discourse, the semanticist first specifies in a mind-independent way a set of possible contents (truth conditions) and then associates them with certain sentences or speech acts. According to the second interpretation, the order of explanation goes the other direction: first the expressivist posits a taxonomy of possible states of mind; only afterwards is it possible to talk about the contents of mental states. Stalnaker argues that there are insurmountable difficulties associated with the project of understanding content in terms of mental states.

A second locus of disagreement between Stalnaker and Gibbard concerns the nature of truth. Stalnaker shows how a possible-worlds framework can be used to define both a notion of relative truth (truth at a world) and a notion of absolute truth (truth at the actual world). Since Gibbard accepts a deflationary account of truth, he rejects the second notion. But, Stalnaker argues, one consequence of rejecting the notion of absolute truth is that Gibbard lacks the resources to distinguish his expressivist theory from non-natural moral realism. An expressivist theory which preserves a notion of absolute truth is not subject to this problem. In the final section of his contribution, Stalnaker sketches a way to integrate recent expressivist accounts of epistemic modals with Gibbard's framework.

Truthmaker-Style Approaches

In his contribution, Kit Fine develops a semantical account of partial truth based on the truthmaker framework. The account is meant to capture the idea that the facts can favor the truth of a proposition in some important sense without actually making it true. Beyond its intrinsic interest, developing a framework for reasoning about partial truth can help advance the project of understanding related notions like partial content and verisimilitude.

The semantical account Fine develops is hyperintensional in that it does not always treat logically equivalent propositions as identical, and it makes truth simpliciter neither necessary nor sufficient for partial truth—a partially true proposition need not be true, and a true proposition need not be partially true. In addition to the notion of partial truth, the resources of the truthmaker framework permit Fine to define a number of related notions, including what he calls *part-wise truth* (a proposition is part-wise true if the facts favor its truth *as opposed to* its falsity), and *partial lack of falsity*.

In his contribution, Stephen Yablo develops a theory of the very general concept of the *relevance* of a circumstance to an outcome, where this is understood to subsume such diverse relations as that of a cause
p. xxi to an effect, that of a premise to ↳ a conclusion, and that of a reason to the action it favors. He takes as his starting point the minimal sufficiency model of relevance, according to which a circumstance is relevant to an outcome if it forms part of some circumstance that (i) suffices for that outcome and (ii) has no proper part which would also suffice for that outcome. But the minimal sufficiency model encounters problems when one considers certain infinitary cases. Suppose God is pleased just in case he is praised for infinitely many days. If he is in fact praised for infinitely many days, it would seem that each individual day of praise contributes to the outcome that he is pleased. But this cannot be so on the minimal sufficiency model, since

every infinite sequence of days has a proper subsequence that is also infinite and so would also suffice for making God pleased.

To solve this problem with the minimal sufficiency model, Yablo appeals to the notion of ways in which a circumstance can obtain. This allows him to define a graded notion of sufficiency, such that a circumstance might have parts which are sufficient for an outcome without being *as* sufficient for that outcome. Having two children, for example, is more sufficient for being a parent than having one child, since the circumstance of being a parent obtains in two ways for a person with two children but only one for a person with one child. Incorporating the idea of graded sufficiency into the minimal sufficiency model gives us the idea that a circumstance is relevant to an outcome if it forms part of some circumstance that (i) suffices for that outcome and (ii) has no proper part which would suffice for that outcome just as fully. This revised theory of relevance makes the right predictions about cases like the praise case. Every day on which God is praised contributes to the outcome that he is pleased because it forms part of an infinite series of praise days that suffices for God to be pleased, such that any smaller infinite series would not suffice for that outcome as fully.

In her contribution, Friederike Moltmann describes and motivates an object-based truthmaker semantics for modals and propositional attitudes. Central to this approach is the idea of modal and attitudinal *objects*, like obligations and judgments, which have truth or satisfaction conditions. Moltmann envisions a truthmaker-type semantics compositionally assigning truth or satisfaction conditions to attitudinal objects. This allows her to assign truth conditions to modals and propositional attitudes which treat their prejacents (in the case of modals) or complementizer clauses (in the case of attitudes) as predicates of attitudinal objects. For example, *that P* in *Mary claimed that P* characterizes a property of a claim (an attitudinal object)—namely, that it has the content *that P*. In the case of modals, *John needs to leave* is analyzed as an existential quantification over needs: there is a need, and its content is given by *John to leave*.

Moltmann describes a number of advantages of her framework as compared to traditional views like the relational analysis of propositional attitudes and the quantificational analysis of modals. For example, she
p. xxii argues that an object-based truthmaker semantics is better able than traditional approaches to capture the
↳ distinction between heavy and light permissions, and to deal with the possibility of underspecified desire reports. It also avoids certain well-known problems with alternatives. For example, the relational analysis of propositional attitude reports struggles to explain why substituting *the proposition that P* for *that P* in a sentence like *Mary suspects that P* results in infelicity.

Assessing Unstructured Approaches

In his contribution, Jeffrey King re-assesses his reasons for preferring a structured conception of content rather than an unstructured one. King helpfully surveys a number of objections to unstructured views, but he focuses his attention on the problem of unwanted equivalences–that on an unstructured view, propositions that are true in all the same possible worlds are identical. This seems to make bad predictions about the informativeness of utterances of sentences expressing necessary truths, such as "Hesperus is Phosphorus," and about the differences in cognitive significance between sentences like "Hesperus is a planet" and "Phosphorus is a planet." King surveys responses to these problems in the literature (largely due to Robert Stalnaker) and argues that these responses are all beset with their own difficulties: phenomena that they struggle to explain and/or uncomfortable theoretical costs.

In his contribution, John Perry argues that theories of propositional attitudes which construe them as relations to propositions are mistaken: they constitute a "detour" from productive theorizing. Instead of understanding propositional attitudes as relations to propositions, Perry suggests understanding them as structured brain states, where the structure of a given belief is determined by how it is constructed out of

small building-blocks which he calls *ideas*. Thinking about beliefs in this way is constructive, he believes, because it allows us to distinguish between two senses in which beliefs have truth conditions. A belief's *referential* truth conditions are the conditions we get by holding fixed both its structure and the referents of its constituent ideas. A belief's *reflexive* truth conditions are the conditions we get if we do not hold fixed the referents of its constituent ideas. To use Perry's example, the referential truth conditions of 'Mogadishu is the capital of Somalia' determine that the sentence is true just in case Mogadishu is the capital of Somalia, whereas its reflexive truth conditions determine that it is true just in case the referent of 'Mogadishu' and the referent of 'Somalia' stand in the relation expressed by 'is the capital of'. This example is linguistic rather than attitudinal, but Perry holds that a similar distinction can be drawn when we consider the attitudes. This distinction is important, moreover, because we care mostly about referential truth conditions when our goal is to convey information about the world and mostly about reflexive truth conditions when our goal is explanatory.

p. xxiii Treating beliefs as structured brain states does not mean that we must abandon talk of propositions altogether, however. Perry is friendly to the idea that brain states can be mapped to the propositions which characterize their truth conditions. However, he believes that the mapping is more complex than might naively be expected. Individuals believe via *notions*, which capture the ways in which they think about things in the world, and the notions via which an individual believes a content are not always immediately obvious from the natural language sentence we use to report the belief.

In her contribution, Susanna Schellenberg develops a theory of perception (*Fregean particularism*) designed to vindicate two common claims: first, that perceptions, illusions, and hallucinations can have the same phenomenal character; second, that the state of perceiving a particular object is partially constituted by that object, so that one could not be in the very same state without perceiving that object. On Schellenberg's view, perceptions are formed by the exercise of perceptual capacities for singling out objects in the perceiver's environment and have object-dependent contents. This is because the contents of such perceptions are made up of Fregean modes of presentation, where these are construed in a *de re* way so that no mode of presentation of an object *o* could be the content of a perception of anything other than *o* itself.

The fact that no perceptual experience of anything other than *o* could have the same content as a perceptual experience of *o* explains why, on Schellenberg's view, the state of perceiving an object is partially constituted by that object. But how can it be that perceptions, illusions, and hallucinations sometimes have the same phenomenal character? While Schellenberg holds that the content of an illusion or a hallucination is "gappy" in the sense that there are no objects for the Fregean modes of presentation to pick out, she also holds that the phenomenal character of a state is not determined by its content. So, while illusions and hallucinations are defective states which cannot be assigned accuracy conditions, they have the same cognitive structure as veridical perceptual states because they are formed by exercising the same perceptual capacities. It is this cognitive structure, rather than content, which accounts for the phenomenal character of a state.

In their contribution, Katharina Felka and Alex Steinberg consider a problem for structured accounts of content articulated by Stephen Schiffer (2003) and Adam Pautz (2008). The problem has to do with the idea of *reference shift*—that is, the idea that material embedded in the complementizer clauses of propositional attitude ascriptions must function semantically to refer to something other than what it refers to in unembedded contexts. Focusing in particular on Frege's theory of content, Felka and Steinberg state the problem as follows: If 'Hesperus' in the sentence 'Ben believes that Hesperus is a planet' refers not to Venus but rather to the sense associated with the lexical item 'Hesperus', and if existential quantification works in
p. xxiv the normal way, then the sentence 'There is something ↳ such that Ben believes that it is a planet' would seem to be true just in case there is a sense which Ben believes to be a planet. But, unless Ben is a peculiar individual indeed, he would never mistake a concept for a planet. So it seems that certain intuitively true sentences are predicted to be false by theories that posit reference shift.

Felka and Steinberg suggest that the best response to this kind of argument for proponents of reference shift is to hold that the value of a variable relative to an assignment function shifts in propositional attitude ascriptions just like the value of any other kind of expression. In particular, they propose that a variable embedded in an attitude ascription indefinitely denotes all of the senses which pick out its referent. They then show how this proposal can be integrated with a semantics for attitude ascriptions to yield intuitive truth conditions for sentences like ‘There is something such that Ben believes it is a planet’.

References

Barwise, J and J Perry. 1983. *Situations and Attitudes*. Cambridge, MA: MIT Press.
Google Scholar Google Preview WorldCat COPAC

Bealer, G 1998. "Propositions." *Mind* 107(425): 1–32.
Google Scholar WorldCat

Berto, F and M Jago. 2019. *Impossible Worlds*. Oxford: Oxford University Press.
Google Scholar Google Preview WorldCat COPAC

Braddon-Mitchell, D and Jackson, F 2007. *The Philosophy of Mind and Cognition: An Introduction*. London: Blackwell.
Google Scholar Google Preview WorldCat COPAC

Brown, T 2021. "Propositions are not representational." *Synthese* 199(1–2): 1–16.
Google Scholar WorldCat

Charlow, N 2015. "Prospects for an expressivist theory of meaning." *Philosopher's Imprint* 15(23): 1–43.
Google Scholar WorldCat

Cresswell, M J 2002. "Why propositions have no structure." *Noûs* 36: 643–62.
Google Scholar WorldCat

van Elswyk, P 2023. "The linguistic basis for propositions." In *Routledge Handbook of Propositions*, ed. C Tillman, 57–78. Routledge.
Google Scholar Google Preview WorldCat COPAC

Groenendijk, J A G, and Stokhof, M J B 1984. Studies on the semantics of questions and the pragmatics of answers (PhD Thesis). Amsterdam: Universiteit van Amsterdam.

Hamblin, C 1973. "Questions in Montague English." *Foundations of Language* 10(1): 41–53.
Google Scholar WorldCat

Hanks, P 2015. *Propositional Content*. Oxford: Oxford University Press.
Google Scholar Google Preview WorldCat COPAC

Heim, I 1992. "Presupposition projection and the semantics of attitude verbs." *Journal of Semantics* 9(3): 183–221.
Google Scholar WorldCat

Heim, I and Kratzer, A 1998. *Semantics in Generative Grammar*. Malden: MA: Blackwell Publishers.
Google Scholar Google Preview WorldCat COPAC

Heller, M 1998. "Property counterparts in ersatz worlds." *Journal of Philosophy* 95: 293–316.
Google Scholar WorldCat

Jubien, M 2001. "Propositions and the objects of thought." *Philosophical Studies* 104: 47–62.
Google Scholar WorldCat

King, J 2007. *The Nature and Structure of Content*. Oxford: Oxford University Press.
Google Scholar Google Preview WorldCat COPAC

Lewis, D 1982. "Logic for equivocators." *Noûs* 16(3): 431–41.
Google Scholar WorldCat

Lewis, D 1986. *On the Plurality of Worlds*. Oxford: Blackwell.
Google Scholar Google Preview WorldCat COPAC

Merricks, T 2015. *Propositions*. Oxford: Oxford University Press.
Google Scholar Google Preview WorldCat COPAC

Montague, R 1974. *Formal Philosophy: Selected Papers of Richard Montague*, ed. R Thomason. New Haven: Yale University Press.
Google Scholar Google Preview WorldCat COPAC

p. xxv Muskens, R 2004. "Sense and the computation of reference." *Linguistics and Philosophy* 28(4): 473–504. ↳
Google Scholar WorldCat

Parikh, R 2008. "Sentences, belief and logical omniscience, or what does deduction tell us?" *Review of Symbolic Logic* 1(4): 459–76.
Google Scholar WorldCat

Pickel, B 2019. "Structured propositions in a generative grammar." *Mind* 510: 329–66.
Google Scholar WorldCat

Plantinga, A 1987. "Two concepts of modality: modal realism and modal reductionism." *Philosophical Perspectives* 1: 189–231.
Google Scholar WorldCat

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

Richard, M 1990. *Propositional Attitudes: An Essay on Thoughts and How We Ascribe Them*. Cambridge: Cambridge University Press.
Google Scholar Google Preview WorldCat COPAC

Ripley, D 2012. "Structures and circumstances: two ways to fine-grain propositions." *Synthese* 189: 97–118.
Google Scholar WorldCat

Russell, B. 1910. "On the nature of truth and falsehood." In *Philosophical Essays*, 147–59. London: Longmans, Green & Co.
Google Scholar Google Preview WorldCat COPAC

Salmon, N 1986. *Frege's Puzzle*. Cambridge, MA: MIT Press.
Google Scholar Google Preview WorldCat COPAC

Schiffer, S 2003. *The Things We Mean*. Oxford: Clarendon Press.
Google Scholar Google Preview WorldCat COPAC

Stalnaker, R 1978. "Assertion." In *Pragmatics*, ed. P Cole, vol. 9, 315–32. New York: New York Academic Press.
Google Scholar Google Preview WorldCat COPAC

Stalnaker, R 1984. *Inquiry*. Cambridge, MA: MIT Press.
Google Scholar Google Preview WorldCat COPAC

Stalnaker, R 2002. "Common ground." *Linguistics and Philosophy* 25: 701–21.
Google Scholar WorldCat

Soames, S 1987. "Direct reference, propositional attitudes, and semantic content." *Philosophical Topics* 15: 47–87.
Google Scholar WorldCat

Soames, S 2014. "Why the Traditional Conceptions of Propositions Can't Be Correct" and "Cognitive Propositions." In *New Thinking About Propositions*, eds J C King, S Soames, and J Speaks. Oxford: Oxford University Press.

Google Scholar Google Preview WorldCat COPAC

Soames, S 2015. *Rethinking Language, Mind, and Meaning*. Princeton: Princeton University Press.
Google Scholar Google Preview WorldCat COPAC

Stalnaker, R 1987. *Inquiry*. Cambridge, MA: MIT Press.
Google Scholar Google Preview WorldCat COPAC

Thomason, R 1974. "Introduction." *Formal Philosophy: Selected Papers of Richard Montague*, ed. R Thomason, 1–69. New Haven: Yale University Press.
Google Scholar Google Preview WorldCat COPAC

Thomason, R 1980. "A model theory for propositional attitudes." *Linguistics and Philosophy* 4(1): 47–70.
Google Scholar WorldCat

Yalcin, S 2018. "Belief as question-sensitive." *Philosophy and Phenomenological Research* 97(1): 23–47. ↳
Google Scholar WorldCat

Notes

Footnotes

1 Throughout, we use the terms *propositions*, *contents*, and *propositional contents* interchangeably.