Object-dependent and Property-dependent Contents

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Summary

In a theory of representational or intentional states content is generally supposed to play various roles. It has to be the bearer of a truth-value, it has to determine the way a representation is about something (its mode of presentation), and finally it has to be used in order to give intra- and interpersonal psychological explanations. It has been argued that no unique kind of content can play all these roles. What criterion should one adopt in order to draw the dividing line? We suggest that the divide be based on ontological considerations related to the way content depends on external factors. There is a fundamental difference, we submit, between object-dependent and property-dependent contents. The requirements concerning modes of presentation as well as cognitive significance can be met by one kind of content. This content, it will appear, is property-dependent, but never object-dependent.

1. Introduction

In its most general formulation, externalism maintains the dependence of content on external factors. We shall classify externalisms according to two main criteria. We shall consider first the kind of dependence and the kind of item on which the dependence is supposed to be grounded. In particular, we shall distinguish object-dependence from property-dependence.

Secondly, we shall classify externalisms according to the demands placed on the role content has to play in a theory of representation. We shall distinguish four kinds of content according to these demands and several forms of externalism about those kinds of content.

Finally, we shall consider an internalist argument based on the notion of first-person authority. We shall argue that an externalist position based on

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property-dependence enables one to unify three of the four kinds of content and to meet in this respect the relevant requirement for first-person authority.

2. Semantic and Mental Externalism

Semantic externalism concerns the relation between an expression's meaning and its referent. There are two very general ways to state the opposition between internalism and externalism in semantics in accordance with a Fregean conception of meaning. Later we shall specify different roles Fregean meanings play and then show, following well-known arguments, why they need to be properly distinguished. But let us first take a very general line. (i) On the Fregean view we are assuming, the meaning of a given expression is independent of its referent, whereas on the opposing externalist view, the meaning of a given expression depends on some fact involving its referent. (ii) A Fregean meaning— we take it— determines the referent of an expression. In its simplest formulation semantic externalism consists in a reversal of the Fregean view: the referent, or some fact involving the referent, determines the meaning.

Mental externalism is concerned with the relation between mental states, such as beliefs and desires, and certain factors in the environment of the bearer of such states. Again, we get two very general formulations of the opposition. (i) An internalist will uphold the independence from, an externalist the dependence of mental states upon, factors in the environment. (ii) The mental states under consideration have a certain content: beliefs and desires are about something, they are, let's say, intentional or representational. Mental states have content just as expressions have meaning. Mental internalism is, then, the view that the contents of mental states determine their referents. Externalism holds that the referent, or some factor involving the referent, determines the content of the mental state.

One is thus led to think of mental externalism as running parallel to semantic externalism. This is by and large justified. It shouldn't, however, be allowed to conceal several important differences. For instance, the identity conditions of signs in a language can be established without any appeal to their semantical properties. On the other hand, when talking about mental states, it is often argued that their identity conditions are established with regard to their content. Mental externalism is thus immediately concerned with the identity conditions or mental states, whereas semantic externalism concerns linguistic expressions only in so far as they have meaning.

1 Indeed, this is how many people do proceed. See for instance: Perry (1990: p. 184 ff.).
3. Dependencies

We have seen that in its most general formulation externalism maintains the dependence of meanings or mental states, on external factors. Dependence is a metaphysical relation, typically exemplified by causality. But there are other important forms of dependence, such as mereological dependence (of a whole on its parts) and supervenience (of some properties on others). We believe that the relevant factors in the environment and the kinds of dependence vary as one moves from one sort of externalism to the other.

3.1. Examples of Dependence

Consider the following examples of dependence:

i) a set on its elements;

ii) an object on its parts;

iii) an individual property ("moment" or "trope") on a particular object;

iv) a sensation on a mind;

v) an event on a particular object;

vi) an effect on its cause;

vii) a material object on a spatio-temporal location;

viii) a mental state on a physical state;

ix) a colour on a surface.

Let us borrow from Husserl the term "foundation" for the dependence relation under consideration, so that the dependent entities will be said to be founded on some founding entities.²

Some of the aforementioned examples will appear controversial. Of course, we are not going to deal with the positions endorsing these dependencies here. We are simply interested in the nature of the dependence which the positions under consideration suggest.

One can try to group some of the given examples according to certain common traits. At least two features are often mentioned in this regard. It is first said that the founded entities cannot exist unless the founding entities do. One really needs to distinguish a general from an individual foundation here, in the following sense.³ An individual \( a \) of the kind \( A \) is founded generally on an individual \( b \) of the kind \( B \), if some \( B \) has to exist for \( a \) to exist. Instead, we shall say that \( a \) is individually founded on \( b \) if \( a \) cannot exist unless \( b \) does. The foundation is general of colours on surfaces (unless one takes colours to be


³ For more about Husserl on this distinction see Simons (1982: p. 121 ff.)
moments), material objects on locations, mental states on physical ones; it is individual of sets on their elements, objects on their parts, moments on objects, sensations on minds and effects on their causes. So, suppose for instance that a token $m$ of a mental state-type $M$ depends on a token $j$ of a physical state-type $P$. Then, assuming multiple realisation, the very same $m$ could have been founded on a token $j^*$ different form $j$. In the same way the idea that a material object has to occupy some particular spatio-temporal location does not involve the claim that it can only exist in a determinate location. By contrast, or so it is often argued, a particular sensation cannot exist unless the person having it does. Suppose thus a sensation $s$ of the type $S$ is founded on a sentient subject $f$. The dependence is individual for someone holding that $s$ could not be founded on a sentient subject $f^*$ different from $f$. The case of events is more difficult: if taken as dynamic individual moments, they are individually founded on their objects. And if causal relations obtain between individual events, then, e.g., the crashing (say) of a car into a tree ought to be individually founded on its moving: this crash could not have happened if this moving had not.

Individual foundation, it might have been noticed, is intimately connected to a second feature often mentioned with respect to dependence. It is the claim that the identity criteria of the founded entities are given in terms of the founding entities. So, for instance, sets with different elements, objects with different parts, moments of different particulars, effects resulting from different causes and sensations of different minds are not identical. All these are examples of individual dependence. Indeed, general founding entities do not play the same role with respect to identity criteria. Different surfaces can have the same colour, the same mental state can supervene on different physical states, and, although with some qualifications, different locations in space and time can be occupied by the same object. Indeed, we can say that if an entity $a$ individually depends on an entity $b$, depending on $b$ is an essential property of $a$.

4. Externalism and Intentionality

We shall later apply these metaphysical considerations to some kinds of externalism. It has to be noticed, however, that some externalists may not agree with this approach. They may argue that the dependence under consideration is not metaphysical but referential, conceptual or, possibly, epistemic.\(^4\)

To see the difference consider a parallel claim according to which physical properties are individuated through numbers. The temperature of a body, say, is individuated through a number on the scale written on a thermometer. Here, one needs to refer to the number in order to individuate the temperature, but this does not imply that the temperature metaphysically depends on numbers. A similar point can be made with respect to conceptual and epistemic dependence. One may claim that to have the concept of a given temperature one needs to have numerical concepts, or that to know that a body has a certain temperature one needs to know certain facts about number, while rejecting the idea that temperature itself depends on numbers.

But such a line of argument is not available for someone who believes, first, that there are intentional properties and, second, that they are not intrinsic properties of mental states or linguistic expressions. To say that something has content in virtue of a relation to external factors involves a commitment to some sort of metaphysical dependence. This general characterisation obviously leaves room for different kinds of relations and correspondingly, for different relata, as will become clear in what follows.

5. Kinds of Content

In a theory of representational or intentional states content is generally supposed to play various roles, some of which were recognised by Frege. It has been persuasively argued that no unique kind of content can play all these roles. We shall distinguish four main roles content has to play. The distinction is largely inspired by considerations one can find in work by Kaplan, Perry, Evans und others. According to these different roles one can establish four criteria for the difference of content. This will yield a further classification of forms of externalism depending on which content the externalist claim is applied to.

For expository reasons we shall talk of four kinds of content. We shall see, however, that some unification is possible. But different approaches suggest different unifications.

Content-1, thought. Judgements are true of false in virtue of their content. So the first role of content is to be the bearer of a truth value. Frege analysed the notion of judgement in terms of the notions of act, thought and truth value. The thought is the absolute bearer of a truth value. Possible worlds semantics requires a revision of the concept of an absolute bearer of truth value.

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6 See also Wettstein (1986) and Corazza&Dokic (1992).
One takes thoughts to be bearers of truth values (extensions) relative to possible worlds (circumstances of evaluation): thoughts are functions which map possible worlds onto truth values.\(^7\)

The following is a criterion of difference for thoughts:

\[(C1)\] Two belief-tokens expressed by the sentence-tokens \(s\) and \(s'\) are associated with different thoughts if they are true in different sets of possible worlds.\(^8\)

**Content-2, mode of presentation.** Sentences and beliefs are in virtue of their contents about an object or represent some state of affairs. The second role of content is to provide the “aboutness” of sentences and beliefs.

Frege took modes of presentation to be extension determiners. Sentences and beliefs represent in virtue of modes of presentation. As Frege puts it, sentences express some mode of presentation of the true or the false. Singular terms and predicates express modes of presentation of their referents, particulars, or functions. Different modes can determine the same extension. This has been understood in different ways. Dummett’s approach suggests that a mode of presentation associated with a term is what a hearer knows if she understands it, i.e. a procedure to determine the reference. Evans suggests that the mode of presentation consists in the ability to think about a reference in a certain way.\(^9\)

It is not easy to provide a criterion of difference for modes of presentation. Following Evans we suggest:

\[(C2)\] Two belief-tokens expressed by the sentence-tokens \(s\) and \(s'\) are associated with different modes of presentation if what accounts for the fact the belief-token expressed by \(s\) is about an entity \(a\) is different from what accounts for the fact that the belief-token expressed by \(s'\) is about \(a\).

Note that this criterion leaves room for the same mode of presentation being associated with expressions having different referents.

**Content-3, intrapersonal cognitive significance.** Psychological explanations of behaviour refer to beliefs, desires and other representations. Not just any description of beliefs and desires will support psychological generalisations. The most usual and successful ones individuate them by reference to...

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\(^7\) Kaplan merely talks of “content” or “proposition”. Perry uses terms such as “thought”, “incremental truth condition” and “proposition expressed”. See Kaplan (1989), Perry (1988), Perry (1990) and Perry (1991).

\(^8\) Here are some terminological clarifications. A sentence token expresses a belief-token: see Husserl’s notion of “Kundgabe”, generally translated by “intimation”, in Husserl (1992: vol. 3, p. 40 [L.U. I: § 7]). The belief-token as well as the sentence are associated with their content, or, as we shall see, with their different kinds of content. A person having a belief-token \(b\) she would express with an utterance of the sentence \(s\), entertains the thought associated with \(s\) and her belief state has the cognitive significance associated with \(s\).

their contents. Different representational contents lead to different behaviour. The paramount human behaviour is linguistic behaviour, which consists partly in the acceptance or rejection of sentence-tokens. Hence the interpersonal criterion of difference for psychological content is:

\[(C3)\] Two belief-tokens expressed by the sentence-tokens \(s\) and \(s'\) are associated with a different cognitive significance if it is possible that a rational person understands both \(s\) and \(s'\) while accepting \(s\) and rejecting \(s'\) (or vice versa).

This criterion lacks something important since it applies only to intrapersonal comparison of cognitive significance. Cognitive psychology aims to generalise over many persons. So it would be useful to provide an interpersonal criterion of difference.

**Content-4, interpersonal cognitive significance.** Typically, interpersonal cognitive significance has been introduced to deal with cases where two persons have beliefs associated with the same thought although leading to different behavioural reactions. Suppose the beliefs under consideration are expressed by sentence-tokens containing indexicals so that Ann has a belief she would express with:

(i) I am the Queen of England

and Pete has a belief he would express with:

(ii) She is the Queen of England

If “I” and “she” refer to the same person, the beliefs expressed are associated with the same thought. But if they lead to different behaviour, then they have different cognitive significance. We thus have the following criterion of difference for interpersonal cognitive significance:

\[(C4)\] Assuming rational persons with identical background desires and beliefs: some of the beliefs which help to bring about their behaviour are associated with a different cognitive significance if they behave differently.

We shall now specify externalist positions with respect to all kinds of content. In doing so, we shall point out the kind of dependence the various forms of externalism suggest.

### 5.1. Externalism about thoughts

One needs to distinguish singular thoughts from general thoughts. An externalist position concerning singular thoughts holds that the object referred to by the singular term enters the thought. The main argument for this kind of *singular-thought externalism* relies on well-known modal considerations.\(^{10}\)

\(^{10}\) See Kaplan (1989: p. 498 ff.).
The behaviour of indexicals and proper names when evaluated in counterfactual situations suggests that they refer directly. Consider Ann's utterance (i). What a person hearing the utterance understands is something like the proposition $p$: <being the utterer of (i), being the Queen of England>. So someone could suggest that the thought associated with (i) is the same as the thought associated with:

(iii)  The utterer of (i) is the Queen of England.

But (iii) is true in another set of possible worlds than (i). According to (C1) they are thus associated with different thoughts. Not $p$ but $q$: <Ann, being the Queen of England>, captures what possible worlds have in common in which the thought associated with the belief expressed by (i) is true.

On this position singular thoughts contain the external object referred to as one of their constituents. The singular thought individually depends on the external object.

Consider now general thoughts associated with sentences not containing any singular term. In this case the thought can hardly be said to contain an object. But other sorts of individual dependence might be considered. Causal dependence seems to be a case in point. Some people are sceptical about such entities as meanings and contents altogether. So, they would not say that an external object is a constituent part of the content of a mental state. But they can still endorse a form of causal externalism, according to which the interpretation of an utterance, the content of the attributed belief, depends on some external cause. Davidson, for instance, believes that the external stimuli in correlation to which one learns a certain expression determine its content. "The interpreter must know, or correctly surmise, the events and situations that cause a verbal or other reaction in another person in order to fathom her thoughts. [...] Causal history partly determines what she is thinking [...]."11 Indeed, Davidson endorses the externalist claim that "the identification of mental contents depends on external factors".12 But what kind of dependence is Davidson thinking about here? Reacting to Tyler Burge, Davidson writes:

If two mental events have different contents they are surely different events. What I take Burge's and Putnam's imagined cases to show [...] is that people who are in all relevant physical respects similar [...] can differ in what they mean or think [...]. But of course there is something different about them, even in the physical world; their causal histories are different. (Davidson 1987: p. 452)

If we understand this correctly, Davidson doesn’t believe that two events can really share all their physical properties while having different semantical properties. Indeed, this would destroy his well-known supervenience. Rather, two events can share some of their physical properties, maybe even all of them, with the notable exception, however, of those relational properties holding between the events and their causes.

Now, remember that supervenience, as we have taken it above, is a general dependence of mental properties or states on physical ones. Is, then, causal dependence in Davidson’s sense general property-dependence? We don’t think so. What Davidson needs for his theory to give the desired result, namely that external factors play a role in the identification of mental contents, is individual dependence. General dependence, we have seen, does not yield this result. A mental state is usually not identified by the physical state on which it supervenes, at least as long as one wants supervenience to avoid some of the problems encountered by type-identity theories.

So we think that causal dependence à la Davidson is the individual dependence of a mental event on its external cause, supposedly a distal stimulus. Let’s call this causal thought externalism.

Another kind of individual dependence one might consider as far as general thoughts are concerned is property-dependence. This, we contend, is the case in the so-called social or linguistic thought externalism à la Burge. In a variation of Burge’s well-known example, the thought associated with Ann’s belief that arthritis is painful depends on the fact that the word “arthritis” is used to refer to arthritis in her actual linguistic community. In a counterfactual situation, where the word “arthritis” is also used to refer to various other rheumatoid ailments, Ann, or her twin, would have a belief associated with a different content.

There is a clear difference between this case and the two kinds of object-dependence described above. For remember that Ann and her twin are supposed to be phenomenally and physically identical down to their causal history, and that Burge insists on his arguments as not presupposing any de re construction of the belief attribution under consideration. He claims that “our well-understood propositional attitudes depend partly for their content on social factors independent of the individual [...]”. And he obviously wants those social factors to provide identifying criteria for the content of propositional attitudes. At one point he argues against token-identity as far as occurrent thoughts are concerned: “[...] no occurrence of a thought (that is, no token thought event) could have a different [...] content and be the very

same token”.\textsuperscript{14} Socially determined content, he believes, is “essential to the identity of the event”.\textsuperscript{15} Given our standards, the dependence ought thus to be individual. But the terms on which it is grounded can hardly be individuals, i.e. objects or events. For, there certainly is no person, object or event on which Ann’s thought individually depends. Instead, it seems that Ann’s thought depends on the property for which the word “arthritis” is prevailingly used. The thought associated with Ann’s utterance of the sentence “arthritis is painful” individually depends on the property arthritis. Indeed, her twin, uttering the same sentence in a linguistic community where the word “arthritis” is used for another property, would not entertain the same thought.

Notice that in the way we described the situation one would have to distinguish the property on which the expressed thought individually depends from the second-order property which both arthritis and twin-arthritis exemplify, namely: being that for which the word “arthritis” is prevailingly used. This, we should like to emphasise, is not the property on which the thought expressed depends. The relation between this second-order property and arthritis is similar to the relation between the property of being the utterer of a token of “I” and Ann in the example given above. And as before, this second-order property is irrelevant as far as the identity conditions of thoughts are concerned.

It ought to be emphasised finally that our understanding of linguistic externalism relies on the possibility that the actual world and its twin are physically identical although the same expressions refer to different properties. Indeed, it may be that we have no term at all for the property which the term “arthritis” is used for in twin-earth. One may thus conclude that earth and twin-earth are physically identical although people in twin-earth speak about properties which are not countenanced in our scientific discourse. If we are right, somebody rejecting such a possibility will hardly accept the kind of thought-experiments supporting linguistic externalism.

A final kind of property-dependence for general thoughts can be found in some forms of \textit{functional thought externalism} as in Dretske and Millikan.\textsuperscript{16} Here, an internal state-type $S$ of a particular individual is supposed to depend on some property $C$ in the environment.

According to teleological theories of content the representational properties of internal states are explained in terms of their functions. A token of a state-type $S$ has the function of producing an effect of type $E$ if the fact that $S$s produced $E$s in the past caused the survival and proliferation of $S$s by evolution or learning.

\textsuperscript{14} Burge (1979: p. 560).
\textsuperscript{15} Burge (1979: p. 561).
\textsuperscript{16} See especially Dretske (1988: ch. 3), and Millikan (1984: ch. 6).
Take the well-known example of magnetotactic bacteria. These bacteria contain some magnetosomes which align themselves onto the direction of the magnetic north. The property: being aligned onto the direction of the magnetic north \((S)\), maps the property: being aligned onto the direction of oxygen-free water \((C)\). When the bacterium finds itself in a state tokening \(S\) it moves in the direction of oxygen-free water (thus manifesting a behaviour of the type which might be called \(E\)). The mapping of \(S\) onto \(C\) guarantees the survival and proliferation of the bacterium, since tokens of \(S\) cause tokens of \(E\) and since oxygen is toxic for the bacterium.

Consider now a magnetosome tokening this property in a place \(p\) and time \(t\). In virtue of \(S\) thus being tokened, the magnetosome represents the direction of oxygen-free water at place \(p\) and time \(t\). The tokening of the \(S\) represents the exemplification of the property \(C\).

A token of a state-type \(S\) represents an exemplification of a property \(C\) if:

\(1\) it is the function of some device \(D\) to produce tokens of \(S\);
\(2\) \(S\) bears some mapping relation or informational relation (indication) to the property \(C\);\(^{17}\)
\(3\) \(S\) has the function of controlling reasoning and eventually behaviour \(E\) such that:

\(4\) \(E\) is advantageous given the exemplification of the external property \(C\).

The representational content of the tokening of \(S\) is the exemplification of \(C\). A token of \(S\) is true in a possible world in virtue of its content if \(C\) is exemplified in this world. According to \((C1)\) we take this representational content to be of the kind of content-1, a thought.

We can say that the content-1 of \(S\) depends on \(C\) in the sense that current tokenings of \(S\) would not have been selected if \(C\) were not exemplified.

The dependence relation between the representational content (thought) of \(S\) and \(C\) is rather complex. It holds in virtue of:

\(1\) there being predecessors of current tokens of \(S\);
\(2\) the mapping, or informational relation between tokens of predecessors of \(S\) and exemplifications of \(C\);
\(3\) the fact that the predecessors' mapping onto exemplifications of \(C\) explains the current tokening of \(S\).

\(^{17}\) Dretske specifies the relation between internal state and external property as an informational relation. Millikan (see Millikan 1989) criticises Dretske's approach and favours a specification in terms of mapping rules. Millikan does not explicitly hold that representations map properties. She speaks with considerable vagueness of the mapping onto "world affairs". Maybe one should take a world affair to be an event-type. According to Kim (cf. Kim 1973) event-types are the properties exemplified by objects in event-tokens. If this is right, the mapping onto world affairs amounts to the mapping onto properties.
If counterfactually the mapping of a property $C'$ different from $C$ were equally to favour the survival and proliferation of $S$, $S$ would represent $C'$. The property mapped is an identity condition for the content-1 of a representation $S$. So content-1 individually depends on an external property.

5.2. Externalism about modes of presentation

In the preceding section we dealt with externalism about thought. We noticed that externalism is applied not only to singular thoughts, but to general thoughts as well. Different arguments for such a generalisation have been briefly reviewed. It appears that they rely on the different items upon which the suggested dependence is supposed to be grounded.

In the following sections we shall present externalist arguments concerning the other three kinds of content. There is a clear tendency to consider that the externalist position loses its appeal as one moves up through the levels of content. But, as will become clear later, our own evaluation of the situation is different.

Externalism about modes of presentation associated with beliefs expressed by utterances of sentences containing singular terms maintains that a mode of presentation individually depends on the referent of the singular terms: call this singular mode externalism. Such a view results from strengthening (C2). We saw that (C2) allows for the same mode of presentation to be associated with expressions differing in their reference. Add now a further criterion of difference for modes of presentation as follows:

(C2a) Two belief-tokens expressed by the sentence-tokens $s$ and $s'$ are associated with different modes of presentation if $s$ and $s'$ contain expressions differing in their reference.\(^{18}\)

With this addition two persons uttering a sentence of type (i) express not only different thoughts, but also different modes of presentation.

But if a mode of presentation is conceived as the way somebody thinks about reference, then certainly (i) and (ii) are associated with different modes of presentation although both have the same reference. In Evans’ terms we could say that what accounts for the fact that Ann’s thought is about Ann is different from what accounts for the fact that Pete’s thought is about Ann.

On this conception the criterion of difference for modes includes the criterion of difference for thoughts. If the thoughts are different, then the

\(^{18}\) For the present purpose we take general terms to refer to properties and singular terms to refer to particulars.
modes have to be different too. Because they are sensitive to the criterion of difference for thoughts, modes of presentation can readily be taken as bearers of truth-values. On such a view it is not necessary to attribute thoughts along with modes of presentation, the latter satisfying the criterion of difference for the former.

Notice however that this excludes strengthening (C1) to its biconditional form, namely:

(C1a) Two belief-tokens expressed by the sentence-tokens $s$ and $s'$ are associated with different thoughts iff they are true in different sets of possible worlds.

(C1a) provides an identity criterion for thoughts such that the thoughts expressed by (i) and (ii) are identical. The unification of thought and mode of presentation precludes the acceptance of (C1a).

There are also forms of externalism about modes of presentation associated with utterances of general sentences. Consider Putnam's well-known example of the expression "water" used for $H_2O$ on earth and for XYZ on twin-earth.\(^{19}\) It is generally recognised that when Adam and twin-Adam utter a sentence containing the expression "water" they entertain different general thoughts. But one might argue that they also associate different modes of presentation with those utterances. Those modes would manifest themselves in opaque belief ascriptions such as "Adam believes that water is $F$" and "Twin-Adam believes that water is $F$". Although such ascriptions prohibit substitution of coextensional terms, it has been argued, e.g. by Burge, that "they specify how Adam and Twin-Adam think about the res",\(^{20}\) i.e. the stuff called "water" in their environment. It seems then that different properties in the environment affect the mode of presentation associated with an utterance. The property of being water is an identity condition for the way persons think about water i.e. for the mode of presentation. Burge's thought experiments suggest an individual property-dependence of modes of presentation.

The same conclusion is to be drawn from consideration concerning teleological theories of content. Millikan takes the way one thinks about something to be a relational property of mental states. The mode of presentation associated with a representational state $S$ is its being supposed to map some external property $C$ according to some specifiable mapping rule.\(^{21}\) As mentioned above, if counterfactually the mapping of a property $C'$ different from $C$ were equally to favour the survival and proliferation of $S$, $S$ would represent the

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\(^{19}\) See Putnam (1975).  
\(^{21}\) See Millikan (1984: ch. 6, especially p. 111).
exemplification of $C$. $S$ would then be supposed to map the exemplification of $C$. What accounts for the fact that $S$ represents the exemplification of $C$ differs from what counterfactually accounts for the fact that $S$ represents the exemplification of $C$. So, the actual mode of presentation associated with $S$ differs from the counterfactual mode of presentation. The mode of presentation associated with $S$ individually depends on the property $C$.

These kinds of general mode externalism satisfy (C2a). It is crucial, however, to notice that general mode externalism does not imply object-dependence. What accounts for how modes of presentation expressed by general sentences manifest themselves in opaque contexts, or what accounts for the fact that $S$ represents the exemplification of $C$, does not involve any reference to particular objects. So, general mode externalism ought to be carefully distinguished from singular mode externalism.

Of course, the acceptance of (C2a) implies again the rejection of (C1a). (C1a) identifies contents which are distinguished by (C2a). It seems reasonable indeed to assume that different mapping rules can be applied to the same property and that different general terms not substitutable in opaque contexts depend on the same environmental property. But because of (C2a), general mode externalism determines content in such a way that it makes it sensitive to (C1): modes of presentation associated with general beliefs can be taken as bearers of truth-values.

5.3. Externalism about intrapersonal cognitive significance

Consider again our utterances (i) and (ii). Suppose they are both uttered by Ann referring to herself. It could be, as in Mach's famous example, that she accepts (ii) while rejecting (i), not being aware of the relevant identity. (C2) suffices to account for such a situation. Indeed, (i) and (ii) express different ways of thinking about Ann. But suppose Pete has on two occasions a belief-type he would express by two utterances, $u_1$ and $u_2$, of (ii), without realising that he is referring in both cases to Ann. Call this the intrapersonal puzzle. As has been pointed out, one could imagine Pete accepting $u_1$ while rejecting $u_2$. By (C3) we have different intrapersonal cognitive significance. If

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22 Mach writes: "Not long ago, after a tiring railway journey by night, and much fatigued, I got into an omnibus, just as another gentleman appeared at the other end. "What shabby pedagogue is that, that has just entered" thought I. It was myself; opposite to me hung a large mirror. The physiognomy of my class, accordingly, was better known to me than my own." (1897: p. 4) See also Mach (1886: p. 34).

23 See Wettstein (1986).
(C2) is to account for such a difference, one ought to conceive the ways of thinking about an object as being determined by extralinguistic cognitive factors also, factors relative to perception, spatio-temporal location, etc. No semantic feature of the sentence-type (ii) tokened in the two occasions appears to suffice.

With this addition (C2) suffices to distinguish content in the way required by (C3). Mode of presentation satisfies the requirement for intrapersonal cognitive significance. If furthermore one rejects (C1a) while endorsing (C2a), one has enough constraints on modes of presentation to satisfy also (C1), the criterion of difference for thoughts. And this trivially yields an individual dependence of intrapersonal cognitive significance on objects for contents associated with singular beliefs and on properties for contents associated with general beliefs. Call the former singular externalism about intrapersonal cognitive significance and the latter general externalism about intrapersonal cognitive significance.

Again, common arguments in favour of distinguishing thought from cognitive significance rely on the acceptance of (C1a). Instead, the identification of thought, mode of presentation and intrapersonal cognitive significance presupposes a rejection of (C1a).

But there is another kind of externalism about intrapersonal cognitive significance which eschews the rejection of (C1a). It also emerges in dealing with the kind of intrapersonal puzzle described above. A solution suggested by Perry associates two radically different kinds of content with an utterance. The utterance \( u_{i} \) of the sentence (ii) by Pete does not just express the thought, to be identified with the proposition \(<\text{Ann, being the Queen of England}>\), but also a further proposition of which \( u_{i} \) itself is a constituent part. The two utterances \( u_{i} \) and \( u_{2} \) then obviously differ with respect to this second proposition. If this difference is to account for the differing intrapersonal cognitive significance, the cognitive significance individually depends on utterance-tokens.

On this account intrapersonal cognitive significance and thought cannot be identified. So, the two kinds of externalism about intrapersonal cognitive significance have to be sharply distinguished. Let us call the latter reflexive externalism about intrapersonal cognitive significance. It accepts (C1a), rejects (C2a) and suggests (C3) instead of the cognitively enriched version of (C2). For contents distinguished by (C2) are also distinguished by (C3).

\[24\] This point has been made forcefully by Corazza & Dokic (1992).

\[25\] This position is held most prominently by Evans; see Evans (1981) and (1982: ch. 6).

Applying the label "externalism" to such a position sounds quite surprising. Indeed, as is well-known, Perry takes his position to be compatible with an internalist view of psychological explanations. Utterances are certainly not objects in the environment as people, chairs and mountains are. But remember that when we gave the most general formulation of externalism we just talked about content as depending on the referent, or about content as being determined by the referent. Now, this clearly applies to the conception of cognitive significance under consideration. An utterance is supposed to contain some kind of device such that it automatically refers to itself. And, this is crucial, the referent itself is supposed to enter as a constituent part into one of the contents expressed by the utterance.

The opposition between externalism and internalism is often formulated along a divide which follows more or less the boundary set by the skin of the human body. It is not easy to determine where utterances are. In order to circumvent this difficulty one can just think of \( u_1 \) and \( u_2 \) as utterances in the language of thought.\(^{27}\) Such utterances are then supposed to correspond to events in one's brain. This certainly pleases those internalists who are worried about the causal efficacy of mental states. But in our original formulation, bodily skin and mental causation did not play any role in setting the divide. Instead it is the idea of some entities given to the mind in such a way as to directly determine the content of one's attitudes which characterises externalism on our account. Such entities fall into two general classes: individuals and properties, yielding, with respect to externalism, property-dependence and object-dependence. In this sense reflexive externalism about cognitive significance involves a form of object-dependence just as much as singular externalism about cognitive significance does. This point has consequences on which we shall later dwell.

5.4. Externalism about interpersonal cognitive significance

The most striking feature of (C4) is that it does not distinguish beliefs associated with different thoughts. Indeed, if Ann and Pete were both to utter (i), they would normally behave in the same way although their beliefs are associated with different thoughts. In such a case (C4) would not allow us to attribute a different interpersonal cognitive significance, although by (C1) they express different thoughts.

Of course, one could try to cover such cases by appealing just to (C2). But then one should certainly be opposed to the strengthening of (C2) into (C2a).

\(^{27}\) This is done in Perry (1991: p. 173 ff.).
And one would lose, thus, the possibility of having modes of presentation sensitive to the criterion of difference for thoughts.

It seems hard to imagine an externalist conception for this kind of content. Indeed, examples such as given above are cherished by internalists. There is a claim, however, which one might consider as implying externalism about interpersonal cognitive significance. But this, we contend, is wrong.

The claim is that what accounts for the fact that Ann and Pete behave in the same way is the fact that they entertain thoughts they would express by tokens having the same linguistic meaning. Linguistic meaning, we take it, is a property expression-tokens have in virtue of instantiating a certain type. The expression-type "I" has the property of being used by an utterer to refer to himself. This property corresponds to a socially determined linguistic rule, a convention. Now, suppose this property is exemplified by different expression-types in different linguistic communities (as happens with different languages). Assuming that Ann is a native English speaker, does the property given above make the cognitive significance of her belief depend on the English expression-type "I"? Of course not. Ann may never have spoken English or any other language at all and still have a belief she would express by (i). We mention a token of the expression-type "I" to describe her belief in a way which manifests its cognitive significance. But her belief does not depend on the expression-type "I".

We have here a case of what we earlier called epistemic or referential dependence, as opposed to metaphysical dependence. For us to describe Ann's belief it is necessary to mention an expression governed by a determinate linguistic convention. We need to know this convention and to know which expression is governed by it in our language in order to specify her belief. But the person to whom we attribute the belief need not know this convention and need not even know the expression which is governed by it in a determinate language. Therefore, this kind of dependence does not imply any form of externalism with respect to the content of the attributed mental state.

6. Problems

As was mentioned earlier, it is often argued that no unique kind of content can satisfy all criteria of difference. The question is where to draw the line. Here are two typical lines of thought.

(i) There is one type of content which satisfies (C1), (C2), and (C3). That is, there is a unique type of content playing the role of thought, mode of presentation and intrapersonal cognitive significance. Content understood in this way does not satisfy (C1a) and (C4). As we have seen, (C2a) distinguishes
contents which are not distinguished by (C4). This is worrying because it prevents psychological generalisations over several persons. For such purposes a new kind of content has to be assumed.

(ii) There is one type of content which satisfies (C1a) and another which satisfies (C2), and (C3). But consider now the challenge posed by the intrapersonal puzzle. We saw that there are two ways out. The first consists in enriching (C2) by perceptual content. The second in going reflexive externalist on utterances. We shall talk about the first later. Consider now the second. It appears that it distinguishes contents which are not distinguished by (C4). For, if one assumes reflexive externalism about cognitive significance, one would have to distinguish the cognitive significance of Ann's and Pete's beliefs which they would both express by uttering (i) and which would cause them to behave in the same way. But this, precisely, is a case where cognitive significance is not distinguished by (C4). On this line of thought one would thus have to assume not just two, but three kinds of content.

It seems, anyway, that both positions have to stop short before (C4), thus assuming a special kind of content for what matters in psychological explanations. Our diagnosis is that this is related to object-dependence.

In our two remaining sections we shall suggest another perspective which enables one to draw the line in a different way by emphasising property-dependence as opposed to object-dependence.

7. Considerations from first-person authority

There are, we take it, three main arguments for internalism: they concern first-person authority, psychological generalisations and mental causation. One would need to spell out these arguments with respect to the different kind of externalism described above. Here, we shall concentrate on a discussion of internalism issuing from considerations concerning first-person authority. We shall briefly touch on the problem of psychological generalisations, but we shall remain silent as far as mental causation is concerned.

The argument from first-person authority runs roughly as follows. There is a fundamental asymmetry between the first and the third person as far as knowledge of one's own propositional attitudes is concerned. I generally know what I think, wish or hope better than you do. There is an immediacy in my knowledge about my own propositional attitudes which is not available from the third person perspective. If, however, the content of my propositional attitudes depends of factors which are not given to me with the same immediacy, if what determines the content of my belief is something others may know about better than I do, the authority upon my own attitudes seems to be jeopardised.
Many people think that the problem itself is spurious. It has been argued, for instance, that the Cartesian picture of an immediate knowledge of one's own mental states is deeply flawed. We shall not discuss these arguments here. We think that the problem is genuine and that there is an epistemic authority of the first person.

There are various suggestions about how to reconcile first-person authority with externalism. We should like to discuss one such suggestion. It is based on the following assumption:

\[(\text{FPA}) \quad \text{Knowledge of my own mental states is not discriminative, i.e. I do not need to know the identity conditions of my mental states in order to know about them.}\]

Such an assumption needs justification. Considerations about learning and evolution seem to provide it. We have seen that in certain cases the properties responsible (through evolution or learning) for our being in a state having a determinate content also determine its identity conditions.

Consider now my second-order belief that I believe that p. In general, for a belief to be knowledge it needs to be justified. Your knowledge that I believe that p has to be justified by certain evidence. For instance, you need to know the properties in my environment which determine the identity conditions of my belief that p. But for me such justification is not required. For I would not have had the belief that p if the properties determining the identity conditions of my belief were not exemplified in my environment.

Suppose my environment were suddenly switched unbeknown to me. I do not realise the switch, and I do not recognise any difference in the environment. Certain beliefs of mine about my new environment are then wrong. But my beliefs about my beliefs remain true, at least in a lapse of time relatively close to the switch. For those beliefs whose content depends on the properties involved in the processes through which I acquired them, remain, so to speak, faithful to my original environment.

It might reasonably be argued that a subject knows the content of his beliefs only if he is in a position to make the relevant recognitional judgement, such that he knows whether two beliefs have the same content.

Such a recognitional capacity does not apply to all those mental states whose content depends not only on the properties responsible for my having acquired them, but also on the objects they refer to. For such beliefs change their

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28 The suggestion we discuss here is based on recent work by Davidson and Burge. See: Davidson (1984), (1987), (1988), (1989b), and Burge (1986) and (1988). For a specific discussion of the problems related to Davidson's views see Soldati forthcoming.

content if a switch were to occur without my realising it. Suppose Pete utters (ii) entertaining the thought that Ann is the Queen of England. If a hidden switch were to occur, he could believe he is still entertaining the same thought by uttering (ii) while he actually entertains the thought that Twin-Ann is the Queen of England. The transparency principle does not apply.

Considerations about first-person authority thus suggest that a line may be drawn between mental states depending on objects and mental states depending on properties.

8. The classification of content

Let us come to a final formulation of our proposal as far as the classification of content is concerned.

We take (Cla) as an identity condition for content-1 of beliefs (thought). Thoughts associated with beliefs expressed by sentences containing singular terms are constituted by particular objects and properties. Accordingly we accept singular-thought externalism for beliefs. We also accept property externalism for thoughts. But a new kind of content needs to be introduced in order to satisfy the three remaining constraints.

We suggest a qualified version of (C2) as a criterion of difference for modes of presentation. The qualification concerns the specification of the notion of a way to think about an object by the notion of a type of perceptual representation.

The requirements formulated in (C2), (C3), and (C4) can be met by one type of content. Types of perceptual representations are apt to determine modes of presentation, as well as intrapersonal and interpersonal cognitive significance.

We reject singular externalism for modes of presentation in all its forms, reflexive externalism included, but we endorse general mode externalism. To see how this works consider again the Mach case. Without realising that she is referring to herself, Ann acquires a belief she expresses by utterance (ii). Her belief is generated by what she is seeing. Her way of thinking about herself is partly determined by her perceptual representation of herself. After having realised the situation appropriately Ann acquires the belief she is disposed to express by uttering (i). This second belief is also governed by a perceptual, in part proprioceptive representation of herself. This percept contains other types of representation than the first. It thus seems reasonable to claim the following: When beliefs are prompted by tokens of different types of perceptual representations they are associated with different ways of thinking about objects, hence, different modes of presentation.
We should now clarify two points: first, what distinguishes types of perceptual representations, and second, the relation between percepts (perceptual representations) and perceptual beliefs.

Of course, we are not going to offer a full theory of perceptual content and of its relation to belief-content. We only give some hints about what a certain theory might imply for the classification of content and its object or property-dependence. We shall treat these implications with an eye to the four constraints on content.

Both beliefs and percepts are representational states. But there are important differences. The discussion about belief-content has shown that at least two kinds of belief-content have to be distinguished. This distinction does not apply to percepts. Surely perceptual representations display something like truth or falsity. They are supposed to represent the world as it is, so they have representational content. In other words, perceptual representations have content-1. But contrary to singular thoughts, content-1 of perceptual representations does not depend on particular objects. The tokening of a perceptual representation represents the exemplification of a property, not the object exemplifying the property.

An account of what makes the tokening of a percept represent the exemplification of a property is an account specifying content-2 of percepts. Percepts are associated with modes of presentation. We favour a teleological theory of perceptual representation, as suggested by Millikan. Due to evolution and learning perceptual states acquire some functions, i.e. the function of bringing about certain beliefs, and the function of influencing reasoning and behaviour. These functions are realised under certain conditions (Millikan calls them "Normal"). One such condition is the exemplification of some external property and another is the mapping of this property according to some mapping rule. The property mapped constitutes content-1 of the percept. Its being supposed to map a certain property according to some specifiable mapping rule constitutes content-2 of the percept. Two tokens of perceptual representations are of different types (1) if they are supposed to map different properties or (2) if they are supposed to map the same property according to different mapping rules.

We have distinguished content-1 and content-2 of perceptual representations. But percepts also play a crucial role in the acceptance or rejection of sentences, in the determination of the pattern of reasoning, and in the production of behaviour. So percepts are associated with cognitive significance: they have content-3 and content-4. Contrary to what happens in the case of beliefs, these different roles classify percepts in the same way.
With these remarks as background let us now clarify the relation between perceptual representation on the one hand and thought, mode of presentation, and cognitive significance associated with belief, on the other.

One important aspect of the cognitive significance of percepts is the causal role they play in the generation of beliefs. Ann's belief expressed by (ii) is caused by a perceptual representation of someone as having some shape, size, colour and as exemplifying some relational property such as being located in such and such depth and direction relative to the observer, etc. Percepts represent the unique exemplification of properties and in this way fix the referent of the belief. The referent of the belief Ann expresses by uttering (ii) (Ann herself) does not belong to content-1 of the percept but to content-1 of her belief. The properties represented by the percept do not belong to the content-1 of Ann's belief.

The account of what makes a perceptual belief a belief about something in the world refers to the percepts generating the belief. Ann's beliefs expressed by (i) and (ii) are about herself because of the role perception plays in the generation of these beliefs. The account of what makes Ann's belief she expresses by (ii) a belief about herself refers to other types of perceptual representations than the corresponding account for the belief expressed by (i). So the percepts determine the mode of presentation associated with the belief, and reference to the types of perceptual representations distinguishes the beliefs expressed by (i) and (ii).

We suggest the following modification of (C2):

\[(C2b) \quad \text{Two belief-tokens expressed by the sentence-tokens } s \text{ and } s' \text{ are associated with different modes of presentation if the tokening of the belief expressed by } s \text{ is caused by tokens of other types of perceptual representations than the belief expressed by } s'.\]

This conception of modes of presentation is compatible with the rejection of singular externalism about modes of presentation since types of perceptual representations do not depend individually on objects.

Consider now the intrapersonal cognitive significance associated with beliefs. Although referring to the same person, Ann's beliefs expressed by (i) and (ii) are caused by tokens of different types of perceptual representation. The same holds for the puzzle of intrapersonal cognitive significance. Suppose a rational person differs in her epistemic attitudes towards two utterances of the same sentence-type referring to the same object. On our account this is possible because the person generates tokens of different types of perceptual representation.

Consider finally the interpersonal cognitive significance associated with beliefs. According to (C4) people with identical background beliefs and
desires should behave differently only if they have beliefs associated with different cognitive significance. Our account satisfies this requirement. Different people uttering (i) have beliefs caused by tokens of the same type of perceptual representation and perform the same behaviour. Two persons referring to the same object, one uttering (i) the other (ii), express beliefs caused by tokens of different types of perceptual representation and thus behave differently.

The relation between percept and belief is similar to that between a description which gives a rigid designator its referent and the sentence containing the rigid designator. The truth-condition of the description is no part of the truth-condition of the sentence. But reference to the description which governs the designator can explain epistemic attitudes with respect to the sentence and it accounts for what makes the designator refer to its referent.

The foregoing discussion implies that we accept (C3) and (C4) for cognitive significance. We reject singular and reflexive externalism, but accept property externalism about cognitive significance.

We suggest the following criterion of difference for cognitive significance:

(C5) Two belief-tokens expressed by the sentence-tokens \( s \) and \( s' \) are associated with different cognitive significance if the beliefs are caused by tokens of different types of perceptual representation.

This criterion of difference captures both (C3) and (C4). Because of its obvious similarity with (C2b), we are justified in claiming that there is just one type of content one needs to assume in order to account for mode of presentation, intrapersonal cognitive significance and interpersonal cognitive significance. (C5) allows us to unify content because the notion of types of representation satisfies the constraints imposed by (C2), (C3), and (C4). Content understood in this way is individually independent of particular objects and utterance-tokens but depends individually on properties.

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