

Mental Files and Singular Thought: An Introduction

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To a first approximation, singular thoughts are thoughts that refer to a particular individual. They contrast with descriptive thoughts, or thoughts that are about whichever individual possesses certain properties. But what is it that makes one's psychological state different when one thinks of Barack Obama *regardless of any description he may satisfy*, than when one thinks of *the 44th president of the United States*, whoever that may be? Providing an answer to this question, and others that are closely related, is the focus of theorists who wish to understand the nature of singular thought.

One of the striking features of the recent literature on singular thought is that despite the fact that debates on this topic are well developed, there is a widespread lack of clarity over how to specify the notion of a singular thought. This lack of clarity is arguably part of what accounts for disagreements about what is involved (conceptually, epistemically, and so forth) in having a singular thought. This means that there is substantive work to be done in clarifying the basic idea of a singular thought in a way that captures what is of central philosophical interest about the category, and allows for meaningful and substantive disagreement about the features of thoughts in this category.

Coinciding with the recognition of the need for a framework within which to pose fundamental questions about the nature of singular thought, there has been a surge of interest in the notion of a *mental file* as a potential basis for analyzing singular thought. Although interest in mental files dates back to the 1970s (e.g., Grice 1969; Perry 1980), during the past decade theorists with different orientations in debates about singular thought have invoked mental files as a way of framing and settling basic issues in this area. A central goal of this volume is to examine and evaluate the viability of the mental files framework for theorizing about singular thought.

However, given the pervasive disagreement about the very subject matter of debates about singular thought, this volume also contains contributions the aim of which is to make progress in clarifying the phenomena that these debates address. In order to provide some unity to these discussions, our aims in this introduction will be to provide context for current debates about singular thought, to outline some of the main efforts to analyze singular thought as well as some of the difficulties facing them, to state a relatively neutral working definition that allows for substantive disagreement and clarifies what substantive explanatory work needs to be done in giving a theory of singular thought, and finally, to explain the motivations for using mental files to theorise about singular thought.

Until fairly recently, two related definitions of singular thought¹ have been popular. The first traces back to Russell and defines singular thoughts in terms of their content. On this definition, a

¹ A note on terminology: In this introduction and throughout this volume, we will assume that the terms 'singular thought' and 'de re thought' are interchangeable, but it is worth noting that both labels are potentially misleading and should be used with care. To begin with, the adjective 'singular' in 'singular thought' has the potential to invite the wrong contrast class. In one sense, singular thoughts are opposed to general thoughts, because, as will be discussed in a more precise way below, singular thoughts are about the particular things that fall under general categories, rather than being about these general categories themselves. Moreover, while general thoughts can be about particular objects, in virtue of

singular thought is a mental state with singular, as opposed to general, content. For example, (1) and (2) represent two distinct contents:

(1) $\exists x$ [44th President (x) & ($\forall y$) (44th President (y) \rightarrow (x = y)) & born in America (x)]

(2) born in America (*Barack Obama*)²

Although both contents pick out the same object³ at the actual world and predicate the very same property of that object, they are distinct. (1) picks out Obama by laying down a descriptive condition that he satisfies: it picks out a *particular* object but does so by *generalizing* over objects. In this sense, it is the limiting case of a general content.⁴ In contrast, (2) picks out Obama because it contains an individual constant that contributes Obama to the truth-conditions of the whole content. In this sense, (2) constitutively involves Obama, the individual.⁵ The traditional definition of singular thought says that singular thoughts are mental states (e.g. beliefs, thoughts, suppositions, or any other kind of propositional attitude) that have content like (2) rather than like (1).

picking them out, they refer to them *as* objects that fall under a general category. On the other hand, in virtue of being thoughts with repeatable contents (i.e., the same thought about the same particular can be had on different occasions), singular thoughts are themselves general in a different sense (this is the sense in which all conceptual thoughts are said to satisfy the generality constraint (Evans 1982)). Another unwanted contrast is that between singularity and plurality, where singular thoughts are understood as being about individuals as opposed to pluralities. But on most ways of describing them, there can be singular thoughts about particular pluralities as well as singular thoughts about particular individuals. Similarly, but perhaps more controversially, there can be singular thoughts about universals (properties)—that is, about objects that are themselves general.

Likewise difficulties arise with the label ‘de re thought’, which is typically contrasted with thoughts that are ‘de dicto’. The terminology of ‘de re’ and ‘de dicto’ is misleading because it is also used to contrast two different styles of belief attribution, but the issues involved with this topic are different from those that are relevant to debates about singular thought. In particular, as several philosophers have pointed out, it seems to be possible to truly attribute a singular thought with the use of a *de dicto* attribution, or a descriptive thought with the use of a *de re* attribution (Burge 1977; Peacocke 1983; Taylor 2002; Recanati 2012; Crane 2013; Goodman 2018). Moreover, the label ‘de re thought’ is misleading for reasons having to do with the possibility of referentless or ‘empty’ singular thoughts, or singular thoughts attached to fictional discourse or about fictional entities. If so-called ‘de re thought’ is thought that is *of an object* (or *res*) then this seems to rule out empty cases, or may seem to force proponents of singular thoughts about fictional entities to commit, ontologically, to the existence of those entities (Sainsbury 2005, Crane 2013). In defense of the equivalence between de re and singular thought, however, some have suggested that de re and singular thoughts are those that *purport* to be about particular objects (Crane 2013; Taylor 2010).

² Let’s assume that the italicized name here plays the role of an individual constant in the formalisation of this content. Its semantic role is to introduce an object for predication.

³ Some theorists have explored the idea that the notion of an “object” relevant for singular thought could be construed broadly to include properties, events and other things. See Milikan’s and Dickie’s contributions to this volume.

⁴ This brings out the sense described above in which descriptive thoughts about particular objects are *general*, and it clarifies the sense in which the contrast class for *singular thought* is *general thought*. It also illustrates why the terms ‘descriptive thought’ and ‘general thought’ are used interchangeably to pick out this contrast class (indeed, they will be used interchangeably in this introduction and they will both appear throughout this volume).

⁵ We use the language of ‘constitutive involvement of an object in a content’ to allow for either a Russellian or a Fregean conception of singular content: that is, for a conception on which the individual constant contributes an object itself or one on which it contributes an object-dependent content. The point is that Russellians and Fregeans can both define singular thoughts in terms of their content.

A second influential definition of singular thought was introduced by Bach (1987). Bach's idea is that the distinction between singular and general thought has to do with the way a thought's object is determined. A descriptive thought has its object determined *satisfactionally* (i.e., in virtue of some object satisfying a description), whereas a singular thought has its object determined *relationally*, by depending on a specific relation to the relevant object. For example, a thought about Obama whose object is determined *satisfactionally* (a descriptive thought) picks him out by virtue of the fact that Obama satisfies a descriptive condition laid out in thought by the thinker (say, 'the 44th president of the USA', or some other description Obama uniquely satisfies). In contrast, a *relational* (singular) thought about Obama has its object determined by some 'real relation' with Obama—that is, some causal, informational, or contextual relation to Obama is what makes it the case that *he*, not some other object or no object at all, is the object to which the (token) mental state in question refers (Bach 1987).

Both of these definitions have become less popular in recent years. The singular content definition has faced resistance because it entails that singular thoughts are *object-dependent*. Insofar as singular contents constitutively involve particular objects, this rules out the possibility of singular thoughts that lack a referent.⁶ But several theorists have argued that some 'empty' cases share with referentially successful singular thoughts some relevant range of conceptual, epistemic or cognitive features such that they should be classified the same way.⁷ The definition of singular thoughts as mental states with singular content is also *limited*, in that it says nothing about what it takes for thinkers to *entertain* such thoughts (Jeshion 2010; Goodman 2016b). Even given a fairly theoretically committal metaphysics of singular content, the idea of a mental state with singular content does not clarify the epistemic, or cognitive nature of singular thought.

The definition of singular thoughts as *relational* faces resistance because it places an acquaintance constraint on singular thought.⁸ Following Russell (1910, 1912), many have been sympathetic to the idea that one must be 'acquainted' (for example, through perception, memory, or a chain of communication) with a thing to have a singular thought about it.⁹ Some claim, however, that we should not rule out the possibility of singular thoughts for which the *metasemantic* story—that is, the story of how the referential properties of the thought are determined—involves descriptions

⁶ This is so on both Russellian and Fregean conceptions of singular content.

⁷ See Sainsbury 2005, Crane 2013, Taylor 2010.

⁸ Note that while Bach (1987) says there are 'acquaintanceless' singular thoughts, he uses 'acquaintance' to mean Russellian acquaintance. We have a broader conception in mind when we use the expression.

⁹ Russell (1910,1912) held that thought requires acquaintance: if a subject has a thought, the subject is acquainted with the constituents of the thought. He also had a very strict notion of acquaintance: acquaintance, for Russell, is an immediate, direct awareness of a thing, a kind of awareness that requires individuating knowledge of the thing and precludes identity mistakes concerning that thing. Russell reserved this kind of awareness for properties, sense data, and (possibly) the self. Importantly, we are not, according to Russell, acquainted with the objects of the external world. Thus, he was lead to the view that external objects are not constituents of our thoughts. Instead, our thoughts concerning ordinary external objects are all descriptive. Nonetheless, other theorists have embraced conceptions of acquaintance according to which it can provide one with a 'direct' (in that it is not mediated by description) relation to ordinary physical objects, and hence provide a basis for reference to them in singular thoughts (see Evans 1982, Dickie 2010, Recananti 2012). In line with this, Jeshion (2010, p. 106) describes a *Standard Standard on Acquaintance* according to which one can be acquainted with an object O only by perception, memory, and communication chains (involving at least person who has perceived O). To have a singular thought about O, one's thought must be based upon one's acquaintance with O.

rather than acquaintance. So-called ‘semantic instrumentalists’ (Kaplan 1989; Harman 1977), ‘cognitivists’ (Jeshion 2010) and ‘liberals’ (Hawthorne and Manley, 2012) have all argued that *some* thoughts whose referents are ‘fixed by description’ share some relevant range of conceptual, epistemic or cognitive features such that they should count as instances of singular thought.¹⁰

The reasons why these traditional definitions of singular thought have lost popularity coincide with the most central disagreements that divide theorists in the contemporary singular thought literature. Three major points of contention in the literature concern whether there are object-dependent mental states, whether there is an acquaintance requirement on singular thought, and whether it is possible for a mental state whose object is determined by a description to nonetheless be singular rather than descriptive.

Traditional theories combine object-dependence and an acquaintance requirement with a rejection of descriptive ‘reference-fixing’ (Kripke (1980) as a basis for singular thought (Evans (1982), Russell (1912)) but each of these three commitments has been challenged, and the challenges are, at least to some extent, similarly motivated.

First, the idea that there are object-dependent thoughts has been criticised for two related reasons. Some have argued that the notion of mental content has its primary role in individuating mental states by the features in virtue of which such states have a role in explaining and predicting agent behavior, and that these kinds of explanatory features are shared by mental states which are internalistically identical but relate differently to external objects (Noonan 1986, 1991; Carruthers 1987; Segal 1989). It has also been argued that the idea of object-dependent thoughts is inconsistent with modern, cognitive scientific explanations of the mind (Burge 2005), which individuate mental states according to their functional roles, internalistically construed.¹¹

Second, the idea that singular thought requires acquaintance, and that descriptive reference-determination cannot give rise to singular thought, has been criticised on the basis that some range of mental states for which even the most permissive conception of acquaintance is inapplicable, (paradigmatically because the referent of thought is determined by description) are relevantly similar, either *psychologically* or *semantically*, to cases of acquaintance-based singular thought. This has been argued to warrant categorising this range of thoughts as singular. For example, when Leverrier stipulated that the as yet unobserved planet which he speculated to be causing perturbations in Uranus’s orbit would be known as ‘Neptune’, it is argued that his subsequent thoughts about Neptune bore sufficient semantic and psychological similarity with, say, perceptual demonstrative thoughts or thoughts based on testimony involving a proper name initially introduced by ostension such that, insofar as *these* thoughts are categorised as singular, so should Leverrier’s be (Harman 1977; Kaplan 1989a, 1989b; Jeshion 2002). Driving both this and the challenge described in the previous paragraph is the general idea that the features distinctive of singular as opposed to

¹⁰ More recently (Dickie, 2015) has argued that there is a category of ‘description-based’ singular thoughts. However, Dickie’s view must be distinguished from the other views cited here because, in her cases of description-based singular thought, the descriptions that play a central do not determine the reference of those thoughts (it is meant to be consistent with these descriptions playing the role Dickie envisages that the referent of the thought does not satisfy them).

¹¹ Note that Burge holds that singular thoughts are object dependent in a different, extended sense, which requires that the thinker stand in at least a mediated causal relation to an object of the kind that her thoughts purport to refer to and, therefore, that such an object exists.

descriptive thoughts are internalistic or functional, and that this justifies rejecting the central features embraced by traditional accounts.

However, given the centrality of *object-dependence* and *acquaintance* to traditional conceptions of singular thought (for example, in Russell 1905, 1910, 1912; Evans 1982; and McDowell 1984) one possible conclusion is that proponents of object-independent singular thought, acquaintanceless singular thought, and singular thoughts whose reference is fixed descriptively are simply interested in a *different category* to theorists appealing to earlier, previously popular conceptions of singular thought. If this is the case, then we might conclude there is simply no single category that contemporary theorists of singular thought disagree about. Rather, perhaps proponents of earlier object-dependent and acquaintance-theoretic conceptions of singular thought are interested in the special epistemic and conceptual properties of one class of cases, whereas proponents of more recent object-independent and potentially acquaintance-less conceptions have essentially shifted the topic—they are simply interested in a different notion, and therefore a different class of cases.¹² Indeed, this is *one* way to understand the suggestion made in Hawthorne & Manley (2012) that there is no class of mental states that answer to the diverse cluster of notions (acquaintance, object-dependence, rigidity, etc.) that are frequently used to describe the phenomenon of singular thought.¹³ It is also a suggestion touched upon by some of the contributions to this volume (in particular Sainsbury's, King's and Reimer's) and one which should be taken seriously.

On the other hand, to conclude that different theorists are simply interested in different things would be to deny that much of what occurs in the current literature counts as genuine disagreement. One might choose instead to count the apparent disagreements as genuine, and look for a working definition of singular thought that is *neutral* enough to accommodate substantive disagreement about, for example, whether singular thoughts are possible without acquaintance, whether they can be referent-less, and so forth, but still *informative* enough to anchor our disagreements. This task has arguably been ignored (at a minimum, it has proven difficult, since no uncontroversial working definition has been settled on). It also seems worthwhile. Ideally, if the debates in the recent literature do turn out to involve genuine disagreement, we should have in view the notion or category this disagreement is about. If they don't, the attempt to define the category neutrally enough to countenance genuine disagreement will perhaps be instructive in illustrating exactly *where* differences in substantive theories derive from interest in different things.

If we want to start with a working definition of singular thought that is neutral enough to accommodate central disagreements about the epistemological, conceptual and metaphysical features of singular thought—for example, whether they require acquaintance and, if so, what acquaintance is, and so forth—but informative enough to anchor these disagreements, we need our definition to capture some contrast that, arguably, at least most parties in the literature take themselves to be interested in. Reflecting on what was attractive about our initial, traditional definition in terms of

¹² However, things are not quite as simple as this division suggests. There will still be, for example, a debate to be had about whether acquaintance is necessary for object-dependent thought, if there is such a thing. For example, it would not be fair to say that *anyone* arguing that there are no object-dependent thoughts, or that object-dependent thought does not require acquaintance is simply not interested in the traditional category of singular thought, but rather in some other notion.

¹³ See also Jeshion (2014) for a similar suggestion.

content might allow us to do this. Although this definition has lost popularity for the reasons outlined above, it remains a useful starting point, for it makes clear what are arguably *for everyone* central features of the distinction between *singular thought* and *descriptive/general thought*: the contrast between singular and descriptive/general thought *cuts across* the class of thoughts that are in an intuitive sense about particular things and has something to do with two different *ways*—descriptive and non-descriptive—that a thought can represent the object it is about.

Take the example of a thought with the content of (1) introduced above:

(1) $\exists x$ [44th President (x) & ($\forall y$) (44th President (y) \rightarrow (x = y)) & born in America (x)]

(1) is about a *particular thing* in the sense that it depends for truth or falsity on how things are with a particular object (setting aside its denotation across worlds) but this does not entail (on anyone's view) that it is a *singular thought*. As the definition in terms of singular *vs* general content captures, the point of the singular/general thought distinction is to distinguish a *subclass* of the thoughts that pick out particular things.¹⁴ Another way of putting the point is that, by everyone's lights, the theoretical notion of *singular thought* is used to capture a contrast, at the level of *thought*, analogous to the contrast in *language* between two different kinds of 'singular term': those that are *descriptive* (like definite and indefinite descriptions) and those that are *referential* (like names, demonstratives and indexicals).¹⁵ Just as the intuitive class of singular terms in natural language can be divided into descriptive and referential subclasses for theoretical purposes, so can the intuitive class of thoughts about particular things be divided into singular and general/descriptive for theoretical purposes, depending on the *way* that they represent these particular things. Although a thought with the content of (1) is in an intuitive sense about President Obama, it represents him as the satisfier of a particular description. In contrast to this, (2) is about Obama, but does not represent him simply as the satisfier of a particular description. Abstracting from its entailment of object-dependence, the traditional definition in terms of content seems to capture this more general idea of different 'ways' that an object can be represented in thought.

With this in mind, we might say that the singular/descriptive thought contrast can be construed in terms of a distinction between thoughts that are *satisfactional* in the sense that they involve thinking of a particular object merely as the possessor of certain properties, and those that are *non-satisfactional*, in that they involve thinking of a particular object but not merely as the possessor of certain properties.¹⁶

¹⁴ As we mentioned above, a caveat applies: there may also be singular thoughts about properties, universals, pluralities, etc—that is, entities that are not particulars. In these cases, the point of the distinction is to distinguish a subclass of the thoughts about these entities.

¹⁵ We are stating a simplified view here to illustrate a contrast, allowing for possible disagreement about the semantics of each kind of term cited.

¹⁶ This attempt at neutral definition is delicate, in that it must be construed in a way that allows for potential disagreement about whether there are singular thoughts whose reference-fixing story is descriptive. In other words, this contrast *cannot* be construed simply as a distinction between ways that a thought has its reference determined. Rather it must be construed as a distinction between *ways of thinking*—that is, it is not the same distinction as Bach's (1987) influential distinction between *satisfactional* and *relational* thoughts.

The general idea here is that what is characteristic or definitional of the category of singular thoughts--and what distinguishes them from descriptive thoughts—is not *at the outset* their content or their mode of reference-determination or indeed their subject matter, but rather the *way* that they cognise or conceptualise the objects they are about. It is open on this very minimal starting definition that mental states are *non-satisfactional* in virtue of some shared formal, cognitive, or functional features, internalistically construed. Thus, defining singular thoughts in this way would allow for the *possibility* that some mental states lacking singular content (perhaps because they fail of reference or are about fictional entities) or whose referents are determined descriptively (for example, through an act of descriptive reference-fixing) nonetheless share certain formal, cognitive, or functional features with paradigm cases of singular thought such as referentially successful perceptual-demonstrative thoughts. This leaves open the possibility that they should all be classified as falling on the singular side of the singular/descriptive distinction, though it also leaves open the possibility that singular thoughts may have distinctive content or reference-determination properties.¹⁷

But, of course, this inclusive definition is only useful insofar as we have something substantive to say about what it means for a mental state to involve a non-satisfactional *way* of thinking, and so turning our negatively defined idea into a substantive account becomes the burden of proponents of the notion of singular thought. On the other hand, those who want to deny the possibility of singular thought so defined must explain why non-satisfactional mental states are not possible, or why the category is not needed or legitimate.

This brings us to the central focus of this volume: the relationship between *singular thought* and *mental files*. Spelling out the notion of a *non-satisfactional way of thinking* in cognitive, or functional, terms is arguably at least partly what drives the attempt to characterise singular thought in terms of the notion of a mental file. The idea behind what we could call *the mental files conception of singular thought* (Goodman 2016a) (MFC from hereon in) is that what is psychologically, conceptually or cognitively distinctive of singular thoughts is that they employ mental files.¹⁸

A standard philosophical definition of the notion of a *mental file* is as follows: A mental file is a cluster of predicates stored together and used together in a mental economy in a way that embodies a presumption that the predicates are co-instantiated.¹⁹ Central to the notion of a mental file is the idea that the *descriptive* content of the file--that is the information that the file contains--is distinct from both the file itself and the semantic content of the file. The information stored in the

¹⁷ Care needs to be taken here: the idea is not that singular thoughts can have either singular *or* descriptive content depending on their metaseantics, but must have singular form. This would be to relegate the notion of content to theorizing the metaseantics for some given mental state—a move that seems arbitrary. We take it that proponents of this idea would take possession of descriptive content to disqualify a mental state from being classified as singular, but also won't take possession of singular content to be necessary for such classification.

¹⁸ Note, this actually leaves open, for example, the answer to the question of whether singular thought requires acquaintance. Both Jeshion (2002, 2010) and Recanati (2010, 2012) endorse the mental files conception of singular thought, but Jeshion argues against an acquaintance constraint, whereas Recanati argues in favor of one (although a non-traditional version).

¹⁹ This is not to say that this definition is adequate. Arguably more needs to be done by the literature to explain what mental files are supposed to be.

file does not determine its identity conditions or the semantic content of thoughts that employ it. (Recanati 2012).

The functional roles that have been attributed to mental files are all connected in some way to this central idea. A file is meant to be a device for thinking of the same object *as the same object* at a time and over time. At any given time, the file involves a particular cluster of descriptive information presumed by the thinker to be satisfied by a single object, but the file can persist through changes to this descriptive information (as one's conception of the file's object changes).²⁰ Because the information in a file on an object can change while the file itself persists, files have been proposed to be useful for theorising the possibility of continued belief in the absence of continued descriptive information (Perry 1980). Because persistence of file is meant to embody a commitment on the part of the thinker that she is thinking of the *same* object over time, sameness of file has been used to theorise thinking 'as of the same' across time, or continuation of object-concept (Perry 1980, Recanati 2012). Similarly, because information stored in a file at any given time is presumed to be information concerning a *single* object, sameness of file has been used to theorise the possibility of inferences that presume (rather than explicitly state) sameness of reference, as when one infers from the belief that *a* is F and the belief that *a* is G, to the conclusion that *a* is F and G, without the need for a supplementary identity premise stating that $a=a$ (Campbell 1987, Recanati 2012).²¹

Additionally, many theorists have claimed that a central role for the notion of a mental file is in spelling out the notion of singular thought—that is, of thoughts that involve thinking of a particular object but not merely as the possessor of certain properties, or 'by description'.

Here are two central ideas that have made MFC seem plausible, on the one hand, and attractive, on the other (See Goodman (2016a) for further discussion). First, MFC is considered plausible because it is commonly thought that certain constitutive features of mental files entail that file-based thought is singular rather than descriptive. Firstly, as we have seen, according to the philosophical conception of a mental file, mental files are not individuated by the descriptive information stored in them: a mental file can persist while information is added to it or discarded from it (Perry 1980). Secondly, a file can contain descriptive information which is false of its object, or can contain insufficient information to uniquely determine its object descriptively, without this impugning the file's referential success (Recanati 2012). These two features of files are thought to entail, via an argument somewhat analogous to Kripke's (1980) 'semantic argument' that the semantic content of a file-based thought is not descriptive, but singular (Goodman 2016a).

Another central idea that seems to support MFC involves the suggestion that singular thoughts are devices of 'explicit coreference' (Taylor 2010) or 'de jure coreference' (Recanati 2012) and 'trading on identity' (Campbell 1987, Recanati 2012), and mental files are the cognitive reality or underpinning of de jure coreference relations and trading on identity in thought. For two thoughts to stand in explicit coreference relations is essentially for them to be able to serve as the premises in a justified inference whose premises contain coreferential terms and which also requires no further premises stating the identity of the referents of those terms. For example, we can posit an explicit

²⁰ See Taylor (2010) for the criticism that mental files theories conflate concepts and conceptions, and see Recanati (2012) for a response.

²¹ For more discussion of this role see Ninan (2014), Onofri (2014), Papineau (2014), Goodman (2016a), Goodman & Gray (ms).

coreference relation between the two premises in an inference that is modeled by the following argument:

P1: Fa

P2: Ga

C: $\exists x [Fx \ \& \ Gx]$

In virtue of the fact that ‘a’ as it appears in P1 and P2 are *explicitly coreferential* (or *de jure coreferential* or *directly coordinated*) the inference is formally valid as it stands: it does not require an additional premise stating that $a=a$. The suggestion here is that the characteristic, distinguishing formal or functional feature of *singular thoughts* is that they can stand in this kind of relation with other (token) thoughts, and are therefore thoughts that can participate in justified inferences that ‘trade on’ (rather than explicitly state) the identity of the referents of terms in the mental states that serve as premises to those inference. The further idea is then that the mental files framework gives us a way of understanding explicit coreference or de jure coreference relations between thoughts. On the mental files view, one can trade on the identity of the reference of information in one’s inferences when that information is stored in a single mental file. So, the psychological reality of the inference modeled by the argument above is that the information ‘is F’ and ‘is G’ is stored in the same mental file.

Finally, the mental files conception of singular thought is considered attractive because it is hoped that the mental files framework gives us a *cognitively real* and *empirically respectable* way of understanding singular thought. The notion of a ‘mental file’ appears not just in philosophy, but also in psychology and linguistics. The introduction of the notion of a mental file into the philosophical literature (Grice 1969, Strawson 1974, Perry 1980, Evans 1985) in fact predates and is independent from its introduction into cognitive psychology (Pylyshyn 2003; Kahneman; Treisman & Gibbs 1992) and linguistics (Heim 1982; Kamp 1981, 1995). But, to the extent that the notion as it appears in these fields is unified under something like a psychological or cognitive natural kind with the notion philosophers use to spell out singular thought, this gives the philosophers’ view empirical or theoretical credentials which seem attractive. No doubt in part for this reason, it is common for proponents of MFC to appeal (albeit often too loosely) to cognitive scientific or linguistic work on mental files as support for the connection between singular thought and mental files.

Despite the work that has been done to develop the mental files conception of singular thought, there are substantial and basic questions to be asked about its foundations, and asking these is part of the motivation for this volume.

First, there is more to be said about the “file” metaphor itself, as well as the associated notions of “storage”, “presumption of co-instantiation”, and so forth. Is it indeed the case that there is a unified cognitive, functional kind posited by psychologists, linguists and philosophers when they employ the notion of a ‘file’? Very little work has been addressed to this question but, arguably, if the philosophers’ ambition of providing a cognitively real and empirically respectable account of singular thought by appeal to the notion of a mental file is to be fulfilled, more should be done. If there is no unified notion to be found, this does not necessarily impugn philosophers’ use of *their*

notion, but clarity about the issue seems likely to be philosophically fruitful. Second, there are foundational, *philosophical* questions to be answered about the very notion of mental file itself: to what extent should the file metaphor be taken literally? And, what commitments are philosophers, and indeed psychologists and linguists, actually taking on in positing mental files in their theories of mind? For example, one interpretation treats the file-theoretic framework as a model for systematizing explanation and prediction of behavior. On another view, mental files are psychologically real, corresponding to internal representations with neural correlates. Which, if either, is the right way to think about mental files? What are the individuation conditions for mental files, and do they vary for different kinds of files? Although the notion of a mental file has now been around in some form or another for several decades, work on these kinds of questions is still in its relatively early stages.

Even if the notion of a mental file is empirically well-motivated or theoretically legitimate, and even if we develop answers to foundational, metaphysical questions about the nature of these entities, more work needs to be done in addressing the central claim of MFC: that singular thought is identical to file based thought. Moreover, there remain methodological issues related to the kinds of evidence that speak in favor of the model, such as the role of theoretical arguments, examples, thought experiments, and research in psychology or linguistics. Despite the rise in popularity of the mental files approach to singular thought, its central claims are currently more often assumed than explicitly argued for. It remains to be seen whether the supposed connection between mental files and singular thought is legitimate. If the connection turns out to be problematic, then the research project based on it will produce distorted results. Given the rise of this project, this is a good time for philosophers to examine this connection more carefully.

Overview of papers

The papers in the first section of this volume address the central issues of the definition and nature of *singular thought*, as well as how the notion of a mental file relates to these questions.

Mark Sainsbury's paper, 'Varieties of Singularity' contributes to the current debates about singular thought and mental files by, firstly, weighing in on the definitional question about singular thought discussed above and recommending a re-examination of the traditional, unified category of *singular thought*. On Sainsbury's view, there are several distinguishable 'singularity properties' a mental state might have and it is a mistake to think these properties align with one another. Sainsbury then brings this perspective to bear on the debate about mental files and singular thought by expressing skepticism about the mental files conception of singular thought in the forms in which it has recently been pursued, and also raising concerns about the legitimacy of the file framework itself, especially to the extent that mental files are construed (as Recanati, for example, construes them) as non-descriptive 'modes of presentation'.

Sainsbury argues against Francois Recanati's version of the MFC. He is skeptical of Recanati's attempt to align thinking with mental files with acquaintance-based thought, thought with object-involving truth-conditions and object-dependent thought. He claims, instead, that the use of mental files plausibly lines up with only *one* singularity property: that of name-like syntax in thought.

He also parts ways with another recent MFC proponent, Robin Jeshion (2010), by defending a form of ‘Harman’s Thesis’: the claim that every *non-empty* case of thought with name-like-syntax is a case of thought with object-involving truth-conditions. Sainsbury argues, contra both Evans and Jeshion, that we *can* convert a descriptive thought into a thought with object-involving truth-conditions at will, or ‘with the stroke of a pen’.²² Since Sainsbury endorses the claim that file-based thought aligns with name-like syntax in thought, this means (in the terms of the current debate concerning the mental files and singular thought) that he rejects Jeshion’s ‘significance condition’ on file-formation and claims that introducing a non-empty mental file (a non-empty thought with name-like syntax) is sufficient for having a thought with object-involving truth-conditions.

Like Sainsbury’s, Marga Reimer’s paper suggests there may be no single category of singular thought that contemporary theorists disagree about, and argues that apparent disagreement has its source in equivocation. Her focus is on the debate between Evans and Kaplan over whether so-called ‘descriptive names’ are a potential source of singular thought. She argues that the apparent disagreement between Evans and Kaplan on this issue in fact traces to the fact that the term ‘singular thought’ means something different in the two theorists’ mouths. Evans, who denies that introducing a descriptive name can generate singular thoughts about the name’s referent is making a claim about *e-singular thought*, which is a type of *mental state*. Kaplan, who claims that introducing a descriptive name *can* generate singular thoughts about the name’s referent is making a claim about *s-singular thought*, which is a type of *semantic content*. Reimer claims that the insights of both positions—about the epistemic limitations and the semantic power of names introduced by description, respectively—can be preserved by a view on which descriptive names are a source of new semantic content but not of a new mental state (type). Reimer’s paper also examines Francois Recanati’s (2012) use of the mental files framework to construct a similarly conciliatory position concerning the question of whether singular thought about an object requires acquaintance with that object, arguing that his attempt at reconciliation does not succeed.

In his contribution, Jeff Speaks focuses on the often-cited idea that perceptual experiences explain our ability to have singular thoughts, but claims that this does not establish that perceptual experiences are non-conceptual or non-representational. Focusing on an argument by John Campbell that perceptual experience should be understood as relational rather than representational, Speaks argues that requiring perceptual experience to play this explanatory role simply entails the rejection of representationalism, and that any account that could explain how experience provides the basis for singular thought can be used by representationalists to bolster their view. He also argues that explaining demonstrative reference does not require that perceptual experience be non-conceptual, suggesting instead that the explanatory relation between perceptual experience and thought can be used to illuminate the nature of the content of perception.

The papers in the second section of the volume address the legitimacy of MFC. They do this in several ways: by assessing the philosophical motivations or the purported empirical support for the view, or by motivating and laying out a specific version of it.

²² In this sense, Sainsbury’s position is a form of ‘semantic instrumentalism’, albeit one that seeks to pull apart different senses in which a thought can be singular, and defends only the claim that thoughts with object-involving truth-conditions can be generated at will.

Jeff King's paper addresses both the question about how to construe the notion of singular thought and the question of whether the MFC is legitimate. First, King explores the consequences of supplementing a Russellian account of singular thought in terms of singular content with certain views about the semantics of attitude ascriptions. In particular, King is concerned with a package of views he calls RAST+ (for Russellian Account of Singular Thought Augmented). King argues that RAST+ implies that acquaintance is not a condition on singular thought. He further argues that RAST+ implies that de re attitude ascriptions exhibit an interesting and perhaps radical form of context sensitivity, one which suggests a very pragmatic picture of singular thought.

King then turns his attention to the mental files theory of singular thought, where he raises a number of concerns about the mental files approaches of Jeshion (2010) and Recanati (2010, 2012). King concludes that while mental files may be helpful for understanding certain phenomena (e.g., information clustering), they are not particularly helpful for understanding the nature of singular thought. In this sense, he argues that the notion of singular thought and that of a mental file may both be philosophically legitimate, but that these two notions have different explanatory roles and should not be conflated.

Several authors who utilize the MFC (Jeshion 2010, Recanati 2013) suggest that the framework can draw support from empirical work on object perception. In their contribution, Michael Murez, Brent Strickland and Joulia Smortchkova argue that extant empirical evidence does not support MFC as it is usually developed, though they conclude that this does not entirely undermine the approach.

According to Murez, Strickland and Smortchkova, one way of providing empirical support for MFC would be to associate key feature of mental files that MFC attributes to them (calling these "signature properties") with distinguishing attributes of empirically well established object representations known as "object files." However, Murez, Strickland and Smortchkova note important and unanswered objections to accounts of object files that would provide support for MFC, and also suggest that object files may lack some of the signature properties that mental files are supposed to possess. Moreover, object files are more limited in their cognitive function than mental files are meant to be, which raises a dilemma: the more heavily MFC theorists rely on evidence for object files to support their theories, the less well the framework can provide a basis for explaining singular thought. On the other hand, if mental files are dissociated from object files, then MFC loses some of its putative empirical support. Nevertheless, Murez Strickland and Smortchkova conclude that while available empirical evidence may not be adequate to establish MFC, ongoing empirical work may yet provide insight into the psychological basis of singular thought.

According to John Perry, the conception of singular thought according to which the truth value of singular thoughts is determined by singular content is inadequate to deal with Frege's puzzle. In other words, if two singular thoughts co-refer, but this is unknown to the subject of these thoughts, a conception of singular thoughts according to which the identity of the object of thought determines its truth conditions will not be adequate to explain an informative identity. Perry claims that we must distinguish multiple layers of truth-conditions on singular thoughts, which concern the episode of thought, the subject that has the thought, and the subject's "notion" (Perry's term for a singular representation of an object) of the object of thought.

Perry goes on to develop his idea of a notion with reference to the mental file-theoretic framework, describing a variant of the view that singular thoughts can be explained in terms of mental files. In particular, he distinguishes different epistemic statuses that files may bear, and describes how notions can encode different “possibility profiles” in virtue of the different layers of truth conditions attached to them. These profiles capture difference in cognitive significance that can be unknown to the subject who grasps the notion, and explain how identities between co-referring singular thoughts can be informative for a thinking subject.

The papers in the third section of the volume help to clarify both the notion of a mental file and MFC by focussing on what is claimed to be one of the central explanatory roles of mental files: their role in explaining *de jure* coreference in thought and language.

Francois Recanati’s contribution to the volume builds on his well-known work defending MFC (Recanati, 2012) but, here, he focuses on defending a file-based account of *de jure coreference*: the kind of co-reference that permits what John Campbell has called *trading on identity*. In general, Recanati’s work emphasizes two central roles for mental-files: that of accounting for the notion of singular thought *and* that of accounting for coordination within thought. By using the same theoretical device to play these two roles he is part of a group of thinkers who see singularity as essentially connected with cognitive coordination (see also Taylor 2003, 2010; Dickie, 2015) but he also makes this connection within the mental files framework (unlike, e.g. Taylor and Dickie).

On Recanati’s file-theoretic account, both mental and linguistic *de jure* co-reference is analysed in terms of deployments of the same mental file. In the current paper, Recanati responds to challenges to this account, which are generated by reference-failure and confusion cases, and cases of failure of transitivity of *de jure* co-reference-relations. Recanati (2012) responded to these challenges by claiming sameness of file is sufficient but not necessary for *de jure* co-reference. Here, he introduces a distinction between *strong* and *weak* forms of *de jure* co-reference to deal with the challenges in a more fine-grained way. On his current view, he maintains that *weak de jure co-reference* is not transitive. It is consistent with expressions or mental states standing in this relation that they involve deployments of *different* mental files. In this sense, his new position is consistent with his previous response. However, he now clarifies that weak *de jure* co-reference is the only form of *de jure* co-reference supported by *diachronic* cases, and contrasts this with *strong de jure co-reference*, a *transitive* form of *de jure* co-reference that is only possible in *synchronic* cases and which *can be identified* with sameness of mental file.

Angel Pinillos’s paper is in dialogue with Recanati’s but, along with the question of whether it is *possible* to give a file-theoretic explanation of *de jure coreference*, it also takes up the more fundamental question of the motivations for attempting to give this explanation. Pinillos uncovers an as yet un-identified motivation for a Fregean, file-based account of *de jure* coreference: the ability of such an account to explain the fact that *de jure* coreference in natural language is common, whereas what Pinillos dubs *de jure anti-coreference* (the relation of distinct reference in virtue of meaning) is rare. Pinillos points out that this asymmetry can be explained by a Fregean file-theoretic view, but it looks mysterious for the view he has previously endorsed: semantic relationism (Pinillos 2011).²³ This serves as motivation for the file-based account.

²³ See also Fine 2007.

The second stage of Pinillos's paper argues that, despite the above motivation, the account of *de jure* coreference in terms of sameness of mental file will not be able to account for *dynamic* coordination phenomena without appealing to *relationist* machinery. In making this case, Pinillos is engaged with tackling some of the foundational questions about mental files we mention above, including their individuation conditions. To account for failures of transitivity of *de jure* coreference relations, Pinillos recommends replacing a mental file account of semantic and cognitive coordination with an account that instead makes reference to file-stages, which are connected by a relation of *transparency of source*. For Pinillos, this ultimately means that our deepest explanations of coordination do not make mention of diachronic mental files, but rather appeal to file stages and relational facts.

Sam Cumming's contribution also addresses questions about mental files and coordination relations, but focuses on the question of conditions on felicitous indirect speech reports, arguing that they are governed by coordination relations between mental files. Cumming argues, firstly, that the content of mental files is determined by the means agents have to coordinate on them. He also gives an account of the conditions under which noun phrases uttered in different contexts match in content (such that indirect speech reports substituting one for another are true) that appeals to coordination relations between mental files across agents. Cumming further argues that this conception of content in terms of the potential for coordination forces us to distinguish between the content of an expression and what the expression contributes to the truth conditions of sentences in which it occurs.

The papers in the final section of the volume cast doubt on MFC by casting doubt on the legitimacy and use of the file-theoretic framework more generally. According to both papers, phenomena which one might be *tempted* to explain in terms of mental files can be better or more fundamentally explained in other terms.

In her contribution, Imogen Dickie first presents her account of singular thought based on the idea of "cognitive focus", which is presented at greater length in Dickie (2015). According to Dickie, reference is secured by epistemic relations to particular objects that provide us with means of forming beliefs about them such that we are unlucky when these beliefs turn out to be false, and not simply lucky when they turn out to be accurate. As she points out, the view of the epistemic basis of bodies of beliefs about particular objects that Dickie provides might seem well suited to explaining the processes through which mental files are formed and maintained in terms of mental files. However, Dickie argues that the processes that underlie cognitive focus are ontologically and explanatorily more basic than mental files themselves, which she claims are derivative of this more fundamental framework.

Ruth Millikan also presents an account of reference to particular objects that she contrasts with MFC. According to Millikan, the basis of singular thoughts are representations she calls "unicepts," which determine how we process information about particular objects, but do not themselves involve stored descriptions. Millikan claims that unicepts are unlike mental files because they they guide information processing independently of previously formed beliefs that have been accumulated about the relevant objects. In this sense, unicepts are more like simple demonstratives than files that contain information. Millikan's account supports a theory of singular terms according

to which they are purely extensional, and transmit nothing other than their reference to a particular object.

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