

Mental Files

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Abstract

The so-called 'mental files theory' in the philosophy of mind stems from an analogy comparing object-concepts to 'files', and the mind to a 'filing system'. Though this analogy appears in philosophy of mind and language from the 1970s onward, it remains unclear to many how it should be interpreted. The central commitments of the mental files theory therefore also remain unclear. Based on influential uses of the file analogy within philosophy, I elaborate three central explanatory roles for mental files. Next, I outline several common criticisms of the file picture, which have been a source of resistance to the view. Finally, I outline several interpretations of the theory, thus highlighting that the best interpretation of the file-theory's central analogy remains a live issue.

1 | INTRODUCTION

Talk of 'mental files' has featured in philosophy of mind and language for roughly five decades, and has solidified in recent decades into the 'file-theory' of mental reference and singular thought. File theorists encourage us to think of concepts of particular objects as *mental files*. When one first perceives, or thinks about an object, a file is opened on it, which is then maintained, updated, and used in future thoughts about that object. This file contains information, believed to be instantiated by the object, which is added or subtracted over time as one's perspective on the object evolves. It could be merged with another file, split through a process that divides and rearranges its information, cross-referenced with other files, and so forth.¹ This kind of talk clearly involves the use of an analogy. But, with any analogy used as part of a theory, we should ask what the relevant comparison is. In what particular way/s are object concepts *like* files? What is a *mental file*? And what are the central commitments, and explanations,

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of the mental files theory? It has been unclear to many—and indeed disputed among file-theorists—how seriously, and in what way, the file analogy should be taken.

First, this entry outlines three central explanatory roles for mental files, by tracking the file analogy from some of its earlier uses through to recent work (Sections 2–5). Next, it outlines some central criticisms of the file-theory (Section 6). Finally, it illustrates that, though the file-theory relies heavily on the use of an analogy, it remains controversial how this analogy ought to be interpreted. By outlining the way this question has been addressed in the literature, and the way that different theorists emphasise different aspects of the analogy, we see that the central commitments of the file-theory are, in certain respects, up for debate. We also come to better understand the relationship between the file-theory and several related views (Section 7).

2 | EARLY 'FILE TALK': THEORISING INFORMATIVE IDENTITIES

For a better understanding of the notion of a mental file as it arises in philosophy we can look to the history of uses of the file analogy in the theory of reference.²

A first crop of uses appears (roughly) in the 1970s and is well-represented by Lockwood (1971) and Strawson (1974).³ Following Frege (1892), both are concerned with the possibility of 'informative identities'. Relative to certain assumptions about the nature of reference, it is puzzling that one could speak informatively by using an identity sentence, or learn an identity fact, since one would merely communicate, or learn, something one (presumably) already knew: that some object or other is identical to itself. Lockwood and Strawson both solve this problem by using the file analogy to give a general account of the psychological effects associated with successful communication using referential terms.⁴ For Lockwood, identity statements can be used informatively because, in general, referential expressions function to indicate a particular mental file for the hearer (Lockwood, 1971, p. 208). Use of an identity sentence is then *informative* when a speaker correctly assumes that her interlocutor possesses more than one mental file for an individual and, by using the identity sentence, instructs her to merge them (Ibid., 209). For Strawson, 'learning an identity' consists in changing one's overall belief state by replacing two mental files on a single object with one.

These early uses of file-talk answer questions about linguistic reference by proposing a particular view of mental representation. Thereby, they contain the germ of the more recent 'file-theory' in the philosophy of mind. Strawson (1974, p. 44) says we should resist answering the puzzle of informative identities by appeal to the *content* of identity statements. Rather, we should ask *how* one comes to be informed by an identity statement, with the help of 'a model or picture' of the representing mind:

...Imagine a man as, in part, a machine for receiving and storing knowledge of all items of which he already has some identifying knowledge. The machine contains cards, one card for each cluster of identifying knowledge in his possession. On receipt of an ordinary predication invoking one such cluster, the appropriate card is withdrawn, the new information is entered on it and the card is returned to stock. On receipt of an ordinary relational predication invoking two such clusters, the two appropriate cards are withdrawn, cross-referring entries are made on both and both cards are returned to stock. On receipt of an identity-statement invoking two such clusters, the two appropriate cards are withdrawn and a new card is prepared, bearing *both* the names of which one heads one of the original cards and one the other and incorporating the sum of the information contained in the original cards; the single new card is returned to stock and the original cards are thrown away. ... [In this last case] the total number of entries in the machine's stock is not increased... it is diminished, by the elimination of what turn out to be duplicate entries.

(Strawson, 1974, p. 46)

This picture is said to correct an undue focus on both 'ordinary predication' (whereby a certain object is claimed to possess a certain property) and on *what* (rather than *how*) one learns when forming a new belief. This makes the learning of identities mysterious by encouraging the view that acquiring a new belief is a bit like adding a sentence to a list: which sentence would one add? By picturing the mind as employing a system of file-cards, we see that acquiring new beliefs is not always additive in this way. 'Learning an identity' does not involve addition of information *as we might usually conceive it*. It is rather a particular kind of consolidation: one merges the two files one previously had, and creates a single file labeled with two names, containing all the information from the previous files.⁵

The 'filing system' picture is motivated by puzzles concerning informative identities but seems to be a general picture of having and forming beliefs about particular objects: it is like having and updating a filing system with the aim that it reflect one's commitments about which objects there are, which properties they have, and how they are related. Arguably, two aspects of this picture are central for contemporary file-theorists. First, the picture centralizes questions about the format or organizational profile of contentful mental states (rather than their content). Second, contemporary file-theorists tend to take from it a *particular* proposal about format: object concepts are mental particulars (vehicles) 'on' (or 'in') which predicational beliefs are inscribed (or contained) (see Section 7 for further discussion).

3 | INFERENCEAL INTEGRATION OF BELIEFS

Early theorists often introduce files in connection with puzzles about informative identities but, arguably, Bach (1987) offers a more fundamental account of the theoretical role they are thereby introduced to play—one which explains *how* they offer an account of informative identities. He uses file-talk to illustrate how identity beliefs, *formatted in a particular way*, play the role of allowing other beliefs to be 'inferentially integrated'.

However, despite the fact that one can be ignorant or even mistaken about the identity of the object of a ... belief, identity beliefs are still important. For they enable these ... beliefs to be integrated with other beliefs inferentially. For example, I believe of Dick Holloway ... that he was Dick Holloway, that he was my boyhood chum who lived three doors down the block, that he was in my third- or fourth-grade class, and that he said that the largest number is infinity twelve. I believe them all of the same individual, *but without the appropriate identity beliefs I would fail to realise that*. Now it might be objected that, considering all the combinations of pairs of things I believe of Dick Holloway, to ascribe the required number of identity beliefs is psychologically implausible. This would be so if they were all individually represented, but I do not mean to suggest that. Rather, these identity beliefs are jointly constituted by the fact that all the beliefs in question are stored in one FILE.

(Bach, 1987, p. 29)

First, Bach claims that *identity beliefs* play the role of inferentially integrating otherwise isolated beliefs. An agent might have several beliefs, which all happen to be about the same individual. For example, you might believe, of Dick Holloway, *that he was a kid in your third-grade class*, and *that he thought infinity twelve was the largest number*. However, without the identity belief *that Dick Holloway (the kid in your third grade class) is the same person as Dick Holloway (the kid who thought infinity twelve was the biggest number)*, these beliefs could not 'get together' as part of a rational inference to the conclusion that a kid in your third grade class thought infinity twelve was the largest number. If you were not doxastically committed to the identity, your individual beliefs would be inferentially isolated from one another.⁶

Second, Bach claims that identity beliefs play this role, *not* by being individually represented (by existing as additional items on a list of the agent's beliefs), but rather by being instantiated in co-filing facts. He claims it would be psychologically implausible to posit individual representations of all the identity beliefs required to inferentially integrate one's coreferential beliefs: too many would be required. Instead, the integration of coreferential beliefs is achieved by an organizational or 'storage' fact: they are contained in the same *mental file*.

Bach's claim that files save us from a *psychologically implausible* account of inferential integration might understate their role. Inspired by Campbell (1987), many file theorists see files as a solution to a more fundamental problem concerning inferential integration. Imagine a series of individually represented beliefs, all about Dick Holloway, corresponding to the sentences below:

- B1) *a* was in my third grade class
- B2) *b* thought the largest number was infinity twelve
- B3) *c* lived three doors down the block

The conclusion that *someone in my third grade class who lived three doors down the block thought the largest number was infinity twelve* only follows from (B1)-(B3) on the presumption that $a = b$, and $b = c$. Correspondingly, file theorists hold that a *thinker* would only be rational in drawing this conclusion from her beliefs insofar as she presumed they were about a single individual. However, to the extent that the individually represented beliefs corresponding to (B1)-(B3) do not *as they stand* somehow encode this presumption of identity, it is unclear how adding more *individually represented* beliefs could solve the problem.

- B1) a_1 was in my third grade class
- B2) b_1 thought the largest number was infinity twelve
- B3) c_1 lived three doors down the block
- B4) a_2 is identical to b_2
- B5) b_3 is identical to c_2

The list of sentences above only entails our conclusion on the presumption that $a_1 = a_2$, $b_1 = b_2$, $b_2 = b_3$ and $c_1 = c_2$. A thinker would only be rational in drawing the conclusion above insofar as she presumed that the object, *a*, in her belief *that a was in her third grade class* is identical to the object, *a*, in her belief *that a is identical to b*, etc. Adding an additional, individually represented belief to *this* effect will merely result in the same kind of requirement arising again. The lesson is that the inferential integration of coreferential beliefs requires, *at some stage*, that the identity of their reference is encoded *without being explicitly represented in an additional belief*. Indeed, we use formal and natural languages which encode the presumption of coreference through sameness of syntactic type for precisely this reason. At the level of thought, the file theorist claims, the role of co-filing is to answer to this requirement for encoded (not explicitly represented) co-reference. This is sometimes put by saying that files are used to give a functional-psychological account of 'thinking with coreferential purport' (Lawlor, 2001), 'coordination' (Fine, 2007) or 'de jure coreference' in thought (Recanati, 2020).⁷

Our first theoretical role for files is, therefore, that they are used to theorise the way that minds supposedly encode *without explicitly representing* the identity of the referent of coreferential mental states. They thereby enable the inferential integration of those mental states. This is in line with the idea that viewing the mind as a filing system allows us to understand the possibility of informative identities: an identity is uninformative when coreferential beliefs are inferentially integrated (when they are co-filed); an identity is informative when coreferential beliefs are not co-filed.

4 | CONTINUED BELIEF: DIACHRONIC ENCODING OF IDENTITY

Perry (1980) posits files in order to theorise *continued belief*. As above, this involves a proposal about the way commitments concerning identity and difference are encoded, but Perry puts files to use to answer a specifically *diachronic* question about this.⁸

Perry is concerned with an ordinary notion of 'continuing to believe'. Last Wednesday, I might have formed the belief *that the man near the bar is the dean*. Under the right conditions, my current belief *that the man at the podium is the dean* might be a continuation of Wednesday's belief. That my current belief has the same referential content as the one formed on Wednesday is clearly not sufficient to make this the case (Perry, 1980, p. 77).⁹ Assuming that the man at the podium today *is* the same one who was near the bar last Wednesday, I may not realise this fact, and might have formed my current belief by *changing my mind* about who the dean is. Sameness of some *other* representational property (or some other notion of content) between a former and current belief-state considered as synchronic, is also not sufficient or necessary to make the latter state a continuation of the former.¹⁰ If I am, both today and tomorrow, in a state appropriately described on each day as that of believing *that the storm we're expecting will come tomorrow*, then I have changed my mind. If I am in that state today, but in the state of believing *that the storm we're expecting will come today* tomorrow, this *could* be a case of maintaining the same belief throughout.

In line with this, Perry claims that we must look toward specifically diachronic facts about the organizational profile of belief, and suggests that these can be understood by thinking of the mind as working like a system of file-cards:

Let us say that the set of sentences a person accepts at a given time is their doxastic profile at that time. We are now supposing, then, that linking various entries in the doxastic profiles of a given person at various times are causal chains, and the entries so linked we shall say belong to a single *file*...

(Perry, 1980, p. 86)

Although I have no idea how a system of files might be instantiated in a brain, I can give an analogy that shows how such a system could be instantiated with a much more primitive information-storage system. Let us suppose that on the first day of class I carefully note down features of the various students around the table. I use full sentences, for example, 'The student in the seat first to my left is a woman, has blonde hair, is short, was born in Ottumwa, is a psychology major, and has on a red sweater.' I call this 'opening a file'. ... Later in the day I look at the cards, I erase or alter some phrases. I erase 'the student in the first seat to my left' and change 'has on a red sweater' to 'once wore a red sweater'. At the next lecture, I use the remaining predicates for purposes of recognition. For example, to the student first on my right I say 'Weren't you born in Ottumwa?' for she is a woman, blonde, short, with an *'Advanced Psychology* text at her side.

(Ibid, pp. 86–87)

Files are conceived diachronically, as constituted by synchronic belief states linked by a certain sort of causal chain. What sort? Elaborating somewhat on Perry's view, one connected to a process or procedure that aims to 'keep track' of a particular object: of updating one's information such that it aims, over time, to reflect one's commitments at any given time concerning the same thing. Sameness of file is, thus, used to understand a relation of *internal identity*, which is more fundamental than continued belief, and used to explain it.

I think our notion of *internal identity* is based on thinking of the mind as working in this way. In the analogy, if the same file card has 'is F' on it at one time and 'is G' at another, then according to my files a certain person was *F* at the earlier time and *G* at the later time.

(Ibid, p. 87)

Internal identity occurs when belief states are strung together by a causal chain, or process that aims to keep track: when they are stages of the same *file*. *Continued belief* involves sameness of file along with a continued predicational commitment. For one to continue to believe from Wednesday until today that some particular object is the dean, one's file must continue to contain 'is the dean' throughout.

Perry stresses that identity beliefs could not do the work of sameness of file (an analog of the claim, in Section 4, that individually represented identity beliefs can't do the work of co-filing). Believing, at any given time, that *this* thing is identical to the thing I thought of yesterday, does not entail the right causal connection between today's belief and yesterday's (Perry, 1980, p. 82). He also emphasises that the *central* explanatory commitment of his file picture is that beliefs employing the same file are causally connected in the right way:

...What is essential in these metaphors and analogies is a path from the production of texts at one time back to the original perception of (or other introduction to) the source at an earlier time. This path in the mind plays the role of an object in the world. So our notion of internal identity, and so ultimately of believing the same thing, depends on the identity of the internal causal path or chain.
(*ibid.*, p. 88)

A later belief employs the *same file* as an earlier belief when it is, psychologically speaking, a development of the first, where this is understood in terms of the causal connection between them.

The second theoretical role for files is, therefore, that they are used to theorise the way that beliefs (and other mental states) can be connected *over time* such as to encode a presupposition of sameness of reference. They thereby allow us to theorise sameness of object concept over time and continued belief.

5 | MENTAL FILES AND SINGULAR THOUGHT

The use of files to claim that minds encode without explicitly representing identity commitments, both synchronically and diachronically, seems to involve a general picture of thought about particular things. However, many contemporary file theorists (e.g., Jeshion, 2010; Recanati, 2012) envisage a more limited role for files, in that they endorse *the mental files theory of singular thought* (MFC)¹¹: the view that all and only *singular* (that is, *non-descriptive*) *thought* employs mental files.

Recanati (2012, p. 40) contrasts file-based thinking with thinking of an object by description, and bases this on the idea that files have their reference determined non-descriptively:

A non-descriptive mode of presentation, I claim, is nothing but a mental file. Mental files are based on what Lewis calls 'acquaintance relations'. ... The role of the files is to store information about the objects we bear these acquaintance relations to. So mental files are 'about objects': like singular terms in language, they refer, or are supposed to refer. They are, indeed, the mental counterparts of singular terms. What they refer to is not determined by properties which the subject takes the referent to have (i.e. by information—or misinformation—in the file), but through the relations on which the files are based. The reference is the entity we are acquainted with..., not the entity which best 'fits' information in the file.

(Recanati, 2012, pp. 34–35)

A file is associated with an informational relation to an object (an 'acquaintance relation') through which the predicative information stored in the file is acquired.¹² Files do not have their reference determined by the predicative information stored 'in' them, but by the informational relation associated with them. For example, a file being 'based' on a perceptual relation means not only that the information stored in the file is supplied by that

relation, but also that this relation links the file to a particular object and thereby determines that this object is the file's referent. Thus, a file can contain *misinformation* about its reference without this affecting its referential success. This lines up with the claim that singular thoughts have their reference determined *relationally*, not *satisfactorily* (Bach, 1987). In turn, it explains how one could think a singular thought about an object whilst lacking sufficient descriptive information to uniquely single it out, or whilst being radically mistaken about its properties (Kripke, 1980).

Proponents of MFC also stress that the diachronic individuation conditions for files imply that thoughts employing them are non-descriptive. In principle, a file can discard *any* of the predicative information it contains, whilst maintaining its identity and reference over time.

Finally, MFC has been motivated by the idea that *object-files*, which are posited by psychologists to explain visual, object-directed representation (Kahheman, Treisman & Gibbs, 1992; Kahneman & Treisman, 1984), involve a causal, rather than descriptive, mode of reference determination and preservation (Pylyshyn, 2001).¹³

Jeshion (2010) also claims that singular thoughts, but not descriptive thoughts, are file-based. However, in doing so, she emphasises that the file picture involves a proposal concerning the way thoughts are *organized with respect to each other*:

...cognition provides an overarching systematic organization of our beliefs and thoughts and other attitudes. Some of them—those that are singular—enjoy a file-folder system of organization. Singular thought about an individual is structured in cognition as a type of mental file. Mental files bind together our information about the individuals they are about and individuate our cognitive perspective on those individuals. One thinks a singular thought by thinking *through* or *via* a mental file that one has about the particular object. By contrast, descriptive thoughts occur *discretely* in cognition, disconnected from any mental file. Such thoughts play a role in inferential relations, but there is no special organizational structure that governs their occurrence in cognition.

(Jeshion, 2010, p. 129)

For Jeshion, this emphasis is part of an overall picture according to which singular thoughts are not all acquaintance-based (they can have their referents 'fixed' by description (Kripke, 1980)) and are therefore distinguished, not by their mode of reference-determination, but by their format or organizational structure.

Insofar as Recanati does not *give up* on the idea that file-thinking is marked by its organizational profile, his version of MFC seems to involve the claim that the sub-class of thoughts about particulars that are distinguished by their mode of reference-determination—that is, singular thoughts—are *also* distinguished by the way they are organized with respect to each other.

The justification and plausibility of the claim that all and only non-descriptive thoughts have a certain kind of *organizational structure* is rarely addressed explicitly. However, a broad motivation for the claim that singular thought is clustered in files, whereas descriptive thought occurs *discretely*, can be found in Forbes (1990):

...Suppose, to adapt Russell's example, that as a result of regaining your confidence in the integrity of electoral processes in Louisiana, you come to believe that the official winner of the next election will in fact be the candidate who gets the most votes. This does not mean that you have a dossier labeled 'official winner of the next election' ... There is no specific individual of whom you are thinking when you use that description, and this is something of which you are quite aware. It is for that very reason that no dossier is created: you do not take yourself to be having cognitive encounters with a subject of some body of information that is growing as the encounters proceed.

(Forbes, 1990, p. 540)

As Forbes points out, one can have a descriptive thought to the effect that the unique *F* is *G* without so much as *trying* to keep track of any particular thing. Insofar as files are used to collect together information about particular things and distinguish them from others, there would, in this case, be no 'work' for file-structure to do. This might encourage the claim that descriptive thought is not file-based thought and seem to support MFC. However, the support is limited, because it is consistent with Forbes's observation that one *could* also have the thought that the unique *F* is *G* and be in the business of keeping track of the unique *F*. A second motivation might come from the idea that inferences that 'trade on identity'—that is, those that rely on an encoded but not explicitly represented assumption of co-reference—always feature non-quantificational thoughts as their premises. Though neither frames their discussion as a discussion of mental files, Dickie (2015) provides the materials for a defense of this idea, and a critical perspective on it can be found in Goodman (2022).

Finally, MFC has been seen as a way to clarify and vindicate the notion of singular thought, in response to the charge that it is obscure or mysterious. Pace Russell (1910), contemporary singularists claim that there are non-descriptive thoughts about ordinary, external objects. However, it is widely agreed that so-called 'Frege cases' can arise in *any* case of thought about an ordinary, external thing, and it is traditional to deal with Frege cases by positing distinct 'modes of presentation' (MOPs). This has been thought to support descriptivism, because the traditional conception of MOPs says they are descriptive. Following Evans (1982), the *neo-Fregean*, singularist response is to say that there are *non-descriptive* or *singular* MOPs. However, it has been famously difficult to say what, exactly, these are. Recanati's (2012) claim that *non-descriptive* MOPs are *mental files* provides an answer.

On this way of framing things, the mental files theory is a kind of Fregeanism. From one perspective, this is unsurprising, since, as we saw in Sections 2 & 3, **files have been posited to play some (though not all) roles traditionally played by sense**. However, we've also seen that early file-theorists present the file-picture in a way that suggests that it is a proposal about *format*, not *content* (recall Strawson's claim that we should not focus on *what* is learned when one learns an identity, but *how* one learns an identity). This lines up with some theorists' presentation of their view as a non-Fregean solution to Frege's puzzle.¹⁴

6 | CRITICISMS OF, AND DEBATE ABOUT, THE FILE-THEORY

A first kind of criticism of contemporary file-theory does not target the notion of a mental file itself, but the connection between mental files and singular thought.

Goodman (2016) and King (2020) both argue against MFC, each claiming that the notion of a mental file and the notion of singular thought ought not to be identified, and are not coextensive. Goodman claims that the essential features of file-thinking—that is, that the reference of a file is not determined by all the descriptive information in the file, and that the file can persist through changes to descriptive information contained in it—are consistent with the idea that *some* file-based thought has its reference determined by description, and is 'governed' by descriptive information in other ways.¹⁵ Mental files can, in some cases, contain *privileged* descriptive information that plays reference-determining and other governing roles. Thoughts employing these 'descriptive files' are properly understood as descriptive thoughts about particular things.¹⁶

Murez et al. (2020) also take a critical stance toward MFC, but from an empirical perspective. They emphasise that at least some versions of MFC involve an empirical claim: that the two psychological natural kinds, *mental file* and *singular thought* are coextensive. This claim often rests, in turn, on the assumption that the signature properties of *object-files* extend to all (conceptual) mental files. However, this assumption has not been adequately, empirically supported. That object-files are plausibly singular does not establish the claim that all file-based thought is singular.

A second set of criticisms of the file-picture is more fundamental: these criticisms target its central features.

On a standard interpretation, the file-theory holds that concepts of particular things are mental files, which *contain* predicative information that the thinker believes to apply to the file's referent. Believing that an object has a certain property is constituted by—or just *is*—storing a predicate in a file on that object: believing that Dick Holloway thought the largest number is infinity twelve is storing the predicate *thought the largest number was infinity twelve* in one's file on Dick Holloway. However, concepts are commonly conceived to be *constituents* or 'building blocks' of beliefs¹⁷: one's concept of Dick Holloway is a constituent of one's belief that Dick Holloway thought the largest number is infinity twelve. It therefore looks as if the file-theorist either has things the wrong way around, or posits a kind of mutual containment that does not make sense. Woodfield (1991) thus rejects the claim that object concepts are files, on the basis that this would involve a 'mereological paradox'.¹⁸

Similarly, the claim that beliefs are constituted by the containment of predicates in files raises awkward questions about relational belief. Is my belief *that Dick Holloway lives three doors down from Kent Bach* contained in my Dick Holloway file, my Kent Bach file, or both?¹⁹ Goodman and Gray (ms) stress that, insofar as these choices involve functional claims about the nature of belief, they should come with downstream effects, which philosophical file theorists have not traditionally been in the business of providing evidence for.²⁰ Goodman and Gray claim that standard interpretations of the file-theory privilege monadic belief, and therefore must work within this constraint to accommodate other cases. This would appear to commit file-theorists to a substantive functional commitment about how minds work, which is either arbitrary or ought to be defended (perhaps empirically).

Finally, questions about individuation have been seen as problematic for the file-theory. Broadly, debates over file-individuation have been motivated by the idea that their theoretical role in explaining the inferential integration of beliefs places inconsistent demands on their individuation conditions. Recall Recanati's claim (from Section 5) that a file is based on an information relation to an object, and that its role is to store only information *acquired from that particular relation*. This claim is not arbitrary but, rather, motivated by the way that it features in an explanation of how files inferentially integrate beliefs by encoding the identity of their referent (Section 3). If a file stores information acquired from a single informational relation, this will make it reliably (though defeasibly) the case that the information in it is derived from a single object. In turn, this underwrites the fact that the inferential integration achieved by co-filing is not merely *psychological*, but *also* has positive normative status. That information is co-filed does not merely make it the case that an agent is *disposed* to assume for inferential purposes that it concerns a single thing, but also that she is *justified* in making this assumption, and therefore that inferences that rely on it are *rational* (Recanati, 2016, p. 77; Goodman & Gray, 2022, pp. 7–8).

This suggests a neat story according to which files themselves are individuated according to the information-relations on which they are based: only information from a single information relation is co-filed. For example, a perception-based file about an object collects information from a single perceptual connection to it. Information coming from a *distinct* perceptual relation (even to the same object), or from a testimonial relation, is stored in a distinct file.²¹ Arguably, however, one frequently finds oneself in possession of co-filed information gained through *different* information relations to a thing. For example, beliefs formed on the basis of testimony are sometimes *inferentially integrated* with beliefs formed on the basis of perception, suggesting that they are co-filed.

To the extent that this presents a puzzle about individuation, it does so about both synchronic and diachronic individuation, however debates have tended to center on diachronic individuation. Recanati (2012, 2013a, 2013b) has argued for finer-grained *indexical files*. Ball (2014) has argued against the indexical model of files. Papineau (2013) and Ninan (2015) have argued that files should be construed as temporally coarse-grained. Onofri (2015) has argued that, given its explanatory aims, the file-theory does not ultimately have the resources to offer a coherent, principled account of file individuation. Prosser (2020) argues for a stage-theoretic account of coarse-grained files. In responding to criticisms and clarifying his earlier position, Recanati (2015, 2016, 2021) allows for temporally coarse-grained files but privileges file stages.²² He also provides an account of transitive vs. intransitive forms of *coreference de jure* (that is, *encoded coreference*), which distinguishes synchronic from diachronic rational relations.²³

7 | FILING THEORY, GRAPH THEORY AND INTERPRETATION OF THE FILE ANALOGY

A benefit of Recanati's (2012, 2016) file-picture is that it replaces suggestive metaphorical 'file talk' with a fleshed-out theory. However, this has also prompted discussion of how best to interpret the file analogy. Reviewing some proposals about this illustrates that understanding of the file analogy has varied among its proponents, and helps to clarify connections between the file-theory and related views.

Recanati's version of the file-theory takes certain aspects of the file analogy very seriously:

Mental files are cognitive structures which store information about entities. They are entries in the mental encyclopedia, that is, concepts. Some, following Grice (1969), construe them as collections of information units, but I prefer to think of them as akin to *containers* ('concrete cognitive particulars', as Crimmins and Perry (1989) say). ... the identity of a container is independent of that of its contents.

(Recanati, 2016, p. vii)

For him, the file-theory posits concrete mental particulars with containment structure, which are independent of the information they contain.

In contrast, Goodman and Gray (2022) argue that an interpretation of the file-theory, which does not posit concrete mental particulars *with containment structure*, better represents its central explanatory aims and commitments:

...We want to ask: how should we interpret talk of 'files' as it occurs [in the file-theory]? There are two salient options: we could think of files as theoretical posits, implicitly defined by their role in the theory. Or we could think of files as useful metaphors – expository devices that are useful in laying out the structure of a theory but reference to which will not remain in its canonical statement. The literature tends toward the first route. We claim, though, that the second is preferable. Put roughly, we argue that, in its canonical statement, the 'file'-theory makes reference to a certain kind of relational representational feature, and a certain kind of mental activity. Mental files need not come into it. In short, we posit mental filing without mental files.

(Goodman & Gray, 2022, p. 206)

This version of the file-theory claims that minds are filing systems, *not* in the sense that the mental representations over which their processes operate have file-like structure, but *rather* in the sense that they make use of a certain kind of mental activity: *mental filing*. This 'filing' or 'sorting' activity determines encoded coreference relations between mental representations, which do not themselves have containment structure. By dispensing with mental particulars with containment structure, the *mental filing* view cashes out the file analogy in a way that dispenses with mental files. This is presented, not as a *rejection* of the file-picture, but as a version that best represents its central explanatory parts, and provides file-theorists with a way to avoid puzzles about containment and individuation (see Section 6).²⁴

Alongside recent literature focusing explicitly on the question of how the file-theory ought to be interpreted, it's worth reflecting on long-standing variations in the way that the file analogy has been presented. If one looks at earlier uses of the file analogy, Recanati's emphasis on files as mental particulars with containment structure does not look inevitable.²⁵ For example, when Strawson (1974) introduces the analogy of file-cards (Section 2), he does so as one of two possible pictures or models, meant to illustrate his account of how we learn identities. The other is not a picture involving file-cards on which predicates are inscribed:

I offer, then, a model or a picture of a man's knowledge of, or belief about, all those particular items of which he has some ... knowledge. We are to picture a map as it were, of his ... knowledge—in an

extended sense of these words. On the knowledge-map we represent the unity of every cluster of identifying knowledge (i.e. identifying knowledge which the man regards as identifying knowledge of one and the same particular item) by a filled-in circle or dot, such as is used to represent stations on railway maps. Any name he knows which for him in suitable circumstances invokes that cluster of identifying knowledge is written adjacent to the dot. From each dot radiate lines bearing one-or-more-place predicate expressions; and these lines, with their inscriptions, represent the various propositions which the man is able to affirm, from his own knowledge, regarding the items which the appropriate cluster of identifying knowledge is knowledge of. These lines are of different kinds. Some join one dot to another. These are relational propositions like 'Caesar loved Brutus'. Some curl back on their dot of origin. They are reflexively relational propositions like 'Caesar loved himself'. Some are joined to a dot at only one end. These are non-relational propositions like 'Caesar was bald'.

(Strawson, 1974, p. 45)

We are encouraged to picture having beliefs about particular things to involve maintaining a *map*. On the map, each object (of which the thinker has an individual 'concept') is represented by a dot, which is attached by lines to other objects, to itself, and to predicates (as in Figure 1). The coreference of two beliefs would be encoded by the fact that they employ *the same dot* (see the belief *that Caesar loved Brutus* and *that Caesar was bald*, as represented in Figure 1).

As with the file picture, the map picture suggests that learning an identity involves, not adding a representation of an identity fact to a list, but replacement of two representations—this time, two dots—with one. Since this analogy involves dots rather than file-cards, talk of containment of predicates 'on' (or 'in') representations of objects is absent. However, Strawson introduces this analogy to illustrate the very same facts as the file-card analogy. Following Millikan (2017), one might take this to imply that the appeal to mental particulars *with containment structure* was inessential to his view.²⁶

Furthermore, Strawson's *map* picture has much in common with Pryor's (2016) *mental graphs* picture, according to which object representations are theorised as vertices, attached to directed edges, which represent predicational and relational information. The mental graphs picture has been compared to the file-theory and the current question is whether *both* maps and files can be used to illustrate essentially the same theoretical commitments.²⁷ On one way of viewing things, the Pryor/Strawson picture provides a sense of how to model *mental filing without files*: coreference is encoded without being explicitly represented in virtue of the use of the same *token* object representation (which does not itself have containment structure).²⁸

The extent to which file-theorists are willing to align their view with one that makes use of the map or graph analogies, and the extent to which they wish to emphasise the notion of containment, remains to be seen. Comparison of the different file pictures on offer illustrates that interpretation of the file analogy is a live issue for file theorists.

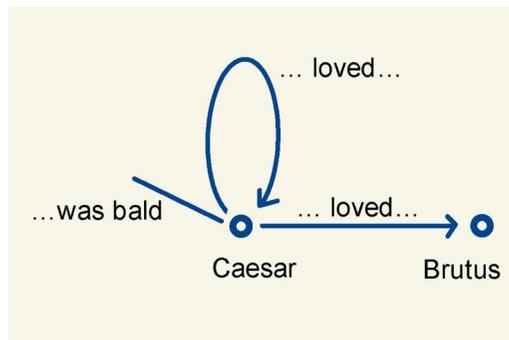


FIGURE 1

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ENDNOTES

- ¹ For discussion of merging see Recanati (2012, pp. 44–47), for cross-referencing see Recanati (2012, p. 52).
- ² The notion of a file has also appeared in psychology, to understand perceptual individuation and tracking (Kahneman & Treisman, 1984; Kahneman et al., 1992; Scholl, 2001), and in linguistics, to understand maintenance of discourse referents (Heim, 1982; Kamp, 1981). The particular philosopher's notion of a mental file that interests me here is posited to theorise the propositional attitudes (it is therefore distinct from that of an 'object file' as discussed in psychology and philosophy of perception). See Maier (2016) for discussion of the relation between the philosopher's and the linguist's notion of 'file', and Murez et al. (2020) for that between the philosopher's and the psychologist's.
- ³ Grice (1969, pp. 141–142) uses file-talk slightly earlier than Lockwood and Strawson, and for slightly different purposes. In distinguishing 'identificatory' from 'non-identificatory' uses of *definite descriptions*, he says an agent has a 'dossier' for a description when that description is a member of a set of descriptions they take to be satisfied by a single thing.
- ⁴ See also Murez and Recanati (2016, p. 270) for discussion.
- ⁵ File theorists debated whether learning an identity always does, or even *should*, result in the merging of files, or the automatic obliteration of the previous files. See Bach (1987, p. 37), Crimmins and Perry (1989, p. 692), Forbes (1990, p. 543), Lawlor (2001, pp. 61–65) Recanati (2012, pp. 44–47; 2021).
- ⁶ Presumably, this point applies to practical as well as theoretical inferences, and contentful mental states aside from beliefs. If I have a desire to see *Venus*, and a belief that *Hesperus is the first star visible in the evening*, this doesn't put me in a position to rationally act in way that satisfies my desire: the belief that *Hesperus is Venus* inferentially integrates my belief and desire so that I can rationally fulfill my desire by going outside of an early evening and looking up at the sky. Talk of the 'inferential integration of beliefs' should be understood inclusively.
- ⁷ Relatedly, some (like Schroeter, 2007) claim that they explain the subjective appearance of *de jure coreference*.
- ⁸ Perry also uses files to answer questions about cognitive significance generally (e.g in Perry, 1988). Prosser (2020) uses files to theorise continued belief *but* holds that their role in theorizing continued belief is the same as their role in explaining the inferential integration of belief. He claims that '...retention of belief over time is like a limiting case of inference...' (660): continuing to believe that *a* is *F* (from *t*₁ to *t*₂) is like inferring one's belief at *t*₂ from one's belief at *t*₁, without the need for a premise that *a*(at *t*₁) = *a*(at *t*₂).
- ⁹ Perry (1980, p. 78) claims it is also not necessary, though acknowledges space for disagreement.
- ¹⁰ I abstract from Perry's particular framework and assume that his point about sameness/difference of 'belief state' can be understood as one about sameness of representational properties, other than what the belief is about, of states conceived statically.
- ¹¹ See Goodman (2016), Goodman and Genone (2020), Murez et al. (2020) for elaboration and discussion.
- ¹² Recanati (2012, Ch. 13) claims that the acquaintance constraint on files is *normative* (so files can be opened without an acquaintance relation in place). King (2020), Reimer (2020) and Sainsbury (2020) criticize this view. Hansen and Rey (2016) deny there is an acquaintance constraint on files.
- ¹³ See Murez and Recanati (2016, pp. 265–267) for discussion.
- ¹⁴ Recanati (2012, 2013a, 2013b), Prosser (2019, 2020), and (in a different way) Forbes (1989, 1990), present their file theories as Fregean. Lockwood (1971) and Perry (1980, 1988) present theirs as non-Fregean alternatives. Though it may be obvious, it's worth stressing that this turns in part on one's perspective on the distinction between content and format. For additional discussion of the relationship between mental files and *sense* see Peacocke (2014, Ch.s 1 & 5) and Goodman & Gray (2020, ms.).

- ¹⁵ Along similar lines, King claims that files are useful for theorizing information-clustering within the mind, but denies this has anything specifically to do with singular (rather than descriptive) thought.
- ¹⁶ Although contemporary file-theorists (even those not concerned to explicitly defend MFC) tend to assume that file-based thoughts are non-descriptive, file-talk first appears in the philosophical literature in Grice (1969), who talks of dossiers as being connected to descriptions.
- ¹⁷ See, e.g. Fodor (1975, 1987).
- ¹⁸ Taylor (2010, 2020) and Losada (2016) also object to the 'containment' aspect of the file analogy. Recanati (2012, pp. 38–41 and n. 12) and Talasiewicz (2022) respond to the worry.
- ¹⁹ Recanati (2012, p. 50) attributes this worry to Thea Goodsell.
- ²⁰ Goodsell (2013) makes a point along the same lines.
- ²¹ This is the model for individuation of Recanati's (2012, pp. 60–63; 2021, p. 5) *indexical files*. These are distinguished from *encyclopedic files* which are not based on specific, but rather on 'higher order', information relations (Recanati, 2012, pp. 73–74).
- ²² These disputes echo, to some extent, earlier debates about dynamic modes of presentation, as defended by Evans (1985) and criticized by Millikan (2000).
- ²³ See Pinillos (2011) for discussion of the transitivity issue in relation to mental files.
- ²⁴ Some file theorists have rejected this proposal, or/and offered alternative versions of the file theory. Talasiewicz (2022) defends a particularist version of the mental files picture and defends it against worries deriving from the containment claim. Clarke (2022) claims file-theorists should posit files but, insofar as he seems to suggest that they need not have containment structure, the relation between this claim and Goodman and Gray's denial of the file-theorist's need for files is unclear. However, Clarke proposes an interpretation of the file-theory that dispenses with Recanati's emphasis on the information-relations that files are based on.
- ²⁵ Clarke (2022, p. 663) points out that Recanati's emphasis on the connection of files to information relations is also not inevitable.
- ²⁶ About Strawson's dot analogy, Millikan (2017), writes: 'Strawson's suggestion has since been reclothed in different ways by a number of theorists, most often using the image of individual mental files or folders in which information is kept rather than that of a dot on a blackboard, but the basic proposal is the same.' (206). See also Millikan (2017, 2020) for her theory of 'unicepts' and discussion of their relation to mental files.
- ²⁷ Interestingly, Murez and Recanati (2016) call the graph picture an 'elaboration of the mental file framework' (273).
- ²⁸ See also Millikan (2017, pp. 205–206) and note that Millikan (2017, p. 49 n.4) also emphasizes that Strawson's 'dots' are not mental particulars with file-structure.

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