

*Recurrence*

**Nathan Salmon**

**Philosophical Studies**

An International Journal for Philosophy  
in the Analytic Tradition

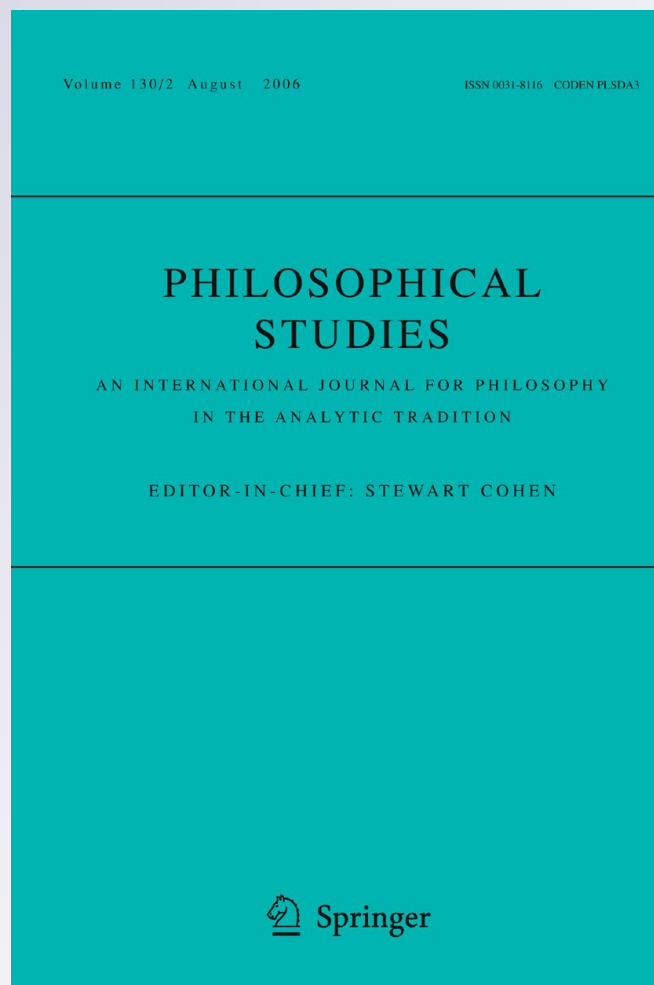
ISSN 0031-8116

Volume 159

Number 3

Philos Stud (2012) 159:407-441

DOI 10.1007/s11098-011-9773-7



**Your article is protected by copyright and all rights are held exclusively by Springer Science+Business Media B.V.. This e-offprint is for personal use only and shall not be self-archived in electronic repositories. If you wish to self-archive your work, please use the accepted author's version for posting to your own website or your institution's repository. You may further deposit the accepted author's version on a funder's repository at a funder's request, provided it is not made publicly available until 12 months after publication.**

## Recurrence

Nathan Salmon

Published online: 19 August 2011  
© Springer Science+Business Media B.V. 2011

**Abstract** Standard compositionality is the doctrine that the semantic content of a compound expression is a function of the semantic contents of the contentful component expressions. In 1954 Hilary Putnam proposed that standard compositionality be replaced by a stricter version according to which even sentences that are synonymously isomorphic (in the sense of Alonzo Church) are not strictly synonymous unless they have the same logical form. On Putnam's proposal, the semantic content of a compound expression is a function of: (i) the contentful component expressions; and (ii) the expression's logical form. Kit Fine recently expanded and modified Putnam's idea into a sweeping theory in philosophy of language and philosophy of mind. The present paper is a detailed critique of Fine's "semantic relationism." Fine's notion of coordination is explained in terms of the familiar pragmatic phenomenon of recognition. A serious error in Fine's formal disproof of standard Millianism is exposed. It is demonstrated furthermore that Church's original criticism of Putnam's proposal can be extended to Fine's semantic relationism. Finally, it is also demonstrated that the positive position Fine proffers to supplant standard Millianism is in fact exactly equivalent to standard Millianism, so that Fine's overall position not only does not displace standard Millianism but is in fact inconsistent.

**Keywords** Compositionality · Content · Millianism · Recognition · Semantics

---

N. Salmon  
Department of Philosophy, University of California, Santa Barbara, CA 93106, USA

N. Salmon (✉)  
The Graduate Center, City University of New York, 365 Fifth Avenue, New York, NY 10016, USA  
e-mail: nsalmon@philosophy.ucsb.edu

## 1 Fine's semantic relationism

Millianism is the doctrine that the semantic content of a proper name is its designatum, the bearer of the name. According to this doctrine, the proposition expressed by an atomic sentence containing a name is a Russellian *singular* (or *object-involving* or *object-dependent*) *proposition*, i.e., a proposition that directly concerns a particular object by virtue of including that object as an immediate component, rather than some conceptualized representation of the object. In *Semantic Relationism* (Oxford: Blackwell, 2007), based upon his Blackwell/Brown lecture of 2002 and his John Lock Lectures of 2003, Kit Fine provides a sustained argument that Millianism must be supplemented with a theory about the nature of semantic content, a theory that replaces standard compositionality of content with a nonstandard variant. In 1954 Hilary Putnam proposed a similar variant. The idea was later also championed by David Kaplan.<sup>1</sup> Putnam's basic idea is that, where  $\alpha$  and  $\beta$  are exactly synonymous terms (terms having the very same semantic content),  $\phi_{\alpha\beta}$  is a sentence containing free occurrences of both terms, and  $\phi_{\alpha\alpha}$  is the result of substituting free occurrences of  $\alpha$  for free occurrences of  $\beta$  in  $\phi_{\alpha\beta}$ , the two sentences semantically expresses different propositions—as for example,

- (1) Unmarried men socialize with other bachelors
- (2) Unmarried men socialize with other unmarried men

assuming that 'bachelor' and 'unmarried man' are exactly synonymous. Putnam, Kaplan, and Fine contend that (at least normally) (2) expresses a proposition that in some manner reflects additional material (additional structure, information, or something) that normally results from the recurrence of 'unmarried men' whereas (1) does not.

Standard compositionality is the thesis that the semantic content of a compound expression (e.g., a sentence) is a (effectively calculable) function of the semantic contents of the expression's contentful components (perhaps together with those components' manner of grammatical composition). According to a strong version of compositionality, the semantic content of a compound expression is a composite entity composed in a particular manner of the semantic contents of the contentful component expressions. Putnam proposes instead that sentences that differ in logical form ipso facto differ in semantic content, even if they are, like (1) and (2), "synonymously isomorphic" in Church's sense. On this proposal the semantic content of a compound expression is a function of the semantic contents of the expression's contentful components together with the expression's (most discriminating) logical form.<sup>2</sup>

<sup>1</sup> Putnam (1954); Kaplan (1990, at p. 95n6). Putnam receives insufficient credit for his idea in the existing literature.

<sup>2</sup> Church (1954). Expressions are *synonymously isomorphic* if they have the same free variables and one is obtainable from the other by a sequence of applications of: (i) alphabetic changes of bound variable; (ii) replacements of a component expression of a given type (e.g., a predicate) by a strictly synonymous (having the same semantic content) simple (non-compound) constant of that same type; and (iii) replacements of a component simple constant of a given type by a strictly synonymous expression (simple or compound) of that same type. Synonymous isomorphism is a very restrictive notion of synonymy (excluding even, e.g., passive/active transformations), yet synonymously isomorphic expressions need not have the same (most discriminating) logical form.

Central to Fine's "semantic relationism" is the relation of "coordination," which he initially characterizes as "the very strongest relation of synonymy or being semantically the same" (p. 5). In the subsequent discussion it emerges that what Fine has in mind is a binary semantic relation between expressions but also an analogous binary relation between proposition components, and in addition an analogous binary relation between components of thought.<sup>3</sup> More completely, coordination is a binary relation, both reflexive and symmetric,<sup>4</sup> between expression *occurrences* (rather than expressions themselves), between propositional occurrences of proposition components, and between thought occurrences of thought components. Let us say that expression occurrences are *co-occurrences* if they are occurrences of synonymous expressions, i.e.,  $\exists e \exists e' (x \text{ is an occurrence of } e \ \& \ y \text{ is an occurrence of } e' \ \& \ e \text{ and } e' \text{ have the same semantic content})$ . Let us say that proposition-component or thought-component occurrences  $x$  and  $y$  are *co-occurrences* if they are occurrences of the same component, i.e.,  $\exists z (x \text{ is an occurrence of } z \ \& \ y \text{ is an occurrence of } z)$ . (This terminology is my own, not Fine's.) Fine says that co-occurrences are (positively) coordinated, or negatively coordinated, or else uncoordinated. Co-occurrences are (*positively*) *coordinated* when they jointly indicate that they are co-occurrences. Co-occurrences are *negatively coordinated* when they are not positively coordinated. Fine draws an additional distinction between propositions that are negatively coordinated and those that are uncoordinated. Unfortunately his characterization of the distinction, which occurs on p. 56, seems inconsistent with his characterization on the preceding page of what it is for occurrences to be uncoordinated. I propose the following replacement: Co-occurrences are *negatively\* coordinated* when they jointly indicate that they are not co-occurrences; and co-occurrences are *uncoordinated\** when they are neither positively nor negatively\* coordinated.<sup>5</sup>

<sup>3</sup> Fine says that "it will be convenient to think of coordination ... as a relation between *individual uses* of a name," where "an individual use is, in effect, a way of collecting together internally linked [i.e., intradialect coordinated] tokens" (*Semantic Relationism*, p. 108). Fine does not speak of occasions of use. He treats the coordination of expression occurrences as a binary relation between occurrences within a sequence of sentences, rather than between occurrences within a single sentence, assigning as content to a sequence of sentences a *coordinated sequence of propositions* (pp. 52–57). The move to coordination within sequences of sentences is inadequate to take account of the fact that a single occurrence may be differently coordinated on different occasions of use. Occurrences of 'London' and 'Londres' (as names for London, England) within a sequence of sentences might be coordinated by one bilingual speaker and not by another.

This point is related to the issue, to be addressed below, of whether coordination is a semantic phenomenon, as Fine insists, or pragmatic, as I maintain. Relativization to occasions of use (or to utterances, or the like) is typically pragmatic.

<sup>4</sup> Fine has confirmed this. He defines a *coordination scheme* for a sequence of uncoordinated propositions as an equivalence relation on their proposition-component occurrences (pp. 55–56). Also, later (pp. 111–112) he appears to assume that coordination is transitive. However, this is in the course of an argument that it is not (pp. 105–121). The assumption of transitivity might be regarded as for a *reductio*.

<sup>5</sup> Fine prefers to say that the occurrences indicate that their common object "is represented as the same" (comments on an earlier draft—hereafter simply "comments"). This is problematic. (Represented by what? The same as what? What is it to represent a single object  $x$  "as  $R$ " where  $R$  is a binary relation (to represent  $x$  as taller, as east, as distinct, as the same), unless it is to represent  $x$  as bearing  $R$  to  $x$ ? What is it to represent  $x$  without representing  $x$  as the same as  $x$ ?) Presumably Fine means that occurrences  $x$  and  $y$  jointly represent that there is a single content semantically expressed by the expressions of which  $x$  and  $y$  are occurrences, or a single individual of which each of  $x$  and  $y$  is an occurrence.

Fine does not consistently speak of coordination as a relation between occurrences as such. He routinely speaks of it as a relation that is between names (rather than occurrences of names), including between a name and itself, and he says that it is conveniently regarded as a relation between individual uses of a name. He generally speaks of coordination as a property of a pair of names. Fine often speaks of “names” or their tokens where what are relevant are occurrences of those names. Fine’s preferred manner of speaking introduces a host of complications. At bottom, what is at issue is a binary relation between occurrences, including between occurrences of the same name (with a particular use). Even better—although he does not favor this manner of speaking—Fine’s notion of “representing as the same” is that of a property that two occurrences exemplify in tandem but not individually (as a duo performs a duet that neither of the duo performs individually).<sup>6</sup>

Fine writes, “I take it that we all have some intuitive grip on this notion of coordination or *representing as the same*” (p. 40). It is tempting and natural to suppose that the notion of  $x$  and  $y$  representing  $z$  and  $w$  as the same things is simply that of  $x$  and  $y$  representing that  $z = w$ . However, Fine insists that his notion is something else (p. 40). It is crucial to Fine’s theory that coordination among proposition components is not just another proposition; it is not merely further information. Rather, jointly representing something *as* the same is taken as importantly distinct from jointly representing *that* the thing is the same. I have not been successful gleaning what representing  $z$  *as the same* is in a way that clearly demarcates the notion from that of representing that  $z$  and  $z$  are identical or that particular occurrences  $x$  and  $y$  of  $z$  are (in my own terminology) co-occurrences. Certainly if there is a distinct notion of representing things as the same, it is extremely closely related to representing that those things are the same.<sup>7</sup>

---

Footnote 5 continued

A pair of occurrences can be neither positively coordinated, nor negatively\* coordinated, nor uncoordinated\*. There are alternative possibilities. Fine’s text (pp. 54–57) does not clearly decide the relevant issues.

<sup>6</sup> See the preceding note. Fine’s notion of positive coordination might be seen as the existential generalization of a special case of a 4-place relation:  $x$  and  $y$  jointly represent  $z$  and  $w$  as the same thing. One may then say that  $x$  and  $y$  jointly represent  $z$  as the same thing (3-place) iff  $x$  and  $y$  jointly represent  $z$  and  $z$  as the same thing. Moreover, Fine requires that representing-as-the-same is factive: if  $x$  and  $y$  jointly represent  $z$  and  $w$  as the same thing, then  $z = w$  (p. 40; but see also p. 136n14). Then to say that  $x$  and  $y$  are positively coordinated is presumably to say that there is an object  $z$  such that each of  $x$  and  $y$  individually represents  $z$ , and  $x$  and  $y$  jointly represent  $z$  as the same thing.

Fine does not use the word ‘jointly’ but it conforms to his intent that coordination is not reducible to semantic attributes of individual expression occurrences other than semantic-relational properties toward other occurrences (p. 22). For  $x$  and  $y$  to jointly-represent  $z$  as the same thing, more is required than the existence of an object  $w$  such that each of  $x$  and  $y$  represents  $z$  as  $w$ . Occurrences of ‘Cicero’ and ‘Tully’ represent Cicero as Cicero, but an occurrence of ‘Cicero’ and an occurrence of ‘Tully’ do not jointly represent Cicero as *the same thing*.

<sup>7</sup> See again note 5. That Fine takes representing-as-the-same to be factive suggests, contrary to his assertion that “a coordination scheme does not convey any information” (comments), that the phenomenon he calls ‘coordination’ imparts, or even entails, at least the information that the occurrences in question are co-occurrences—even if the scheme is not itself information and even if the imparted information is trivial. It also suggests that the phenomenon is intimately related to the familiar epistemic notion of *recognition*. Coordination between occurrences  $x$  and  $y$  may be, roughly, that of which one is aware in recognizing  $x$  and  $y$  as co-occurrences, and of which one is ignorant in failing to recognize  $x$  and  $y$  as co-occurrences.

Care should be taken not to confuse coordination with the distinct but related phenomenon of *reflexivity*. The latter is a feature common to a certain family of concepts. For any binary relation  $R$ , the concept of being something  $x$  such that  $x$  bears  $R$  to  $x$  is a reflexive concept. For example, the concepts of shaving oneself, of loving one's own mother, and of being a prime integer (an integer greater than one and evenly divisible only by itself and one) are all reflexive. Coordination concerns specific occurrences; reflexivity is fundamentally general. The specific judgment that Cicero shaves Cicero may be coordinated or not, depending on how it is cognized. The specific judgments that Cicero is self-shaving and that Caesar is self-shaving, despite the fact that their occurrences of Cicero and Caesar are not coordinated, both invoke the reflexive concept of shaving oneself. Though they are distinct, coordination and reflexivity are indeed intimately related in cognition, especially in reasoning. In order to infer legitimately from the specific judgment that Cicero shaves Cicero the reflexive conclusion that Cicero is a self-shaver, the reasoner must coordinate the two occurrences of Cicero in the premise. It will not do to apprehend the premise in the manner of 'Cicero shaves Tully'. Indeed, the reasoner must coordinate all three occurrences of Cicero. Similarly, in the reverse inference—drawing the specific conclusion that Cicero shaves Cicero from the reflexive premise that Cicero self-shaves—the cognizer coordinates the two occurrences of Cicero in the conclusion, and indeed the three Cicero occurrences throughout the argument. The propositions that Cicero shaves Cicero and that Cicero self-shaves are logically equivalent. Even if the former is coordinated, however, it remains that the propositions are distinct.<sup>8</sup>

According to Fine a coordinated proposition is not simply a structure composed of the proposition components but is embellished with connections of coordination among components. A coordination scheme for proposition components can extend to components of multiple propositions. Fine thus agrees with Putnam and Kaplan that, at least normally, the proposition expressed by 'Cicero admires Cicero' is different from that expressed by 'Cicero admires Tully' even if the names 'Cicero' and 'Tully' are exactly synonymous, because some aspect of the former proposition reflects the recurrence of the proposition-component contributed by 'Cicero'.<sup>9</sup>

Fine argues that his view solves a number of problems that arise on Millianism; indeed he asserts that the theory "provides a solution to all possible puzzle cases" (p. 113) of a sort that Saul Kripke emphasized in his classic paper "A Puzzle about Belief."<sup>10</sup> In the principal version of Kripke's puzzle, a Frenchman, Pierre, does not realize that the cities he calls 'London' and 'Londres' are one and the same. He understands the French sentence '*Londres est jolie*' as expressing that London is

<sup>8</sup> Fine's criticism (pp. 69–70) of my account of the semantic content of lambda abstraction misinterprets me as holding that 'Cicero shaves Cicero' semantically expresses the same proposition as ' $\lambda x[x \text{ shaves } x]\text{Cicero}$ ' (i.e., 'Cicero is a thing that shaves itself') and a different proposition from 'Cicero shaves Tully'—the reverse of my actual view.

<sup>9</sup> Fine says that his notion is different from Putnam's on the ground that Putnam's is syntactic and pre-semantic (p. 41). Putnam's idea no less than Fine's concerns semantic content. Putnam's tightening of standard compositionality invokes logical form. Fine says that his account instead invokes "semantic connections" or "meaning relationships" among the component expressions (pp. 25–26).

<sup>10</sup> Kripke (1976b). Page references throughout are to this reprinting.



pretty. On reflection he sincerely assents to it, thereby apparently indicating that he believes that London is pretty. In addition he understands the English sentence 'London is not pretty' as expressing that London is not pretty. On reflection he sincerely dissents from it, thereby indicating that he believes that London is not pretty. How could Pierre have contradictory beliefs without realizing it? Kripke says, "it is clear that Pierre, as long as he is unaware that the cities he calls 'London' and 'Londres' are one and the same, is in no position to see, by logic alone, that at least one of his beliefs must be false. He lacks information, not logical acumen. He cannot be convicted of inconsistency; to do so is incorrect" (p. 1022).

On an alternate version of the puzzle Pierre does not assent to '*Londres est jolie*'. Instead on reflection he sincerely assents more cautiously to '*Si New York est jolie, Londres est jolie aussi*', which he understands as expressing that if New York is pretty then so is London. In this scenario Pierre apparently believes that London is pretty if New York is and that London is not pretty, yet as long as he remains unaware that the cities called 'London' and 'Londres' are one and the same, he is unable to infer by *modus tollens* that New York is not pretty. How could someone believe both a conditional proposition and the denial of its consequent, yet be unable to see that his beliefs logically entail the denial of the antecedent proposition? Such a blind spot would ordinarily indicate logical incompetence. But again Kripke protests that this is not Pierre's problem (p. 1022).

Although Kripke does not do so, a more direct form of the puzzle can be constructed from Pierre's sincere and reflective assent to '*Londres est jolie*' and 'London is a capital', thereby apparently indicating that he believes both that London is pretty and that London is a capital. Normally one who believes both that London is pretty and that London is a capital is capable of deducing that London is a pretty capital. This deduction might be accomplished through an application of adjunction (i.e., conjunction-introduction) followed by an application of  $\lambda$ -expansion ( $\lambda$ -introduction), to obtain the conclusion that  $\lambda x$  [ $x$  is pretty &  $x$  is a capital] London, i.e., that London is an object  $x$  such that both  $x$  is pretty and  $x$  is a capital.<sup>11</sup> I shall use the appellation 'reflexive  $\lambda$ -expansion' for the deduction from a singular proposition  $p_{xx}$ , in which an individual  $x$  occurs twice, to the conclusion that  $Px$ , where  $P$  is the reflexive property corresponding to the propositional function  $\lambda y[p_{yy}]$ . A paradigmatic case is the inference from the conjunctive proposition that London is pretty and London is a capital to the conclusion that London is pretty and a capital. How is Pierre's inability to deduce this straightforward conclusion to be explained? Again it is not due to logical incompetence.<sup>12</sup>

<sup>11</sup> Where  $\phi_\beta$  is any result of substituting free occurrences of a singular term  $\beta$  for free occurrences of the individual variable  $\alpha$  in an open formula  $\phi_x$ ,  $\lambda$ -expansion licenses the inference from  $\phi_\beta$  to  $\ulcorner \lambda x \phi_x \beta \urcorner$ , read:  $\beta$  is an object  $\alpha$  such that  $\phi_x$ .

<sup>12</sup> Fine refers to the argument form ' $Fx; Gx \therefore [F \& G]x$ ' as 'adjunctive inference' (p. 82). Fine defends his usage (comments) on the ground that one can perform adjunction directly on predicates. This is misleading. The inference is valid only when the predicates share a common argument. Pierre has no difficulty performing adjunction to infer 'Londres is pretty and London is a capital' from its separate conjuncts. Reflexive  $\lambda$ -expansion is applicable to propositions  $p_{xx}$  that are not of the particular form:  $Fx \& Gx$ . A variant of Kripke's puzzle arises with any singular proposition  $p_{xx}$  in which a single object recurs, e.g., the proposition that London is not prettier than London.



By way of a solution to these Kripkean puzzles Fine contends (p. 100, and throughout the rich surrounding discussion) that what Pierre lacks is neither logical acumen nor information but appropriate positive coordination among his uses of ‘Londres’, his uses of ‘London’, and the speaker’s uses of ‘London’. Those separate uses need not *represent as the same* in the right way. Fine offers what he deems pragmatically appropriate (“correct”) reports concerning whether Pierre believes and/or disbelieves that London is pretty, “leaving on one side” the issue of whether these reports and others are literally true (pp. 89, 100). Fine argues that ‘Pierre believes that London is pretty’ and ‘Pierre believes that London is not pretty’ might each be pragmatically appropriate although the “composite attribution,”

Pierre believes that London is pretty and Pierre believes that London is not pretty,

is pragmatically inappropriate.

Fine’s account of coordination is emphatically, one might even say fiercely, semantic. Curiously, while Fine addresses pragmatic aspects of Kripke’s puzzle, he passes on the opportunity to apply his semantic theory to the celebrated puzzle. In particular Fine declines to provide answers to the puzzle’s principal questions:

Does Pierre believe that London is pretty?

Does Pierre believe that London is not pretty?

Fine says, in effect, that affirmative answers are pragmatically appropriate (“correct”) for either separately but not for both together. What are the *right* answers? Insofar as Fine’s response does not answer the puzzle questions, it does not qualify as a genuine solution—especially in light of the obvious fact (which Fine does not deny) that these questions have ‘yes’-or-‘no’ answers. On the other hand, Fine strongly suggests (p. 100) that the two attributions and their (apparent?) conjunction are each multiply ambiguous, because of multiple possible accompanying coordination schemes, and that on the most natural (semantic) readings of the three sentences the two attributions might each be true while the composite attribution is not only inappropriate but false.

If this is Fine’s ultimate response, then his “solution” is arguably its own *reductio*. I have argued elsewhere that the verdict that Pierre believes both that London is pretty and that it is not is a straightforward consequence of the scenario’s stipulated initial conditions. This is a hard result that any solution must accommodate.<sup>13</sup>

## 2 Fine’s disproof of standard millianism

Fine makes a number of criticisms of the combination of Millianism with standard compositionality—a position that I advocate. None of Fine’s objections is more

<sup>13</sup> Salmon (2011a). I do not accept that either of the two attributions, or their conjunction, has more than one (relevant) reading—let alone that there is a natural (semantic) reading of the conjunction on which it is false. Kripke explicitly excludes *de re* readings as not pertinent to the question raised in the puzzle. I ignore as also irrelevant readings that concern London, Ontario. So do Kripke, Fine, and everyone else.

intimidating, or evidently more devastating, than his quasi-technical argument that standard Millianism is in a certain sense provably inconsistent. Fine characterizes his argument as a “sweeping objection to any other account of cognitive potential that the standard [Millian] might provide” (p. 82). It is based on a proof that standard Millianism collapses when it is applied to the banal fact that speakers are typically able to combine the premises that  $Fx$  and that  $Gx$  to deduce that  $\lambda y[Fy \ \& \ Gy]x$ . Fine’s formulation begins with the observation that whereas someone in Pierre’s unfortunate situation is unable to do so, we are often able to deduce the conclusion that  $x$  is both  $F$  and  $G$  from the premises that  $Fx$  and that  $Gx$ . How can standard Millianism accommodate this?

The natural hypothesis—and the only one to which it would appear that the standard [Millian] can appeal—is that we are in possession of some further information  $I$  and that this information, along with the given premises, justifies us in inferring the desired conclusion. Now presumably, this further information will also justify us in “putting together” the information from the two premises when the properties  $F$  and  $G$  in question are strengthened in a purely qualitative way. Thus the further information will justify us in inferring the conclusion that  $x$  has the property  $F \ \& \ P \ \& \ G \ \& \ Q$  from the premises that  $x$  has the property  $F \ \& \ P$  and  $x$  has the property  $G \ \& \ Q$ , no matter what the purely qualitative properties  $P$  and  $Q$  might be. But it can now be demonstrated that in these circumstances the thinker must be in possession of a complete purely qualitative description of  $x$ . In other words, there must be some purely qualitative property  $R$  which is such that he is justified in inferring from what he already knows that  $x$  has  $R$  and is [purely] qualitatively indiscernible from any other object that has  $R$ . (p. 82)

It is crucial to be clear about the exact nature and role of the (alleged) information  $I$  in Fine’s objection. Let us say that a reasoner’s satisfying a condition  $c$  legitimizes the application of a valid deduction pattern  $D$  if (i) even though  $D$  is valid, a reasoner needs to satisfy a further condition (e.g., being in possession of particular further information) in addition to believing the information contained in the premises in order to be rationally justified in applying  $D$ ; and (ii) the reasoner’s satisfaction of condition  $c$  suffices for this purpose. Fine believes that for the standard Millian, any performance of reflexive  $\lambda$ -expansion stands in need of legitimization. He asserts that “the natural hypothesis—and the only one to which it would appear that the standard Millian can appeal” is that there is particular information  $I$ —presumably a function  $C$  of  $p_{xx}$ —the possession of which by the reasoner legitimizes applications of reflexive  $\lambda$ -expansion. In the case at hand,  $I$  is  $C$  (that  $Fx \ \& \ Gx$ ). In short, standard Millianism supposedly accommodates our normal practice of deducing the conclusion that  $\lambda y[Fy \ \& \ Gy]x$  from premises that  $Fx$  and that  $Gx$  by holding that the reasoner’s possession of  $I$  legitimizes such applications.

We can be more specific. Let us say that specific information *correlates* distinct component occurrences in a proposition (or thought)  $p$  if that information (inter alia) represents those occurrences as co-occurrences, and let us say that such information is *correlating with respect to*  $p$ . Then for Fine’s purposes we may suppose that according to standard Millianism,  $C(p_{xx})$  is correct correlating information with

respect to  $p_{xx}$ . It is supposed to be information that is conveyed or imparted by pointing to separate occurrences of  $x$  in  $p_{xx}$  and uttering ‘*This and that are the same*’ (or ‘*These individual occurrences are co-occurrences*’), and possession of it is supposed to enable the reasoner to process  $p_{xx}$  in a manner that paves the way for a legitimate application of reflexive  $\lambda$ -expansion. It is a further move, which the standard Millian does not make, to hold that  $C(p_{xx})$  is the very proposition expressed with respect to the relevant context by the sentence ‘*This and that are the same*’ (or ‘*These are co-occurrences*’). Rather  $C(p_{xx})$  is supposed to be information that is thereby *conveyed* or *imparted*. Indeed, it is a further move, which the Millian need not make, to hold that  $C(p_{xx})$  is simply a proposition—as opposed to, say, that which one knows (perhaps at least partially in a non-propositional manner) by virtue of recognizing someone or something, and of which one who fails to recognize is ignorant. In short,  $C(p_{xx})$  is an object of knowledge, which includes correlating information and possession of which by the reasoner, the envisioned standard Millian proposes, legitimizes the reasoner’s application of reflexive  $\lambda$ -expansion. It is the recognition sort of information that, according to the envisioned standard Millian, one who believes of Cicero that he is Roman by understanding and assenting to ‘Cicero is Roman’, and that he is an orator by understanding and assenting to ‘Tully is an orator’, needs in order to be justified in deducing of Cicero that he is a Roman orator. It is precisely the sort of information that, according to the envisioned standard Millian, such a reasoner gleans from an informative utterance of ‘Cicero is Tully’, the very same recognition sort of information that a typical bilingual English-French speaker has and that Kripke’s Pierre would gain if he were apprised of the fact that the cities called ‘London’ and ‘Londres’ are one and the same.

Standard Millianism allows that one can gain new knowledge by performing reflexive  $\lambda$ -expansion on one’s knowledge of a proposition in which an individual recurs. Fine supposes that the standard Millian holds that one does so by drawing upon particular information  $I$  to legitimize the deduction. This is supposedly how one gains the knowledge that London is a pretty capital on the basis of one’s knowledge that London is pretty and London is a capital, and how one gains the knowledge that Cicero is a Roman orator on the basis of one’s knowledge that Cicero is Roman and Cicero is an orator, etc. The auxiliary information  $I$  is supposed to be recognition information which correlates co-occurrences in  $p_{xx}$ , and possession of which the standard Millian supposedly proposes as legitimizing applications of reflexive  $\lambda$ -expansion. Its purpose is not to validate—reflexive  $\lambda$ -expansion is perfectly valid without the help of  $I$ —but to legitimize relevant applications. Misinformation could not serve this epistemic purpose;  $I$  must be correct information. Moreover, the envisioned standard Millian will hold that the reasoner must be “in possession of” the information  $I$  not merely by grasping it, and not even by merely believing it, but by knowing it, or at least by being epistemically justified in believing it. It is not merely the information  $I$  that legitimizes; it is the reasoner’s awareness of  $I$ , or minimally, the reasoner’s justified belief. The separate occurrences that  $I$  allegedly correlates are indeed co-occurrences. The envisioned version of standard Millianism thus postulates that there is correct correlating information  $I$ , awareness (or minimally, justified true belief) of which by the reasoner legitimizes the reasoning.

Stated more precisely Fine's theorem is the following:

The envisioned version of standard Millianism is committed to holding that (on innocuous assumptions) there is a purely qualitative property  $R$  such that the speaker who is competent in the use of a name of  $x$  and capable of performing reflexive  $\lambda$ -expansion would be justified in deducing that  $Rx$  from the premise that  $Fx$ , the premise that  $Gx$ , and the auxiliary information  $I$  possession of which by the speaker legitimizes the reflexive  $\lambda$ -expansion; furthermore the speaker would be justified in deducing from  $I$  alone the conclusion that anything having  $R$  is purely qualitatively indiscernible from  $x$ .

Fine asserts that the envisioned version of standard Millianism is committed to holding that the reasoner who performs reflexive  $\lambda$ -expansion on the conjunction of the premises that  $Fx$  and that  $Gx$  using a name of  $x$  is thereby "in possession of a complete purely qualitative description of  $x$ ." He evidently means by this that the reasoner can form a correct characterization of  $x$  that entails  $x$ 's entire purely qualitative profile. He observes further that this hard result basically finishes standard Millianism off. For adherents

have usually supposed that a speaker may have the use of a name without possessing the means by which its bearer might be distinguished from other objects that are [purely] qualitatively distinguishable from it. But what the ... argument [based on the theorem] shows is that if this were so, then the name could not play its normal role in inference and communication. (p. 83)

To clarify, standard Millians do not hold that a speaker may be competent in the use of a name with no means to distinguish its designatum from all other objects. What Millians insist upon is that a speaker is unable to do this by means of purely qualitative properties; at least normally some reliance on intrinsically relational properties is required.<sup>14</sup> Millians do not generally reject the existence of a purely qualitative property that entails an object's entire purely qualitative profile. One might establish the existence of such a property of Cicero as follows:

Let  $R$  be the property-conjunction (or property-intersection) of Cicero's purely qualitative properties (i.e., those properties of Cicero that are not intrinsically relational). Trivially, Cicero himself has  $R$ . Also trivially, anything that has  $R$  has every purely qualitative property that Cicero has. Furthermore nothing has  $R$  while also having any additional purely qualitative property that Cicero lacks. For suppose that something  $y$  has  $R$  and let  $Q$  be a purely qualitative property that Cicero lacks. Then Cicero has the complementary purely qualitative property,  $\sim Q$ . The complement of a purely qualitative property is also purely qualitative. Since  $y$  has  $R$ , it too has  $\sim Q$ , and therefore lacks  $Q$ .<sup>15</sup>

<sup>14</sup> In my doctoral dissertation I defined *intrinsically relational properties* as those that involve direct reference to an individual, and *purely qualitative properties* are those that do not. See my *Reference and Essence* (Amherst, NY: Prometheus Books, 1981, 2005), pp. 19–20.

<sup>15</sup> The reasoner conceives of  $R$  by *description*, as the property-conjunction of  $x$ 's purely qualitative properties, not by *acquaintance* (Russell). Is this sufficient for the reasoner to infer *of*  $R$ , *de re*, that  $x$  has it and all things that have it are purely qualitatively indiscernible? Millianism per se is neutral.

One can even formulate a predicate for this property, by introducing the name ‘Cicero-suchness’ for the property-conjunction of Cicero’s purely qualitative properties. What Millians do generally deny is that a speaker sufficiently competent in the use of a name to perform reflexive  $\lambda$ -expansion is ipso facto in a position to formulate a purely qualitative predicate for a property R such that the name’s bearer  $x$  has R and (in the actual world, at any rate) any individual that has R is purely qualitatively exactly like  $x$ . On the contrary, Millians generally hold, one might be justified in deducing that Cicero is a Roman orator without knowing any of Cicero’s purely qualitative properties other than those entailed by his being a Roman orator and without knowing whether there are any other orators. Fine’s theorem entails that standard Millianism is committed precisely to what it here denies.

In an endnote Fine provides a proof of his theorem:

... (I assume that F and G do not involve the object [ $x$ ] though they may involve other objects.)<sup>16</sup> Let Q be the negation  $\sim P$  of P. Then from  $I$ ,  $x$ ’s having F & P and  $x$ ’s having G &  $\sim P$ , the thinker is justified in inferring that  $x$  has F & P & G &  $\sim P$  and hence is justified in inferring a contradiction  $\perp$ , since [P and  $\sim P$  are both purely qualitative properties, and therefore] the contradiction between P and  $\sim P$  is manifest to him. Let  $F^c$  and  $G^c$  be the existential generalizations of F and G. Since the inference to  $\perp$  is *manifestly* valid, the thinker is justified in inferring  $\perp$  from  $I$ ,  $\exists x(F^c x \ \& \ Px)$  and  $\exists x(G^c x \ \& \ \sim Px)$  and hence is justified in inferring  $\perp$  from  $I$ ,  $\exists x(F^c x \ \& \ G^c x \ \& \ Px)$  and  $\exists x(F^c x \ \& \ G^c x \ \& \ \sim Px)$ . But then the thinker is justified in inferring  $\exists x(F^c x \ \& \ G^c x \ \& \ Px) \supset \forall x(F^c x \ \& \ G^c x \ \supset \ Px)$  [from  $I$  alone,] and hence justified in inferring  $\forall P[\exists x(F^c x \ \& \ G^c x \ \& \ Px) \supset \forall x(F^c x \ \& \ G^c x \ \supset \ Px)]$  from  $I$ , where P is a variable ranging over arbitrary purely qualitative properties.  $F^c$  &  $G^c$  is, therefore, the purely qualitative property R that we are looking for. (p. 137n4)

To evaluate Fine’s argument we first clarify a pair of crucial notions: that of the *existential generalization* of a property F; and that of *manifest validity*.

What is the *existential generalization* of Cicero’s property of being Roman? The most natural hypothesis is that it is the proposition that  $\exists x$  ( $x$  is Roman). But this is a proposition whereas Fine takes the existential generalization of a property to be another property, not a proposition. Very well, perhaps it is the property expressed by ‘ $\lambda y \exists x(x$  is Roman)’, the property of being such that something or other is Roman. Like the property of being Roman, this too is a property of Cicero but it is equally a property of everything, and arguably it is not purely qualitative since it is evidently intrinsically relational relative to Rome, whereas Fine evidently takes being-Roman<sup>e</sup> (“the existential generalization of” being Roman) to be a purely qualitative property of Cicero, one that is not also a property of everything.

I propose a third interpretive hypothesis. Let F be an intrinsically relational property like *being taller than Socrates*, i.e., a property that is intrinsically relational with respect to a particular individual or individuals. I shall take it that by ‘the existential generalization of F’ Fine means the property that results by existentially

<sup>16</sup> This assumption is curious. The proof’s reliance on it would weaken the theorem slightly. In fact, however, it appears that the assumption plays no role in the argument.

generalizing upon every individual with respect to which F is intrinsically relational. This variant of an intrinsically relational property is non-specifically relational. It removes all occurring individuals, replacing them with existential quantification. I shall call this the *ramsified generalization* of the intrinsically relational property, after the logical-positivist notion of a *Ramsey sentence*. Using Fine's notation, being-taller-than-Socrates<sup>c</sup> is the broader, less specific property of being taller than some individual or other, and being-Roman<sup>c</sup> is the broader property of being from somewhere or other. If F is a property of  $x$ , then the ramsified generalization of F is a purely qualitative property of  $x$  that typically is not a property of everything. (The number 17 does not have either of the ramsified properties of being taller than someone or of being from somewhere.)

This interpretation is conjectural. If Fine does not mean the ramsified generalization of a property F by 'the existential generalization of F', then I am unable to guess what he does mean. One feature of my interpretive proposal is that under the interpretation it becomes all too obvious where his deduction goes wrong, and there it goes very badly wrong. But as will emerge, this does not matter to my criticism of the purported proof. I shall press forward on the assumption that what Fine means is the ramsified generalization of F. What matters is that this is a purely qualitative property of anything that has F, and Fine takes F<sup>c</sup> to be exactly that.

Fine's notion of manifest validity (pp. 48–49) is not to be confused with the notion of an obviously valid entailment (as for example *modus ponens*). That an entailment among propositions is trivially and plainly valid does not entail that anyone (not even a master logician) would ipso facto be justified in all circumstances in deducing the conclusion from the premises. Roughly, a "manifestly valid" argument in Fine's intended sense is a valid argument the validity of which is independent of the recurrence of any single individual among the premises or in some cases within the conclusion—even if it does depend on the recurrence of a single individual between a premise and the conclusion. (Fine mistakenly says 'object' instead of 'individual'.) Let us say that an argument is *non-manifestly valid* if it is valid but not manifestly so.<sup>17</sup>

<sup>17</sup> On Fine's definition of 'manifest consequence' in *Semantic Relationism* (pp. 48–49), every proposition is a "manifest consequence" of any proposition that lacks multiples occurrences of a single individual. Also, the proposition that  $Fb \ \& \ Gb$  is a manifest consequence of the proposition that  $Fa \ \& \ Ga$ , whereas the proposition that  $\exists xFx$  is not. These results clash with Fine's intent. (Fine also offers an explanation of manifest validity in terms of coordination, at p. 136n14.) Here is a possible patch: Say that a proposition  $p'$  is an *occurrence-substitution instance* of a proposition  $p$  if  $p'$  is the result of replacing all individual-occurrences in  $p$  by individual-occurrences (allowing for replacement of distinct occurrences of the same individual—i.e., of co-occurrences—by occurrences of distinct individuals). Where  $K$  and  $K'$  are sets of propositions, say that  $K'$  is an *occurrence-substitution instance* of  $K$  if  $K'$  is a set of occurrence-substitution instances of the elements of  $K$ . Where a set  $K'$  of propositions is an occurrence-substitution instance of  $K$  and a proposition  $p'$  is an occurrence-substitution instance of  $p$ , say that  $\langle p, p' \rangle$  is a *reflection of  $\langle K, K' \rangle$*  if for any individuals  $x$  and  $x'$ , if  $p'$  replaces an occurrence in  $p$  of  $x$  with an occurrence of  $x'$ , then some element of  $K'$  replaces an occurrence of  $x$  in some element of  $K$  with an occurrence of  $x'$ . Then  $p$  is a *manifestly\* valid consequence* of  $K$  if for any occurrence-substitution instance  $K'$  of  $K$  there is an occurrence-substitution instance  $p'$  of  $p$  such that  $\langle p, p' \rangle$  is a reflection of  $\langle K, K' \rangle$  and  $p'$  is a classically valid consequence of  $K'$ . If an argument is manifestly\* valid, then perforce it is classically valid (Thanks to Luke Manning and Max Weiss for discussion).

A stricter notion also comports with the spirit of Fine's view. The inference from the proposition that  $Fx$  to its double denial, that  $\sim \sim Fx$ , is manifestly valid in Fine's sense. Yet Pierre is no more rationally justified in moving from 'Londres is pretty' to 'It is not the case that London is not pretty' than he is in moving from 'If New York is pretty, then Londres is as well' and 'London is not pretty' to 'New York is not pretty'. Let us say that an argument is *recurrence-independently valid* if it is valid and its validity is independent of the recurrence of any single individual—whether among the premises, within the conclusion, or even between a premise and the conclusion. Every recurrence-independently valid argument is manifestly valid, but not vice versa. The argument from the premise that  $Fx$  to that same proposition as conclusion is, like double-negation inference, manifestly valid but only recurrence-dependently valid. (Cf., 'Londres is pretty; therefore London is pretty'.) Insofar as non-manifestly valid arguments are problematic for the Millian, the broader class of recurrence-dependently valid arguments are as well.<sup>18</sup>

Non-manifestly and recurrence-dependently valid arguments (valid arguments whose validity is dependent on the recurrence of a single individual) are commonplace. The inconsistency between some city being pretty and no city being pretty is both recurrence-independent and manifest in Fine's sense, whereas that between London being pretty and London not being pretty is neither. Whereas some instances of *modus ponens* are both recurrence-independently and manifestly valid, any instance in which the conditional's antecedent is a singular proposition involving an individual is neither. As Pierre's case illustrates, in many cases the reasoner must recognize an individual's recurrence among the premises or within the conclusion to be justified in drawing *modus ponens*, *modus tollens*, *modus tollendo ponens*, Leibniz's law, reflexive  $\lambda$ -expansion, reflexive universal instantiation, or reflexive existential generalization—to name a few plainly valid inference rules not all instances of which are either recurrence-independently or manifestly valid. Importantly, although reflexive  $\lambda$ -expansion is valid, application to a singular proposition  $p_{xx}$  in which an individual  $x$  recurs is neither recurrence-independently nor manifestly so. It is precisely for this reason that the standard Millian might hypothesize that the reflexive  $\lambda$ -expander relies upon auxiliary information to justify the deduction.

Let us say that properties  $P$  and  $Q$  are *contradictory* if it is logically true that each thing has either  $P$  or else  $Q$  but not both. Since  $P$  is purely qualitative, it and its complement  $\sim P$  are *manifestly* contradictory in Fine's sense. The proposition that  $x$  has  $F^c \& P \& G^c \& \sim P$  is thereby manifestly inconsistent. The argument from the premises that  $x$  has  $F^c \& P$  and that  $x$  has  $G^c \& \sim P$  to the conclusion that  $x$  has  $F^c \& P \& G^c \& \sim P$ , although trivially valid, is not manifestly valid in Fine's special sense.<sup>19</sup> Given that the auxiliary information  $I$  is correlating information of the sort postulated by the envisioned version of standard Millianism, it cannot supplement the premises to yield a manifest inconsistency (provided that the corresponding propositions that  $y$  has  $F^c \& P$  and that  $z$  has  $G^c \& \sim P$  are consistent with  $I$  where

<sup>18</sup> See the preceding note. Say that an argument is *recurrence-independently valid* if every occurrence-substitution instance of it is classically valid. If an argument is recurrence-independently valid, then perforce it is manifestly\* valid.

<sup>19</sup> Cf. also *Semantic Relationism*, pp. 119–120.



$y \neq z$ ). Whereas the argument from the inconsistent premises that  $x$  has  $F^c \& P$  and that  $x$  has  $G^c \& \sim P$  to  $\perp$  is not manifestly valid, the envisioned version of standard Millianism holds that the reasoner's being in possession of the additional information  $I$  legitimizes the deduction.

Fine's objection, which involves the proof of a theorem, is evidently decisive. But something is amiss. To begin with the purported refutation is peculiar. Fine does not specify what proposition  $I$  is, only that the standard Millian is apparently committed to holding that the reasoner's being in possession of it legitimizes the deduction of the conclusion that  $x$  has  $F \& G$  from the premises that  $Fx$  and that  $Gx$ . Whatever the standard Millian might postulate as legitimizing the deduction, it surely will not be as strong as to entail the conclusion Fine claims to deduce. Independently of the details, it should be taken as given that no premise that entails that conclusion can be legitimately attributed to the standard Millian. Fine's reasoning involves a serious error. Either the deduction is invalid, or else it proceeds from a serious misattribution. The "theorem" is not provable. Furthermore, the alleged hard result is nearly demonstrably false.

The denial of the alleged commitment is perfectly compatible with the standard Millian's overall position. There is a plausible story the envisioned Millian can tell concerning the correlating information  $I$ . Suppose that  $x = \text{the } \phi = \text{the } \psi$ , and that our reasoner,  $A$ , who is unable to deduce that  $x$  has  $F \& G$  by reflexive  $\lambda$ -expansion, comes to believe that  $Fx$  and that  $Gx$  in the following manner:  $A$  believes the singular proposition that  $Fx$  by believing that the  $\phi$  has  $F$ , and by virtue of the fact that  $A$ 's grasp of the concept of *being a unique*  $\phi$  bears an appropriate sort of *de re* connection to  $x$ . Quite independently,  $A$  also believes the singular proposition that  $Gx$  by believing that the  $\psi$  has  $G$ , and by virtue of a *de re* connection to  $x$ .  $A$  comes to believe that  $Fx$  by thinking "That [the  $\phi$ ] has  $F$ ," that  $Gx$  by thinking "This [the  $\psi$ ] has  $G$ ." But  $A$  does not recognize the occurrences of  $x$  within his thoughts.  $A$  correctly infers the singular conjunction that  $Fx \& Gx$ —a belief he apprehends roughly as "That [the  $\phi$ ] has  $F$  and this [the  $\psi$ ] has  $G$ ." Failing to recognize the relevant occurrences of  $x$  as co-occurrences,  $A$  remains unable to perform reflexive  $\lambda$ -expansion on this belief. Let  $I$  be the recognition knowledge that  $A$  gains by learning that the  $\phi = \text{the } \psi$ , while recognizing the relevant occurrences of  $\phi$ -ness and  $\psi$ -ness as also occurring in his beliefs that the  $\phi$  has  $F$  and that the  $\psi$  has  $G$ . He thereby comes to believe that  $x = x$  in a new, revelatory way—as "This [the  $\psi$ ] and that [the  $\phi$ ] are the same thing". With this recognition knowledge now in hand,  $A$  is justified in performing reflexive  $\lambda$ -expansion.  $A$ 's being in possession of the recognition knowledge  $I$ , which he gains by discovering that something is both a unique  $\phi$  and a unique  $\psi$ , legitimizes the deduction. It may be stipulated that in addition to  $x$  there is an individual  $y$  that is like  $x$  in having  $F^c \& G^c$  but is purely qualitatively unlike  $x$  in some other respect. Clearly in this case  $A$ 's learning  $I$  does not license  $A$  to deduce that  $x$  is purely qualitatively indiscernible from any individual that has  $F^c \& G^c$ .

Even if this plausible story does not give a correct account, its mere coherence suffices to demonstrate that the situation Fine claims to have proved does not in fact obtain. To take a familiar example, Pierre believes of London, *de re*, that it is pretty by believing that the city called 'Londres' is pretty, and by virtue of the *de re* connection to London. Later he comes to believe of London that it is a capital, by

virtue of believing that the city called ‘London’ is a capital, and by virtue of the *de re* connection.<sup>20</sup> Pierre infers that, as he puts it in Frenglish (French-English “word salad”), “*Londres est jolie*; and London is a capital.” Let *I* be the recognition information Pierre would gain by discovering that the cities called ‘*Londres*’ and ‘London’ are one and the same, while recognizing this fact in an appropriate manner (recognizing the separate occurrences of the same concepts between the discovery and his pre-existing beliefs). This is the recognition knowledge that Pierre would manifest in uttering ‘*Sacrebleu! Londres est Londres*’. Once Pierre learns *I* he is justified in deducing that London is a pretty capital. In so doing, he does not draw upon any misinformation. Unless he is quite the careless fellow, Pierre will not deduce from his recognition of London the unjustified conclusion that London is purely qualitatively indiscernible from any other pretty capital. His drawing this conclusion would cast serious doubt on his logical acumen.

Where exactly does Fine’s “proof” go wrong? It is a meta-logical argument that there exists a legitimized deduction for the following object-theoretic argument:

$$I \therefore \forall \text{purely-qualitativeP} (\exists x[F^c x \ \& \ G^c x \ \& \ Px] \supset \forall x[F^c x \ \& \ G^c x \ \supset \ Px]).$$

The implicit object-theoretic deduction is obtained by working backward through Fine’s meta-proof. Below with several gaps filled in is an abridged version.

|     |  |  |
|-----|--|--|
| 1.  | <i>I</i>   | Premise  |
| 2.  | <i>Show:</i> $\forall \text{purely-qualitativeP} (\exists x[F^c x \ \& \ G^c x \ \& \ Px] \supset \forall x[F^c x \ \& \ G^c x \ \supset \ Px])$ |  |
| 3.  | <i>  Show:</i> $\exists x[F^c x \ \& \ G^c x \ \& \ Px] \supset \forall x[F^c x \ \& \ G^c x \ \supset \ Px]$                                    |  |
| 4.  | <i>  </i> $\exists x[F^c x \ \& \ G^c x \ \& \ Px]$  | Conditional-proof assumption   |
| 5.  | <i>   Show:</i> $\forall x[F^c x \ \& \ G^c x \ \supset \ Px]$   |  |
| 6.  | <i>   </i> $\sim \forall x[F^c x \ \& \ G^c x \ \supset \ Px]$   | <i>Reductio ad absurdum</i> assumption                                     |
| 7.  | <i>   </i> $\exists x[F^c x \ \& \ G^c x \ \& \ \sim Px]$  | 6, Manifest logic  |
| 8.  | <i>   </i> $\exists x[F^c x \ \& \ Px]$  | 4, Manifest logic  |
| 9.  | <i>   </i> $\exists x[G^c x \ \& \ \sim Px]$   | 7, Manifest logic  |
| 10. | <i>   </i> $\lambda z[F^c z \ \& \ Pz]x$   | 8, $\lambda$ -Intro, $\exists$ -Elim/ <i>x</i>                             |
| 11. | <i>   </i> $\lambda z[G^c z \ \& \ \sim Pz]x$  | 9, $\lambda$ -Intro, $\exists$ -Elim/ <i>y</i> , 10, 1, Manifest logic     |
| 12. | <i>   </i> $\lambda z[F^c z \ \& \ Pz \ \& \ G^c z \ \& \ \sim Pz]x$   | 10, $\lambda$ -Elim, 11, $\lambda$ -Elim, $\&$ -Intro, 1, $\lambda$ -Intro |
| 13. | <i>   </i> $\lambda z[Pz \ \& \ \sim Pz]x$   | 12, Manifest logic   |
| 14. | <i>   </i> $\perp$   | 13, $\lambda$ -Elim, $\perp$ -Intro  |
| 15. | <i>  </i> $\forall x[F^c x \ \& \ G^c x \ \supset \ Px]$   | 6–14, <i>reductio ad absurdum</i> (discharge 6)                            |
| 16. | <i> </i> $\exists x[F^c x \ \& \ G^c x \ \& \ Px] \supset \forall x[F^c x \ \& \ G^c x \ \supset \ Px]$  | 4–15, conditional proof (discharge 4)                                      |
| 17. | $\forall \text{purely-qualitativeP} (\exists x[F^c x \ \& \ G^c x \ \& \ Px] \supset \forall x[F^c x \ \& \ G^c x \ \supset \ Px])$              | 3–16, $\forall$ -Intro   |

<sup>20</sup> The description “the city called ‘*Londres*’” may be replaced with ‘the city called by a name that may be transcribed using a sequence of geometric figures of the sort ...’ to be filled in by a purely qualitative characterization of the sequence of geometric figures (<‘L’, ‘o’, ‘n’, ‘d’, ‘r’, ‘e’, ‘s’>); similarly *mutatis mutandis* with regard to the description “the city called ‘London’”. The replacement descriptions might be thoroughly descriptonal.

All of the steps other than line 12 are allegedly manifestly correct. In particular, since  $P$  is a purely qualitative property,  $P \& \sim P$  is manifestly contradictory, making the deduction of 14 from 13 manifestly valid. The deduction of 12 from 10 and 11 involves reflexive  $\lambda$ -expansion. While the entailment is not manifestly valid, the reasoner's being in possession of the premise  $I$  legitimizes it. For that reason line 1 is cited in the justification column.

Fine apparently reasons that since the proposition that  $x$  has  $P \& \sim P$  is manifestly inconsistent, according to standard Millianism, in the presence of legitimizing information one is justified in deducing a contradiction from the purely qualitative propositions that  $\exists x(F^c x \& Px)$  and that  $\exists x(G^c x \& \sim Px)$  (lines 8–14). On the contrary, given that  $I$  is correlating information of the sort postulated by the envisioned version of standard Millianism, those purely qualitative propositions are perfectly consistent with  $I$  provided that each is self-consistent. Specifically, given that  $I$  is information of the sort postulated by the envisioned version of standard Millianism, line 11 cannot be legitimate. The error appears exactly where Fine writes that “since the inference to  $\perp$  is *manifestly* valid, the thinker is justified in inferring  $\perp$  from  $I$ ,  $\exists x(F^c x \& Px)$  and  $\exists x(G^c x \& \sim Px)$ ”. Which “inference to  $\perp$ ” does Fine mean? Does he mean the deduction of  $\perp$  from  $\{I, \text{that } x \text{ has } F \& P, \text{ that } x \text{ has } G \& \sim P\}$ ? Does he mean instead the deduction from  $\{I, \text{that } x \text{ has } F^c \& P, \text{ that } x \text{ has } G^c \& \sim P\}$ ? Does he mean instead that from  $\{I, \text{that } \exists x(F^c x \& Px), \text{ that } \exists x(G^c x \& \sim Px)\}$ ? Or does he mean that from  $\{\text{that } x \text{ has } F \& P \& G \& \sim P\}$ ? The text is unclear. Assuming that  $I$  is correlating information of the sort posited by the envisioned version of standard Millianism, and not sweeping misinformation, neither the first, second, nor third deduction of  $\perp$  is manifestly valid (see note 17 above). The first and second deductions, although valid, are not manifestly so. Rather,  $I$  merely legitimizes the non-manifestly valid deduction of  $\perp$ . The third deduction is not even valid, let alone manifestly so. Only the fourth deduction is manifestly valid, but it leaves line 11 in the lurch. In any event, the mere coherence of the Millian story told above gives the lie to Fine's remark that the reasoner would be justified in deducing  $\perp$  from  $I$ ,  $\exists x(F^c x \& Px)$ , and  $\exists x(G^c x \& \sim Px)$ . Where  $I$  is the postulated recognition information, that argument is not even valid, let alone legitimized.<sup>21</sup>

Line 11 of the implicit deduction constitutes a fatal error. Unlike the singular propositions that  $\lambda z[F^c z \& Pz]_x$  and that  $\lambda z[G^c z \& \sim Pz]_x$  (lines 10 and 11), which are indeed inconsistent, the propositions that  $\exists x(F^c x \& Px)$  and that  $\exists x(G^c x \& \sim Px)$  (lines 8 and 9) are perfectly consistent with  $I$  provided that each is self-consistent (given that  $I$  is merely correlating information of the sort postulated). Indeed, the propositions that  $\exists x(Fx \& Px)$  and that  $\exists x(Gx \& \sim Px)$ , which invoke  $F$  and  $G$  in place of their ramsified generalizations, are also perfectly consistent with  $I$  if each is self-consistent. The failure of Fine's “proof” on the proposed interpretation of his use of ‘the existential generalization of a property’ might be taken to discredit that interpretation. However, no interpretation that is at least minimally plausible can justify the fatal step. Whatever property  $F^c$  might be, presumably it is in some sense

<sup>21</sup> Even the expanded premise-set  $\{x = \text{the } \phi; y = \text{the } \psi; \text{the } \phi = \text{the } \psi; \text{the } \phi \text{ has } F; \text{the } \psi \text{ has } G; \exists x(F^c x \& Px); \exists x(G^c x \& \sim Px)\}$  is perfectly consistent.

an existential consequence of  $F$  that is in no case stronger than  $F$  itself. No information  $I$  that legitimizes the deduction of ' $\lambda z[Fz \ \& \ Gz]x$ ' from ' $Fx$ ' and ' $Gx$ ', without also justifying anything that does not follow classical-logically from ' $Fx$ ' and ' $Gx$ ', justifies the deduction of a contradiction from the propositions that  $\exists x(F^e x \ \& \ G^e x \ \& \ Px)$  and that  $\exists x(F^e x \ \& \ G^e x \ \& \ \sim Px)$ , whatever purely qualitative properties  $F^e$  and  $G^e$  might be, as long as each of the two propositions is itself logically consistent. For the two propositions are then also perfectly consistent with each other. In particular, it will hardly cause standard Millians great concern when we realize that on our view, one who legitimately deduces that Cicero is a Roman orator may also legitimately deduce that Cicero has the purely qualitative property of being an orator from somewhere. The standard Millian who wishes to maintain that one might be able to perform this deduction without being able to distinguish Cicero purely qualitatively from other Roman orators is not ipso facto in jeopardy of self-contradiction.

The function of  $I$  in the envisioned Millian program is to legitimize non-manifestly valid reasoning. The reasoner's being in possession of  $I$  allegedly legitimizes the non-manifestly valid deduction of line 12 from 10 and 11. The information is not invoked to validate the argument. Line 12 follows from 10 and 11 with no assistance from  $I$ . However, the same information  $I$  is conscripted to take on the role of a weight-bearing premise in the deduction of line 11 itself. That weight is far heavier than  $I$  was designed to bear. The information  $I$  is utterly unsuited to its new role.

What is the thought behind the apparently fallacious move in Fine's deduction? The argument rests on both a serious misunderstanding of the standard Millian position and a gratuitous and highly dubious form of skepticism concerning cognition and recognition. Fine presupposes that there is only one plausible hypothesis to which the standard Millianism can appeal to deal with the fact that we are routinely rationally justified in performing non-manifestly valid deductions like reflexive  $\lambda$ -expansion, and that is to deny it. Non-manifestly valid reasoning, he believes, is simply un-legitimizable except by semantic coordination. In particular, he believes that correlating knowledge does not suffice to legitimize non-manifestly valid reasoning, presumably because instead of reducing recurrence, correlating information ("In the premise  $p_{xy}$ , this  $x$  and this  $y$  are the same individual") merely introduces more recurrence, which must now be semantically coordinated as well. Fine introduces  $I$  saying, "The natural hypothesis—and the only one to which it would appear that the standard [Millian] can appeal—is that we are in possession of some further information  $I$  and that this information, along with the given premises, justifies us in inferring the desired conclusion" of an application of reflexive  $\lambda$ -expansion. It cannot be extrapolated from this that  $I$  is information of the sort Fine attempts to prove it is. Instead he assumes, without argument and with no notification, that the standard Millian is apparently committed to holding that all rationally justified reasoning is manifestly valid in his sense, so that insofar as possession of  $I$  legitimizes the deduction of the conclusion that  $x$  has  $F\&G$  from the premises that  $Fx$  and that  $Gx$ , it does so *not by correlating the relevant occurrences, but instead by manifestly-validating the argument*, in the sense that augmenting the original premise-set with  $I$  allows for every step in the deduction to be manifestly

valid. That is, Fine tacitly assumes that the natural hypothesis, and the only hypothesis to which it appears the standard Millian can appeal, is that since non-manifestly valid reasoning is not rationally justified, the further information  $I$ , possession of which legitimizes the deduction that  $x$  has F&G, functions as a third premise which supplements the premises that  $Fx$  and that  $Gx$  to yield a new and manifestly valid argument.<sup>22</sup>

The implicit deduction reveals that Fine's assumption has the consequence that the envisioned standard Millian is apparently committed to holding that the legitimizing information  $I$  is at least as strong as the following:

$I_F$ : If some individual has G, then any individual that has F also has G; more generally if some individual has G, then any individual that has F is purely qualitatively indiscernible from any individual that has G.

Nothing weaker than this will suffice. Taking  $I$  to be  $I_F$  is precisely what would be required to manifestly-validate the deduction. Letting  $F$  in  $I_F$  be  $F^c \& P$  and  $G$  be  $G^c$  renders the otherwise non-manifestly valid deduction of line 12 manifestly valid. It also renders the otherwise fallacious deduction of line 11 not only valid but manifestly so. The following transposition of  $I_F$  would do instead:

$I'_F$ : If some individual has F, then any individual that has G also has F, and moreover is purely qualitatively indiscernible from any individual that has F.

In effect, Fine tacitly assumes that either  $I$  entails  $I_F$  or else  $I$  entails  $I'_F$ .

More generally, Fine evidently takes it without argument that the standard Millian apparently must hold that because we sometimes fail to recognize individuals, if we learn that  $xRx$  (e.g., that Cicero loves Cicero), we cannot be rationally justified in taking the two occurrences of  $x$  as co-occurrences, and furthermore if we are to be justified in deducing that  $x$  is something that bears  $R$  to itself we do so only on the basis of a general further premise to the effect that *any* individual that bears  $R$  to some individual or other (or to which some individual or other bears  $R$ ), bears  $R$  to itself, and moreover is purely qualitatively indiscernible from any individual to which it bears  $R$  (that bears  $R$  to it).<sup>23</sup> Fine's reconfiguration of the envisioned standard Millian's  $I$  would have it that if there are orators then all Romans are orators (or else that if there are Romans then all orators are Romans).

<sup>22</sup> Special thanks to Teresa Robertson and Nathaniel Tabris for discussion of this point. Tabris first suggested to me that Fine might be assuming that in order for  $I$  to legitimize applications of the relevant instances of reflexive  $\lambda$ -abstraction, they must be replaced with arguments that invoke  $I$  as a premise and are manifestly valid in Fine's sense. Fine has confirmed (comments) that Tabris's suggested interpretation is correct. I had dismissed Tabris's suggestion at the time because it seemed a poor fit with the text, excessively speculative, and even uncharitable. As I shall argue, the proposed interpretation has Fine tacitly and gratuitously attributing to standard Millianism a thesis incompatible with it, or at least completely contrary to its spirit, and then refuting the straw-man theory by deriving from the fabricated thesis a consequence completely contrary to the spirit of Millianism.

<sup>23</sup> The first conjunct expresses that  $R$  is quasi-reflexive, e.g., that anyone who loves is narcissistic. In the general case, Fine tacitly assumes that the natural hypothesis, and apparently the only hypothesis to which the standard Millian can appeal, is that the reasoner who appears to perform reflexive  $\lambda$ -expansion on  $p_{xx}$ , if rationally justified, does not in fact do so, and instead is in possession of information either entailing that for any individual  $y$ , if  $p_{yz}$  is true for some individual  $z$  then  $p_{yy}$  is also true, or else entailing that for any  $y$ , if  $p_{zy}$  is true for some  $z$  then  $p_{yy}$  is also true.

This consequence is quite bad enough, but  $I_F$  is a good deal worse, worse even than the conclusion Fine deduces from it. Fine's  $I_F$  has it that if there are orators then every Roman is purely qualitatively indiscernible from any orator. Fine writes that "this further information [ $I$ ] will also justify us in 'putting together' the information from the two premises when the properties F and G in question are strengthened in a purely qualitative way. Thus the further information will justify us in deducing the conclusion that  $x$  has the property F & P & G & Q from the premises that  $x$  has the property F & P and  $x$  has the property G & Q, no matter what the purely qualitative properties P and Q might be" (p. 82). This seems to suggest that the extension to purely qualitative expansions of F and G is supported by the application to F and G themselves, and this seems to acknowledge that  $I$  is indeed correlating information of the very sort the envisioned standard Millian might postulate. But the second conjunct of  $I_F$  is not supported by the first and goes well beyond mere correlating information. It is true only when G is  $x$ 's entire purely qualitative profile. If Fine's tacit assumptions were correct, legitimization would preclude the very possibility of gaining the knowledge that Cicero is a Roman orator on the basis of both his being Roman and his being an orator.

It is one thing to demand an explanation of the Millian how recurrence-dependently valid reasoning is justified. It is another to depict the standard Millian as forgoing all non-manifestly valid reasoning. Millians generally take it as given that those who draw non-manifestly valid inferences are typically and usually justified. The standard Millian allows, indeed insists, that we are routinely rationally justified in performing every manner of recurrence-dependently valid deductions—including reflexive  $\lambda$ -expansion, reflexive existential generalization, reflexive universal instantiation, Leibniz's law, non-manifestly valid instances of *modus ponens*, *modus tollens*, and *modus tollendo ponens*, recurrence-dependently valid instances of adjunction, detachment, double negation, and more. It is no part of the Millian agenda to challenge the reasoning behind any valid argument as rationally unjustified—whether the validity is manifest, recurrence-independent, or neither. In considering the question of how it is that we are rationally justified in deducing that Cicero is a Roman orator from the premises that he is Roman and that he is an orator, I for one would not for a moment have supposed that we draw upon a further premise, let alone a premise so strong that the new deduction is manifestly valid. Asked to explain how we accomplish reflexive  $\lambda$ -expansion, no self-respecting standard Millian would be tempted to propose that we only simulate doing so and that we fall back on a third premise as strong as  $I_F$  or  $I'_F$ . The standard Millian acknowledges that in failing to recognize an individual we also fail to recognize singular propositions involving that individual, as Pierre fails to recognize London and thereby fails to recognize the proposition that London is pretty. Recurrence-dependently valid reasoning is justified only insofar as the reasoner recognizes the recurrence. There is no oddity here; even manifestly valid inferences require recognition of recurring objects of some sort (e.g., non-singular propositions) in order to be justified. Fine evidently assumes that unless coordination is a semantic feature of arguments, the fact that we occasionally fail to recognize individuals (apparently) renders all non-manifestly valid reasoning directly involving

individuals rationally unjustified. The fact that under somewhat peculiar circumstances, like Pierre's, we are not justified in performing a particular deduction is no reason to suppose that unless our ability to recognize individuals is somehow semantically codified in the very thoughts we think, we are never justified under any humanly possible circumstances. Furthermore, if the mere fact of our ability to recognize does not solve the alleged skeptical problem, it is unclear how building recognition into propositions and semantics does any better. Fine's tacit skeptical assumptions are analogous to the claim that for the philosopher who maintains that we perceive external objects only indirectly by directly perceiving sense data, the only possible hypothesis concerning how we perceive an apple indirectly is that we do not, we perceive only sense data, and the apple is sense data.<sup>24</sup>

Insofar as Fine's purported proof depends on  $I$ 's entailing either  $I_F$  or  $I'_F$ , he owes a compelling argument. That debt is a very heavy burden. By stipulation, the *raison d'être* of  $I$  is not to render a non-manifest argument manifest—typically a mission impossible for correct information—but merely to supplement the premises that  $Fx$  and that  $Gx$  to open the reasoner's eyes to the recurrence of  $x$ , thereby legitimizing the application of reflexive  $\lambda$ -expansion. The legitimizing information  $I$  is supposed to be correct correlating information of a sort that typical bilingual speakers like Jacques Cousteau know with regard to London but Pierre does not know, information that Pierre would gain if he were to learn that the cities called 'London' and 'Londres' are one and the same. By contrast, both  $I_F$  and  $I'_F$  are typically misinformation. It is evident in fact that  $I$  typically cannot be nearly as strong as  $I_F$ . The former is correct information concerning co-occurrences of  $x$  in the premises that  $Fx$  and that  $Gx$ ; the latter is typically misinformation concerning  $F$  and  $G$  and is entirely unconcerned with the occurrences of  $x$ . Fine's tacit assumption is incompatible with the standard Millian's supposed postulation of  $I$ .

If a compelling argument can be made in support of Fine's skeptical assumptions, that argument will overshadow Fine's "theorem" as a central consideration. If there were a persuasive argument that shows that the envisioned version of standard Millianism cannot accommodate non-manifestly valid reasoning, and must instead postulate an auxiliary premise that is obvious misinformation, that argument would render the purported proof an idle wheel. Standard Millianism would be refuted by its apparent commitment to the impossibility of gaining knowledge by non-manifestly valid reasoning. Fine provides no such argument. Pending payment of debt, Fine's "proof" works far better as a *reductio* of his tacit assumption than as a

<sup>24</sup> Two pages before presenting his objection Fine says that the standard Millian "must work with a conception of propositional knowledge that is closed under manifest rather than classical consequence" (pp. 80–81). It should be noted that no notion of proposition knowledge is closed under logical consequence, manifest or classical. If knowledge were closed under logical consequence, mathematicians could never discover any new theorems. More to the point, recurrence-dependently valid inferences require recognition on the part of the reasoner of a recurring individual in order to be justified, but this does not have the consequence that only manifestly valid inferences are justified.

Fine maintains that the burden of proof is not on him to justify his tacit assumptions, but on me to show that the assumptions are unjustified (comments). I leave it to the reader to adjudicate this issue.



disproof of standard Millianism, other than of a straw-man version. Standard Millianism does not collapse; Fine's attempt to disprove it does.<sup>25</sup>

Thirty-five years ago Kripke delivered a powerful "methodological sermon":

Logical investigations can obviously be a useful tool for philosophy. They must, however, be informed by a sensitivity to the philosophical significance of the formalism and by a generous admixture of common sense, as well as a thorough understanding both of the basic concepts and of the technical details of the formal material used. It should not be supposed that the formalism can grind out philosophical results in a manner beyond the capacity of ordinary philosophical reasoning. There is no mathematical substitute for philosophy. (1976a, at p. 416)

Skillful footwork, meticulous and painstaking thought, and philosophical common sense must work together, all in the service of the uncompromising search for truth. A very capable defender of common sense, Fine certainly does not lack logical acumen. It is a relief to be reminded that even the best among us occasionally commit a serious error. This is all the more reason that a claimed hard result, especially if suspicious, must not be accepted unchecked, lest the noble search be derailed.

### 3 Cognition and recognition

The envisioned Millian story told above invokes an important phenomenon, that of recognition. Recognition is a crucial component of the standard Millian account of cognition.<sup>26</sup> I am tempted to coin a slogan: "No cognition without recognition." This may be an exaggeration, but only slight as far as slogans go. According to standard Millianism, if there is cognition without recognition, there is precious little of it. The recognition in question is recognition on the part of the agent. It is not the sentences 'London is pretty' and 'London is a capital' that coordinate the relevant occurrences of 'London' as a matter of their semantics. It is the speaker who coordinates, or fails to coordinate, in processing those and other sentences. Cousteau

<sup>25</sup> Fine says that on his account, "given the appropriate coordination, the content of the argument *as a whole* has a form that renders it manifestly valid" (comments). The coordinated argument—'Fx; Gx ∴ x has F&G' together with a coordination scheme that "represents x as the same" in the two premises—is indeed valid (cf. *Semantic Relationism*, p. 136n14). However, reflexive  $\lambda$ -expansion is not manifestly valid according to Fine's definition (pp. 48–49). Nor is it manifestly valid according to the patch suggested in note 17 above, or according to Fine's explanation in terms of coordination (p. 136n14). Let C be a scheme that coordinates the two occurrences of 'x' in the premises. If the argument *as a whole* is manifestly valid, as Fine asserts, then does invoking C in lieu of I at line 11 validate the deduction *as a whole*? (see note 7). Fine's remarks might even be modified accordingly: "Since the inference to  $\perp$  [together with C, *as a whole*] is manifestly valid, the thinker is justified in inferring  $\perp$  from  $\exists x(F^c x \ \& \ Px)$  and  $\exists x(G^c x \ \& \ \sim Px)$  [together with C, *as a whole*]." If so, then Fine's version of Millianism faces the very problem he misattributes to standard Millianism. Be that as it may, as regards Fine's argument, his own alternative to standard Millianism fares no better.

<sup>26</sup> Cf. *Frege's Puzzle* (Atascadero, CA.: Ridgeview, 1986, 1991), at pp. 103–118. See also note 7 above.

correctly takes occurrences of 'Londres' and 'London' as co-occurrences. He recognizes the city so-named where Pierre does not.

That the envisioned Millian's story gives central importance to recognition sheds some light on the role of the correlating information *I*. Fine holds that apparently the only natural hypothesis the standard Millian can offer to accommodate our apparent ability to perform reflexive  $\lambda$ -expansion on the singular proposition  $p_{xx}$  is that reflexive  $\lambda$ -expansion is not rationally justified and instead the reasoner employs an additional premise *I* making for a manifestly valid argument (see note 23 above). Fine's proposed hypothesis is anything but natural. Far more natural is the hypothesis that the reasoner performs reflexive  $\lambda$ -expansion while relying on correlating information *I* to the effect that the occurrences of *x* in  $p_{xx}$  are co-occurrences—in effect, the information that in  $p_{xx}$ , *those things*, *x* here and *x* there, are the same.

Even this hypothesis is unnatural. Consider again Pierre's inability to deduce that London is a pretty capital from the propositions that London is pretty and that London is a capital. It may seem initially that all he needs is a further premise concerning both *Londres* and London that they are the same. But if this information is given in English by 'London is London', or in French by '*Londres est Londres*', it is completely ineffective. What Pierre needs is for the additional information to be given in Frenglish by '*Londres is London*'. Once he is given this completely trivial information in this nontrivial way, Pierre is justified in deducing that London is a pretty capital. It is not so much further information in the form of a proposition that Pierre lacks as much as it is a particular way of processing this proposition. But of course, if the original propositions that London is pretty and that London is a capital had been optimally formulated to begin with (for example, by those very words), no additional information would be needed at all. Pierre does not lack logical acumen, but neither does he lack propositional information as such. What he lacks is a revelatory manner of understanding '*Londres est jolie*' together with 'London is a capital'. He lacks recognition.

The revelatory manner of understanding might be construed as, in some sense, further information. But if so, it is "information" of a very particular sort, not a proposition, much more like *knowledge which* than *knowledge that*. It is the non-propositional recognition knowledge (or if not knowledge at least justified and correct *taking as*) that is imparted to Pierre by the Frenglish sentence, 'London is *Londres*', but not by either the English 'London is London' or the French '*Londres est Londres*'—all three of which semantically express exactly the same proposition. What rationally justifies recurrence-dependent reasoning is not possession of a further premise, but recognition of the relevant recurrence. That is to say, the legitimizing *I* which Fine dismisses in his failed "proof"—the object of awareness in recognition—is, in effect, the very "coordination" that his own theory limns. As Fine insists, this is not itself a proposition, not a further premise. Contrary to Fine, neither is it a semantic feature that is built into the proposition that London is pretty and London is a capital. It is the recognition knowledge that Cousteau has and Pierre lacks. It is the trivial proposition that London is London *apprehended in a revelatory manner*, as "This city [London] is *that* city [*Londres*]."

I have argued that in order to be rationally justified in performing deductions like reflexive  $\lambda$ -expansion from propositions in which a single component recurs, a thinker needs to recognize the recurring component, taking it as the same thing. More generally, there is a ternary relation, *BEL*, such that a thinker *A* believes a proposition *p* if and only if there is some third entity *x*, which is perhaps something like a particular *manner of taking* a proposition, such that *A* grasps *p* by means of *x* and *BEL*(*A*, *p*, *x*).<sup>27</sup> I did not characterize exactly what sort of things serve as third relatum of the *BEL* relation, except that (i) they are crucial to reasoning with recurrent proposition components, and (ii) they must satisfy the condition that if a rational cognizer *A* takes propositions *p* and *q* as distinct, or even merely withholds taking them as the same, then there are distinct entities *x* and *y* such that *A* grasps *p* by means of *x* and *A* grasps *q* by means of *y*—even if in fact *p* = *q*.<sup>28</sup> Given Fine's characterization of his notion of coordination, a coordination scheme (or a web of inter-coordinated propositions, etc.) is a candidate for being the things that serve as third relatum of the *BEL* relation.<sup>29</sup>

The conclusion that Fine's version of Millianism is simply a more specific variant of my own is unwarranted. I conceive of coordination decidedly differently from Fine, sufficiently differently that they might be regarded as different notions. Foremost, Fine is resolute that coordination between expression occurrences is fundamentally a semantic phenomenon (p. 40). I see coordination, whether within a single sentence or across a web of sentences, as fundamentally pragmatic/epistemic and non-semantic. Coordination of the sort that legitimizes recurrence-dependent reasoning is not something semantically built into a proposition, or a network of propositions, independently of those who apprehend. This difference is reflected in the fact that Fine sees coordination as a binary relation—between expression occurrences, for example, or between proposition-component occurrences—whereas I regard it as involving an additional argument place for a cognizer (and another for an occasion). Occurrences do not semantically indicate that they are represented as co-occurrences; they are silent on the issue. Cognizers on occasions recognize occurrences as co-occurrences (or fail to do so).

Typically, when occurrences of the same name represent their objects *as the same*, Fine writes, “it is somehow part of how the names represent their objects that the objects should be the same.” He continues,

... a good test of when an object is represented as the same is in terms of whether one might sensibly raise the question of whether it *is* the same. An object is represented as the same in a piece of discourse only if no one who

<sup>27</sup> See the preceding note.

<sup>28</sup> Frege's Puzzle, pp. 119–121; Salmon (1989a, at p. 1040).

<sup>29</sup> Fine rejects this suggestion (comments). He says that if we suppose that Pierre grasps the proposition that London is pretty by means of different guises, we can hardly think of these guises as coordination schemes because they are not connected. I would have thought that it is essential to the nature of coordination schemes that one coordination scheme *s* might positively coordinate distinct occurrences, *x*-on-occasion-*o* and *y*-on-occasion-*o'*, while another scheme *s'* negatively coordinates *x*-on-*o* and *y*-on-*o'*. Cousteau might positively coordinate any relevant occurrence (on an occasion) of 'London is pretty' with any relevant occurrence of '*Londres est jolie*', while Pierre negatively coordinates any occurrence of the first sort with any occurrence of the second.

understands the discourse can sensibly raise the question of whether it is the same. Suppose you say “Cicero is an orator” and later say “Cicero was honest,” intending to make the very same use of the name “Cicero.” Then anyone who raises the question of whether the reference was the same would thereby betray his lack of understanding of what you meant. (*Semantic Relationism*, pp. 39–40)

A distinction must be drawn between a *generic* expression, which is an expression-form in abstraction from any particular use, and what I call a *specific* expression, which is use-loaded and good to go. The terminology is meant to suggest the distinction between *genus* and *species*.<sup>30</sup> A generic expression may be ambiguous, yielding distinct disambiguated specific expressions, which are homonymous. Karl Marx and Groucho Marx share the same generic surname. The disambiguated use of ‘Marx’ for the iconic political philosopher is a specific name,  $Marx_1$ ; the disambiguated use for the iconic funny man is a different specific name,  $Marx_2$ . An ambiguous generic expression generally has one meaning on (or with respect to) some occasions of utterance, another meaning on others. In philosophical discussion, where the matter is otherwise underdetermined the presumption is more natural that what is at issue is a specific expression rather than generic. Fine has confirmed (comments) that clearly what is at issue in his test is not understanding a string of generic sentences on an utterance-occasion, but understanding a specific piece of discourse.

Formulated more completely, Fine’s proposed test is this:

Where  $\phi_{\alpha\beta}$  is a specific piece of discourse (string of specific sentences) that is uttered on a particular occasion  $o$ , and in which stands an occurrence  $x$  of a term  $\alpha$  and an occurrence  $y$  of a co-designating term  $\beta$ , if  $x$  and  $y$  are *coordinated* on  $o$ , then any auditor who understands  $\phi_{\alpha\beta}$  thereby knows that  $x$  and  $y$  are co-occurrences on  $o$ .

Presumably the rationale is that insofar as coordination—representation as the same—is a semantic feature of pieces of discourse, an auditor who knows what is expressed on an utterance-occasion will thereby know concerning any coordinated expression occurrences that they are co-occurrences. Indeed, Fine’s thesis that coordination is a semantic phenomenon rather than pragmatic is virtually committed to the proposed test. Strictly speaking, the proposal is not a *test* in a formal sense. It provides an alleged necessary condition on coordination, not a sufficient condition. If it is correct, then determining that the necessary condition fails to obtain supports a hypothesis of non-coordination, whereas determining that the necessary condition obtains does not support any hypothesis.<sup>31</sup>

<sup>30</sup> Cf. Kaplan, “Words,” *loc. cit.*, note 1 above. I believe by ‘common-currency expression’ Kaplan means a specific expression.

<sup>31</sup> Matthew Griffin suggests that Fine’s proposal might be expanded to provide a necessary and sufficient condition in cases where the auditor understands the discourse, but not more generally. For example, Fine might be prepared to say that if an auditor understands  $\phi_{\alpha\beta}$  on  $o$ , then  $x$  and  $y$  are coordinated on  $o$  iff the auditor knows by his/her understanding of  $\phi_{\alpha\beta}$  that  $x$  and  $y$  are co-occurrences on  $o$ .

The case that Fine offers in support of his “test” provides none. Suppose that the auditor in Fine’s example knows of two men each designated by the generic name ‘Cicero’, generating two specific names—e.g., *Cicero*<sub>1</sub> for the Roman orator, and *Cicero*<sub>2</sub> for the notorious spy, Elyesa Bazna—either of whom, or both, might be under discussion. The auditor’s failure to “understand what was meant” has nothing to do with semantics or linguistic competence. It also has very little to do with re-identification; the auditor would be confused in much the same way even if he had not heard the first utterance at all. The auditor’s confusion is due simply to the lexical ambiguity of the generic name—the same sort of confusion that one experiences with the utterance of a lexically ambiguous generic sentence like ‘There was an odd number of absences’ or ‘Jones went to the bank’. The failure to which Fine draws attention is not one of correctly identifying which disambiguated (which specific) expression an occurrence is of while not understanding that expression. Rather it is one of not identifying the salient (specific) expression in the first place—or, if one prefers, one of not identifying whether the generic-name occurrences correspond, on the occasion in question, to occurrences of the same disambiguated name or instead of homonyms. The failure to “understand” is not ignorance of the content expressed. It is more like a situation in which an auditor cannot make out which word was uttered because of poor acoustics, an illegible handwriting, or a dropped wireless telephone call. The failure stands in stark contrast to the genuinely semantic ignorance of the entirely separate auditor who knows of no one by the name ‘Cicero’. That two occurrences are of the same expression with the same use is not a matter of semantics proper. What Fine’s auditor does not know is something pre-semantic, something one needs to know in advance in order to apply the semantics. The problem is not that the auditor fails to understand the expressions. The auditor does not yet know what disambiguated expressions are on offer for semantic evaluation. He does not interpret the specific discourse while missing the intended identification. Rather he awaits information that one needs in order to attempt interpretation.<sup>32</sup>

<sup>32</sup> Later in *Semantic Relationism*, again discussing the phenomenon of distinct individuals with the same generic name, he says that “it will be convenient to think of coordination not as a relation between tokens of a name but between what one might call *individual uses* of a name. Thus Peter, whose use of the name is fractured, will have two individual uses of the name ‘Paderewski,’ while we, whose use is unfractured, will have one individual use of the name.” Furthermore, in cases of intra-idiolect interpretation “any failure of the speaker to see two names that are in fact the same as the same should be attributable to a deficiency in his attempt to apply the semantics of the language [idiolect] rather than to a deficiency in the semantics itself” (pp. 108–109; see note 7 above). Knowing of two men by the generic name ‘Cicero’ and asking whether the two occurrences of ‘Cicero’ as used co-designate, the auditor is unaware that the occurrences were given the same “individual use.” In that sense, the auditor is ignorant of the pre-semantic fact that, as used, both occurrences are of the same disambiguated name. He does not interpret while missing the intended identification; he wishes to know what specific expressions are to be interpreted.

Fine contrasts ignorance of intra-idiolect coordination, evidently wherein such ignorance is pre-semantic, with ignorance of inter-idiolect coordination. However, both types are in this respect completely on a par: Ignorance concerning an occurrence of a generic expression, of what specific expression it is an occurrence of on a given utterance-occasion, is pre-semantic. (As he sets it up, Fine’s test case is in fact intra-idiolect. It can also be modified into a case in which the two relevant uses of ‘Cicero’ were made by the auditor himself, now not remembering which use he made in one of the two occurrences. “Was it *Cicero*<sub>1</sub>? Or *Cicero*<sub>2</sub>?”).

Although Fine's observation does not provide an actual test of coordination, it does provide a test of his contention that coordination is semantic. Let the discourse  $\phi_{\alpha\beta}$  consist of the sentences '*Londres est jolie*' and 'London is a capital', and suppose it is uttered on occasion  $o$  by Jacques Cousteau with the intention that the occurrence  $x$  of '*Londres*' and the occurrence  $y$  of 'London' be co-occurrences of names of London, England (and not, for example, of London, Ontario). Those occurrences are then coordinated on  $o$ . Pierre does not know that  $x$  and  $y$  are co-occurrences on  $o$ ; indeed he believes they are not. Certainly Pierre understands the French sentence. What of the English sentence? Pierre reflectively interprets it as expressing, about the British city that inhabitants call 'London', that it is a capital. He knows of London (the city he himself inhabits) that it is the very city said to be a capital. He does not misinterpret the English sentence to mean that Paris, or Rome, is a capital; he correctly processes it as expressing on  $o$  the very proposition that it does express on  $o$ . But then by merely putting his understanding of the two sentences together, Pierre knows that the discourse expresses those same propositions on  $o$ . The verdict that Pierre is ignorant of the semantic content is unjust. He lacks recognition, not semantic competence. He cannot be convicted of misunderstanding; to do so is incorrect.<sup>33</sup>

Understanding a pair of co-designative names is one thing; taking names as co-designative is another. Fine contends that understanding a piece of discourse in which separate occurrences of a single content are coordinated requires coordination on the part of the auditor. Pierre's case illustrates that it is possible for an auditor to understand a specific piece of discourse in which separate occurrences of a single content are coordinated by the speaker, while remaining completely unaware of the recurrence. In previous work I described the similarly unfortunate case of Sasha, who learns each of the words 'ketchup' and 'catsup' in a kind of ostensive definition without learning that they co-designative, let alone that they are synonymous (let alone that they are but different spellings of the same word, if that they are).<sup>34</sup> The speakers in such circumstances do not know the truth-values of the specific discourse, but this is due to a lack of recognition, not to a failure of understanding. The speakers also do not know all the straightforward analytical implications (e.g., that London is a pretty capital), but this also is due to a lack of relevant information and not to a failure to understand. Consider the following analogy. When Pierre le Set Theorist is presented with the ordered pair  $\langle$ London, London $\rangle$  by means of the expression ' $\langle$ *Londres*, London $\rangle$ ', he mistakenly judges that its elements are distinct; he negatively coordinates the two co-occurrences. Pierre is indeed ignorant of a

<sup>33</sup> Fine evidently believes (comments) that whereas co-designative occurrences of 'Paderewski' are positively coordinated in English, not all co-occurrences (on occasions) of 'Paderewski' are coordinated in Peter's idiolect. Presumably he believes likewise that occurrences of 'London' are not positively coordinated with occurrences of '*Londres*' in Pierre's idiolect of Frenglish. I believe this misplaces pragmatic-epistemic phenomena within semantics proper. Co-designative occurrences of 'Paderewski' are as much alike purely semantically in Peter's idiolect as they are in English. Similarly for occurrences of 'color', 'colour', different pronunciations of 'tomato' or 'either', etc.

<sup>34</sup> Salmon (1989b, 1990).

relevant fact, but here again, Pierre's ignorance is not a failure of understanding. Pierre understands the notation as well as any set theorist.<sup>35</sup>

In fact, the very case that Fine offers in support of his "test" should be regarded instead as a counter-example. The two occurrences of 'Cicero' are coordinated. Fine's auditor does not know that they are co-occurrences on the relevant utterance-occasion, but this is only because he does not know which specific discourse he has just overheard. Not knowing which specific expression one has just witnessed may be a way of failing to understand the generic expression on that particular occasion, but that is irrelevant. It would be a mistake to suppose that one thereby fails to understand the specific expression uttered. The specific discourse the speaker uttered is  $\lceil$  *Cicero*<sub>1</sub> is an orator. *Cicero*<sub>1</sub> was honest.  $\rceil$ . Although the auditor is not aware that he has just witnessed an utterance of this string of specific sentences, this very string is a specific piece of discourse he perfectly understands. He even coordinates its occurrences of *Cicero*<sub>1</sub> (for whatever that is worth).

Consider the following discourse fragment:

Smith cannot do 20 push-ups. Jones can't do 30 sit-ups.

Lying behind the discourse are semantic rules of English having the immediate consequence that the compound word 'cannot' and the contraction 'can't' are exactly synonymous. The synonymy of 'cannot' and 'can't' is a purely semantic fact about English.<sup>36</sup> Furthermore, unlike Pierre's situation with regard to 'London' and 'Londres', in this case any auditor who is unaware of the synonymy of 'cannot' and 'can't' in some obvious sense does not understand the discourse. Presumably the occurrences of 'cannot' and 'can't' are coordinated. Indeed, the two words are as close in meaning as any two distinct expressions can be. Yet there is nothing in the

<sup>35</sup> A potential case in point is provided (ironically) by Kripke's views on alternate-base notations for natural numbers. Kripke believes that the binary-number two, designated by the binary-notation '10', is composed in a particular way of the binary-number one and the binary-number zero, and is therefore not the very same entity as the decimal-number two, which is not so composed. In short, Kripke does not coordinate binary-notation occurrences of '10' with decimal-notation occurrences of '2'. But even if Kripke's view of alternate-base notations is incorrect (as I believe), he understands bi-notational discourse as well as anyone.

<sup>36</sup> That two expressions are synonymous is a purely semantic fact but it is typically not a *basic* (axiomatic) fact of pure semantics. It is instead a *derived* purely semantic fact, a consequence of the purely semantic facts concerning each expression that it means what it does. Fine attempts to get at what is significant about this case by drawing a bewildering array of related, and inter-related, distinctions (ibid., pp. 43–50): between *semantic in the broad sense* and *semantic in the narrow sense*; between the *domain of semantic facts* and the *domain of semantic information*; between *semantic facts* and the special sub-class of *semantic requirements* (Fine's text does not consistently adhere to this terminology); between facts that are *semantic as to topic* and the special subclass of facts that are *semantic as to status*; between *classical consequences* of semantics and the special sub-class of *manifest consequences*; even Kant's distinction between noumena and phenomena; and more (see note 17 above). I believe, perhaps incorrectly, that in the present case these fine distinctions, excluding the last cited, can be reduced to two, with which they are in any case at least very closely related: (i) a Carnapian distinction between *pure* and *applied* semantics, analogous to the distinction between pure and applied mathematics (cf. p. 135n5); and (ii) the distinction between manifest and non-manifest validity. Regarding the former distinction, cf. Salmon (1993a, b), both reprinted in *Content, Cognition, and Communication*, chapters 9 and 10, pp. 169–190. Regarding the latter distinction, cf. Salmon (1986, 1992), both reprinted in *Content, Cognition, and Communication*, chapters 2 and 3, pp. 32–66; and Salmon (2011b) (Perhaps a third distinction is needed: that between basic and derived semantic facts).



discourse itself that explicitly signals the synonymy. There is a particular concept—that of inability—occurring in each of the two propositions expressed, but nothing in the propositions themselves that signals recurrence per se, nothing that represents the concept of inability *as* the same thing over again. There is the recurrence itself and nothing in addition that draws attention to the recurrence—no neon lights, no signposts, no sticky notes, no connecting lines. Whereas the recurrence is there in the propositions, the coordination is not coming from within.

Pierre understands ‘Londres’ as a name of London if any French speaker does. Pierre (the same Pierre) understands ‘London’ as a name of London (the same London) if any English speaker does. The names are synonymous in Pierre’s bilingual idiolect. Pierre does not process the names as representing the same thing, but represent the same thing they do. If occurrences—whether of expressions, proposition components, or thought components—may be regarded as jointly representing something *as the same thing*, they jointly represent it as the same thing *to* a cognizer. They are not coordinated *tout court*; they are coordinated *by* or *with respect to* a cognizer. The names ‘Londres’ and ‘London’ are positively coordinated by Jacques Cousteau; not so by Pierre. The two names do not represent London *as* the same thing *to* Pierre. The coordination that is operative when a thinker is in a position to perform the relevant sort of  $\lambda$ -expansion on a singular proposition  $p_{zz}$  is not something built into that proposition. It is not something internal to a proposition, or even to a complex web of propositions. It is in the nature of the cognizer’s “take” on the proposition. Where Fine says that a sentence  $\phi_{\alpha\alpha}$ , or its content, *indicates that  $z$  is represented as the same thing*, it would be better to say instead that in apprehending the content the cognizer correctly *takes* distinct occurrences (of  $\alpha$  or of  $z$ ) as co-occurrences. Sentences and propositions do not indicate that things are represented as the same (or as distinct), unless they represent *that* those things are the same. Rather cognizers *take* occurrences in sentences and propositions as representing the same thing (or withhold doing so, as the case may be).

This is also true when a cognizer,  $A$ , encounters a familiar person or object,  $B$ , on separate occasions. Nothing external to  $A$  *represents* the familiar object  $B$  as the same individual (or as distinct), and nothing *indicates* that  $B$  is represented as the same. Indeed,  $B$  might even sport a disguise. Even  $A$  does not represent  $B$  as the same; instead  $A$  *takes*  $B$  as the same (or withholds doing so). What matters is not whether  $B$  is represented as the same on different occasions. What matters is whether  $A$  *takes*  $B$  as the same.

Nothing jointly represents the elements of the ordered pair ⟨London, London⟩ as the same thing, despite their uncanny similarity. Sets and their elements (e.g., cities) are not in the business of indicating that those elements are represented-as-the-same; likewise with regard to propositions and their components. Propositions and sets are indifferent to our success or failure in identification. They are just there. They go on, unhelpful and unconcerned, like so many governmental bureaucrats. It is up to us cognizers to *recognize* components as the same. Sometimes we fail—especially with multi-named or otherwise multi-faceted statesmen, superheroes, cities, and planets. Even if our failure to recognize an individual results in a failure to recognize the proposition we apprehend (or the proposition we comprehend a

sentence to mean), it does not result in a failure to apprehend the proposition (or to comprehend the sentence).

On a particular occasion  $o$  in which the agent  $A$  is a competent bilingual speaker,  $A$  correctly takes the two name occurrences in the Frenglish discourse fragment ‘*Londres est jolie*; London is a capital’ to be co-occurrences. One might infer that the two name occurrences are semantically coordinated with respect to  $o$ —not by  $A$  or anyone else, but by the very semantics of the discourse. The inference is an instance of *the pragmatic fallacy*.<sup>37</sup> Not everything that we do with expressions cashes out into semantic features of those expressions.

Coordination among proposition components is not so much something about the nature of propositions as it is something about how we process propositions. One and the same proposition  $p_{zz}$  can be processed as positively coordinated by one speaker and be processed as negatively coordinated by another, or even be processed both ways by a single speaker who mistakes it to be two independent propositions. The relevant sort of coordination is not a matter of semantic representation as co-occurrences; it is a matter of recognition by the cognizer. Propositions and sets do not recognize things as the same; cognizers do. If this seems a minor difference, it is not. It makes all the difference concerning whether coordination is semantic or merely pragmatic.<sup>38</sup>

Although Fine insists that coordination is a full-fledged semantic phenomenon and not merely pragmatic, he also makes curiously concessive remarks (p. 59). He writes:

the coordinative aspect of the coordinated content of a sentence, such as ‘Cicero killed Cicero’, is entirely lacking in any descriptive or truth-conditional character and relates entirely to how its truth-conditions (Cicero’s suicide) are to be grasped. ... There is no difference in what it takes for the sentences “Cicero wrote about Cicero” and “Cicero wrote about Tully” to be true, even though there is a difference in their coordinated content.

Anyone who correctly understands the English specific sentence ‘Cicero killed Cicero’, with both occurrences of ‘Cicero’ designating Cicero/Tully, has enough information to work out that the sentence is true if and only if  $x$  killed  $y$ —where  $x = \text{Cicero/Tully}$  and  $y = \text{Cicero/Tully}$ . Suppose there are two speakers,  $A$  and  $B$ , both of whom correctly take each of the two occurrences of ‘Cicero’ on an occasion of utterance of ‘Cicero killed Cicero’ to designate Cicero/Tully, but that unlike  $A$ , speaker  $B$  does not take the two occurrences as co-occurrences. Instead, like Kripke’s Peter vis à vis Paderewski,  $B$  takes Cicero/Tully to be two different people with the same generic name.  $B$  processes the sentence as expressing of one of these individuals (on the relevant occasion) that he killed the other.  $A$  works out from the content that the sentence is true if and only if  $x$  killed  $y$  while taking these as the same individual;  $B$  works out from the content that the sentence is true if and only if  $x$  killed  $y$  while not taking these as the same individual. In this case, both speakers grasp the same truth condition while processing it differently. Fine evidently

<sup>37</sup> Cf. Salmon (1991); reprinted in *Content, Cognition, and Communication*, chapter 16, pp. 298–308.

<sup>38</sup> Cf. *Frege’s Puzzle*, pp. 103–109.

concedes this. (His notion of a truth condition appears to correspond to his notion of an uncoordinated proposition.) But then *A* and *B* both grasp the sentence's English content, while processing that content differently. A sentence's truth condition is a semantic attribute; how a speaker takes that condition in working out that the sentence is true exactly on that condition is utterly non-semantic. This issue is not merely terminological.<sup>39</sup>

Fine's notion of (positive) coordination between proposition components or expression occurrences is not that of mere co-occurrence. The occurrences of Cicero in the conjunctive singular proposition that Cicero is Roman and Cicero is an orator are co-occurrences even if they are not coordinated. It is a fundamental axiom of Fine's "relationism" that coordination between expression occurrences is not reducible to semantic properties of those occurrences other than semantic-relational properties toward other occurrences. He writes, "The relationist understanding of [same-as representation] requires ... that the phenomenon is essentially relational; there are no intrinsic semantic features of the individual expressions in virtue of which they represent the object as the same" (p. 40). Fine regards the analogous condition as analogously fundamental to his notion of coordination between proposition components. In contrast to the spirit of Fine's remark, I submit that positive coordination among expression occurrences is effected by a speaker's recognition of a semantic value common to each of the expressions occurring thusly. The speaker coordinates the expression occurrences in recognizing them as co-occurrences. Occurrences of 'Londres' and 'London' are coordinated by a competent bilingual speaker who, unlike Pierre, takes it that London is represented equally in one language by 'Londres' and in another by 'London'. The relation of positive coordination among proposition component occurrences *x* and *y* and a cognizer *A* might even be reducible to, or definable in terms of, *A*'s processing *x* and *y* as co-occurrences. We may posit the following: *A* (positively) coordinates occurrences *x* and *y* (on occasion *o*) iff *A* takes *x* and *y* (on *o*) as co-occurrences; *A* negatively coordinates occurrences *x* and *y* iff *A* takes *x* and *y* as hetero-occurrences (occurrences of non-synonymous expressions or of distinct proposition-components); *A* uncoordinates occurrences *x* and *y* iff *A* neither positively nor negatively coordinates *x* and *y*. For the case of expression occurrences in place of proposition components, the predicate 'is an occurrence of \_\_\_' may be replaced by 'has \_\_\_ as its semantic content'. In these senses, which are not Fine's, the two occurrences of London in the singular proposition that London is every bit as pretty as London are both positively and negatively coordinated (on distinct occasions) by Pierre. Also in these senses, occurrences of 'Londres' and 'London' are negatively coordinated by Pierre, whereas some co-occurrences of 'Paderewski' are positively coordinated (on occasion) by Peter and some negatively. It could also happen that two occurrences of a name are both positively and negatively coordinated on distinct occasions by a

<sup>39</sup> Recall also that on Fine's view, coordination is a binary relation, so that a pair of expression occurrences are either positively coordinated absolutely or negatively coordinated absolutely, not relative to a cognizer on an occasion of use.

Fine has responded (comments) that the foregoing criticisms ignore the fact that he takes a reductive stance toward the notion of coordinated content. Fine's reductionism will be considered in the closing paragraphs of the present essay.

single speaker. Whether proposition components or expressions, what is crucial is whether the cognizer takes the occurrences as co-occurrences.<sup>40</sup>

The phenomenon of coordination is not a brute fact, nor is it a purely qualitative phenomenon. (I believe Fine does not disagree.) The propositions that London is pretty and that London is a capital are presented to competent bilingual Frenglish speakers, including Pierre, by the sentences '*Londres est jolie*' and 'London is a capital'. So presented, those occurrences of London are coordinated by most Frenglish speakers but not by Pierre, who processes the propositions as not only independent but utterly unrelated. In taking the two propositions as coordinated with one another, Frenglish speakers do not merely take them as jointly concerning *some city or other*. Frenglish speakers who are not in Pierre's predicament take the propositions as jointly concerning London in particular. They process the proposition components as coordinated in virtue of their jointly representing London—albeit representing London as being different ways (pretty versus a capital). In general, when a cognizer *A* coordinates proposition components *x* and *y*, there is a specific object, *a*, such that the cognizer coordinates *x* and *y* by taking them jointly to be, both of them, occurrences of *a*. The cognizer takes it that  $\exists z$  (*x* is an occurrence of *z* & *y* is an occurrence of *z*) because the specific object *a* is such an object *z*, i.e., because  $\lambda z[x$  is an occurrence of *z* & *y* is an occurrence of *z*]*a*. The things that serve as third relatum for the *BEL* relation are to be found not in the coordination schemes themselves, but in the underlying phenomena that anchor a given speaker's coordinating of the proposition components, in the phenomena in virtue of which the speaker's processing of the proposition components is tethered to the specific object that anchors the coordination.

#### 4 Further problems with semantic relationism

In 1954 Alonzo Church leveled a powerful criticism of the position of Putnam, Kaplan, and Fine: Providing a literal (i.e., semantic-content-preserving) translation of the English sentence

<sup>40</sup> The defining condition for positive coordination could be modified to require that *A* recognize *x* and *y* as co-occurrences. See note 7. Other options are possible.

A fourth mode of coordination should be acknowledged. Pierre could come to wonder, "Maybe London and *Londres* the same city." In that case he positively coordinates the occurrences of London in the proposition that London is no prettier than London ("London is no prettier than London")—and consequently he does not uncoordinate them—but he also reserves judgment without negatively coordinating ("Londres is no prettier than London"). We may say that in this case Pierre both positively coordinates the relevant occurrences and *withholds coordinating* them, although he neither negatively coordinates nor uncoordinates them.

We may assume that in considering an individual *z*, *A* takes *z* in a certain way, by means of a certain *guise*, where these ways of taking individuals or *guises* satisfy the following conditions: *A* can take a single individual by means of distinct guises; *A* positively coordinates occurrences *x* and *y* iff there is guise *g* such that *A* takes the object as occurring in *x* by means of *g* and *A* takes the object as occurring in *y* also by means of *g*; and if *A* negatively coordinates occurrences *x* and *y*, then  $\exists g \exists g' (g \neq g' \ \& \ A$  takes the object as occurring in *x* by means of *g* & *A* takes the object as occurring in *y* by means of *g'*), but the converse does not obtain. *A* might wonder instead of negatively coordinate. We may posit that *A* withholds coordinating *x* and *y* iff  $\exists g \exists g' (g \neq g' \ \& \ A$  takes the object as occurring in *x* by means of *g* & *A* takes the object as occurring in *y* by means of *g'*).

## (1) Unmarried men socialize with other bachelors

into a language that has only a phrase but no single word (or additional phrase) corresponding to the English 'unmarried men' yields a literal translation into that language also of

## (2) Unmarried men socialize with other unmarried men.

This demonstrates that the syntactic recurrence of the phrase 'unmarried men' in (2) has no effect upon the sentence's meaning. The Putnam-Kaplan-Fine position is committed to claiming instead that the proposition expressed in English by (1) is inexpressible in a language that has only a phrase but no single word (or other expression) corresponding to 'unmarried men'<sup>41</sup>—or else, at best, the proposition is expressible in such a language only by means of an allegedly ambiguous construction, and then only by means of an allegedly unfavored reading, in which the two occurrences of the concept of a bachelor are not appropriately linked (not positively coordinated). To my knowledge, none of the view's adherents have addressed Church's observation, which I deem decisive, that this consequence of their position is seriously implausible. The availability of more than one expression for a single concept does not increase the expressive capacity of a language. Given the availability of the English phrase 'unmarried man', "it should rather be said that the word 'bachelor' in English is not a necessity but a dispensable linguistic luxury" (extrapolated from Church, *modulo* the specific example).<sup>42</sup>

Fine's ambiguity version of the idea is subject to additional criticism. One such criticism, which might extend also to Putnam's original proposal, is Kripkean in spirit.<sup>43</sup> Let English<sub>P</sub> be a possible language in which sentences of the forms  $\phi_{\alpha\alpha}$  and  $\phi_{\alpha\beta}$  invariably express different propositions in accordance with the Putnam idea and which is otherwise exactly like English—where  $\phi_{\alpha\beta}$  results from  $\phi_{\alpha\alpha}$  by replacing one free occurrence of  $\alpha$  with a free occurrence of a term  $\beta$  exactly synonymous with  $\alpha$ . Let English<sub>F</sub> be an alternative possible language in which such pairs of sentences typically express different propositions but might instead express the same proposition, depending on the accompanying scheme of coordination, and which is otherwise exactly like English. Let English<sub>C</sub> be a third possible language in

<sup>41</sup> Church, "Intensional Isomorphism and Identity of Belief"; see note 2 above. Putnam originally proffered his modification of compositionality in response to the problem of nested attitude operators posed by Mates (1950, p. 215). Church's response (which employs 'fortnight' and 'period of fourteen days' in place of 'bachelor' and 'unmarried man') was aimed primarily at Mates, and secondarily to rebut Putnam's proposed modification "in the sense of showing it to be superfluous." Church's criticism is here applied directly against Putnam's and Fine's versions of compositionality (see note 9 above), in the sense of showing them to be not merely superfluous but seriously implausible. I reply to objections in Salmon (2001); reprinted in my *Metaphysics, Mathematics, and Meaning* (Oxford University Press, 2005), pp. 344–364.

<sup>42</sup> On Fine's claim of ambiguity, see for example *Semantic Relationism*, pp. 54–57, 97–98, 104. See also note 13 above. Assuming Millianism, the same argument is applicable to (1') 'Tully admires Cicero' and (2') 'Cicero admires Cicero'. The full force of the argument is revealed once it is acknowledged that the Putnam view cannot plausibly be restricted to proper names of individuals. It must be extended, for example, at least to single-word natural-kind terms like 'groundhog'. If it applies to 'vixen', then it applies equally to 'bachelor'. Cf. my "Generality," *Philosophical Studies* (forthcoming 2012).

<sup>43</sup> Cf. Kripke (1979).

which such pairs of sentences invariably express the very same proposition and which is otherwise exactly like English. The mere possibility of these different languages gives rise to three incompatible hypotheses: that English = English<sub>P</sub>; that English = English<sub>F</sub>; that English = English<sub>C</sub>. Naturally, speakers of English<sub>C</sub> would typically use sentences of the form  $\phi_{\alpha\alpha}$  presupposing that the multiple occurrences of  $\alpha$  represent exactly the same thing(s)—say, bachelors, or the particular kind, *Unmarried man*, or Cicero, etc.—even though the proposition components semantically expressed by their words are never semantically coordinated. The fact that speakers typically use  $\phi_{\alpha\alpha}$  in this way therefore provides no grounds for preferring either the English<sub>P</sub> hypothesis or the English<sub>F</sub> hypothesis over the English<sub>C</sub> hypothesis. Apparently there are no other grounds for preferring these hypotheses over the English<sub>C</sub> hypothesis. Other things being equal, that English = English<sub>C</sub> is decidedly preferable to the hypothesis that English = English<sub>F</sub>, in light of the latter's unnecessary postulation of a systematic and seldom noticed ambiguity. Indeed, the former hypothesis might even have the greater claim to be the default hypothesis in the absence of compelling evidence that English = English<sub>P</sub>.

Fine makes an extraordinary concession. He uses the phrase 'semantic requirement' for the manifest consequences of the axioms of pure semantics, like the uncontroversial axiom that 'Socrates' designates Socrates or the controversial Millian axiom that the semantic content of a proper name is the name's designatum (p. 50). Concerning his central contention that where  $\alpha$  and  $\beta$  are exactly synonymous terms, sentences  $\phi_{\alpha\alpha}$  and  $\phi_{\alpha\beta}$  express different propositions, he writes:

... there is no difference in what it takes for the sentences "Cicero wrote about Cicero" and "Cicero wrote about Tully" to be true, even though there is a difference in their coordinated content.

It might be wondered how there can be such elusive differences in meaning. But what it comes down to, in the end, is a difference in the content of semantic requirements. In saying that "Cicero = Cicero" expresses the positively coordinated proposition that  $c = c$ , what I am saying is that it is a semantic requirement that the sentence signifies an identity proposition whose subject and object positions are both occupied by the object  $c$  while, in saying that "Cicero = Tully" expresses the uncoordinated proposition that  $c = c$ , I am merely saying that it is a semantic requirement that it signifies an identity proposition whose subject position is occupied by  $c$  and whose object position is occupied by  $c$ . Under classical consequence, the contents of the two requirements are equivalent. But under manifest consequence they are not and the requirements are, therefore, capable of reflecting a genuine difference in meaning. (p. 59)

To be more precise, the "semantic requirement" that  $\phi$  expresses a singular identity proposition in which  $c$  occupies the subject position and  $c$  occupies the object position, and the reflexive semantic requirement that  $\phi$  expresses a singular identity proposition in which  $c$  occupies both the subject and object positions, are non-manifestly equivalent. (They are  $\lambda$ -convertible.) The equivalence poses a problem for Fine's reductionism. It is logically true (even though it is not a manifest

logical truth) that any singular identity proposition whose subject position is occupied by Cicero and whose object position is occupied by Cicero is ipso facto a singular identity proposition whose subject and object positions are occupied by Cicero, and vice versa. Far from “reflecting a genuine difference in meaning,” Fine’s two semantic requirements assign ‘Cicero = Cicero’ and ‘Cicero = Tully’ the very same proposition as semantic content. Indeed, the requirements evidently assign both sentences the very same proposition that standard Millianism assigns: the uncoordinated singular proposition about Cicero that he is him.

When Fine says “‘Cicero = Cicero’ expresses the positively coordinated identity proposition that Cicero is Cicero”, he does not intend what the sentence literally means. He asserts in the displayed passage that instead what he actually means is that it is a “semantic requirement” that ‘Cicero = Cicero’ expresses the *uncoordinated* singular identity proposition in which Cicero occupies both the subject and object positions. Fine has confirmed (comments) that on his view, at the end of the day in doing relational semantics there will be no reference to coordinated content. Instead there will be reference to differing “semantic requirements.” Contrary to the impression that Fine leaves with his reader, the reflexive observation that ‘Cicero = Cicero’ expresses the singular identity proposition in which Cicero occupies both the subject and object positions is as much a semantic requirement on standard Millianism as it is on Fine’s view.<sup>44</sup> Taking Fine at his word, “in the end” his positive account of the semantic content of ‘Cicero = Cicero’ does not differ from the standard Millian account that he vigorously opposes. If Fine’s meta-discourse involving the phrase ‘coordinated proposition’ is reduced in the manner suggested, then his positive account of the semantic content of  $\phi_{\alpha\alpha}$  is evidently the standard Millian account—an account he strongly rejects—but couched in seriously misleading terminology.

**Acknowledgments** I presented some of this material at a number of venues. I am grateful to my audience’s reactions. I am especially grateful to Murat Aydele, Roger Clarke, Teresa Robertson, Ori Simchen, Lourdes Valdivia, Max Weiss, and Dean Zimmerman for comments and discussion of an early draft, and to the participants in my seminars at UCSB during Spring 2010 and at the CUNY Graduate Center during Fall 2010 for comments and observations concerning some of the arguments and issues raised here, especially Luke Manning, Ian Olov, Clark Sexton, and Nathaniel Tabris. Special thanks go

<sup>44</sup> According to standard Millianism, it is a semantic requirement (a manifest theorem of pure semantics) that

$R_{\alpha=\beta}$ : For any designating proper names  $\alpha$  and  $\beta$ ,  $\ulcorner \alpha = \beta \urcorner$  expresses the singular identity proposition in which the designatum of  $\alpha$  occupies the subject position and the designatum of  $\beta$  occupies the object position.

Here ‘ $\alpha$ ’ and ‘ $\beta$ ’ are bound syntactic variables ranging over specific proper names. It is a manifest consequence of  $R_{\alpha=\beta}$ , and hence according to standard Millianism it is also a semantic requirement, that

$R_{\alpha=\alpha}$ : For any designating proper name  $\alpha$ ,  $\ulcorner \alpha = \alpha \urcorner$  expresses the singular identity proposition in which the designatum of  $\alpha$  occupies both the subject and object positions.

The deduction of  $R_{\alpha=\alpha}$  from  $R_{\alpha=\beta}$  involves reflexive  $\lambda$ -expansion, but no individual recurs in the contents of  $R_{\alpha=\beta}$  or  $R_{\alpha=\alpha}$  to render the entailment non-manifest (see note 17 above). Given the further semantic requirement that *Cicero*<sub>1</sub> is a specific proper name of Cicero/Tully, according to standard Millianism it is a semantic requirement that  $\ulcorner Cicero_1 = Cicero_1 \urcorner$  expresses the singular identity proposition in which Cicero/Tully occupies both the subject and object positions.



to Kit Fine, who participated in the CUNY seminar and clarified many aspects of his book, and also provided detailed responses to an earlier draft.

## References

- Church, A. (1954). Intensional isomorphism and identity of belief. *Philosophical Studies*, 5, 65–73; reprinted in Salmon, N. & Soames, S. (Eds.). (1988). *Propositions and attitudes* (pp. 159–168). Oxford: Oxford University Press.
- Kaplan, D. (1990). Words. *Proceedings of the Aristotelian Society*, 64, 93–119.
- Kripke, S. (1976a). Is there a problem about substitutional quantification? In G. Evans & J. McDowell (Eds.), *Truth and meaning: Essays in semantics* (pp. 325–419). Oxford: Oxford University Press.
- Kripke, S. (1976b). A puzzle about belief. In A. Margalit (Ed.), *Meaning and use* (pp. 239–283). Dordrecht: D. Reidel; reprinted in Davidson, M. (Ed.). (2007). *On sense and direct reference* (pp. 1002–1036). Boston: McGraw Hill.
- Kripke, S. (1979). Speaker's reference and semantic reference. In P. French, T. Uehling, & H. Wettstein (Eds.), *Contemporary perspectives in the philosophy of language* (pp. 6–27). Minneapolis: University of Minnesota Press.
- Mates, B. (1950). Synonymy. *University of California Publications in Philosophy*, 25, 201–226.
- Putnam, H. (1954). Synonymy, and the analysis of belief sentences. *Analysis*, 14, 114–122; reprinted in Salmon, N. & Soames, S. (Eds.). (1988). *Propositions and attitudes* (pp. 149–158). Oxford: Oxford University Press.
- Salmon, N. (1986). Reflexivity. *Notre Dame Journal of Formal Logic*, 27(3), 401–429.
- Salmon, N. (1989a). Illogical belief. In J. Tomberlin (Ed.), *Philosophical perspectives, 3: Philosophy of mind and action theory* (pp. 243–285). Atascadero, CA: Ridgeview; reprinted in Davidson, M. (Ed.). (2007). *On sense and direct reference: Readings in the philosophy of language* (pp. 1037–1067). Boston, MA: McGraw Hill.
- Salmon, N. (1989b). How to become a Millian Heir. *Nous*, 23(2), 211–220.
- Salmon, N. (1990). A Millian Heir rejects the wages of *sinn*. In C. A. Anderson & J. Owens (Eds.), *Propositional attitudes: The role of content in logic, language, and mind* (pp. 215–247). Stanford, CA: Center for the Study of Language and Information, Stanford University; reprinted in *Content, cognition, and communication* (Chap. 1, pp. 3–31); also in Davidson, M. (Ed.). (2007). *On sense and direct reference* (pp. 198–233). McGraw-Hill.
- Salmon, N. (1991). The pragmatic fallacy. *Philosophical Studies*, 63(1), 83–97.
- Salmon, N. (1992). Reflections on reflexivity. *Linguistics and Philosophy*, 15(1), 53–63.
- Salmon, N. (1993a). Relative and absolute apriority. *Philosophical Studies*, 69, 83–100.
- Salmon, N. (1993b). Analyticity and apriority. In J. E. Tomberlin (Ed.), *Philosophical perspectives, 7: Language and logic* (pp. 125–133). Atascadero, CA: Ridgeview.
- Salmon, N. (2001). The very possibility of language: A sermon on the consequences of missing Church. In C. A. Anderson & M. Zeleny (Eds.), *Logic, meaning and computation: Essays in memory of Alonzo Church* (pp. 573–595). Boston: Kluwer.
- Salmon, N. (2011a). A note on Kripke's puzzle about belief. In A. Berger (Ed.), *Saul Kripke*. Cambridge: Cambridge University Press.
- Salmon, N. (2011b). Lambda in sentences with designators. *The Journal of Philosophy*, CVII(9), 445–468.