

## *Chapter Four*

# *Paderewski*



### I. THE PUZZLE

Ignace Jan Paderewski (1860 - 1941) was by all accounts the most popular pianist of his time. Beginning his concert career in earnest in his late twenties, Paderewski's celebrity grew from his tireless touring over the next decades, in Europe, Australia and numerous tours of the United States, (during which Paderewski apparently developed a particular fondness for California, where he owned a ranch in Paso Robles, reported to have produced a more than adequate zinfandel). His recitals typically commenced with a sonata by Beethoven, and his repertoire showcased Chopin, Liszt and his own works. Paderewski was a charismatic figure, both on the stage and off. Accounts remark on the "magnetism of his playing," which "shied away from . . . exaggerations and flashiness, stressing instead musical feeling and a faithfulness to the musical text," "his vast knowledge, intelligence, humor and fluency in several languages [that] left people deeply impressed" and that "his stage presence, fine facial features and a shock of golden-red hair enchant women," so much so that the famed Polish actress Madame Modjeska was reported to have reminisced that Paderewski sitting at a piano gave an impression of a Botticelli or a Fra Angelico angel.

There was, however, another side to Paderewski. Always public spirited, having contributed sub-

stantially to numerous charities, as the first World War loomed Paderewski became an outspoken advocate for the cause of Polish independence, his concerts typically including both musical offerings and speeches in support of the cause. As the most internationally famous and well-known activist for the Polish cause, Paderewski was intimately involved in organizing groups and raising funds, donating proceeds from his concerts as well as much of his personal fortune to famine relief. At the end of the war, with the success of their campaign in sight, Paderewski returned to Poland, where he was named Prime Minister and Foreign Minister in the transitional government. With the re-establishment of Polish statehood in 1920, Paderewski stepped down from these positions and returned with fervor to the concert stage, his celebrity undiminished, and even appeared in a Hollywood movie. (The 1938 “Moonlight Sonata,” described as “A love affair in a Swedish household leads to the creation of the famed “Moonlight Sonata.”) But with the invasion of Poland in 1939, Paderewski returned for the remainder of his life to his international activities in support of Poland, again raising money for famine relief and lobbying Western leaders for aid in Poland’s struggle against Nazi Germany.

Paderewski entered the collective philosophical consciousness some four decades later, in a short passage in Saul Kripke’s 1979 paper “A Puzzle About Belief.” In that paper, Kripke was concerned to fend off the view that the failure of substitutivity of coreferential names in propositional attitude contexts argued for some form of a description theory of names, perhaps along roughly Fregean lines, and consequently against the “Millian” view of names that he had espoused chiefly in “Naming and Necessity.”<sup>1</sup> Kripke’s counter runs roughly as follows. Suppose, given the facts about Paderewski’s life we have surveyed, Peter comes to know of a pianist named “Paderewski” and of a Polish statesman named “Paderewski,” but because of circumstances he does not realize that they are one and the same person. He believes

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<sup>1</sup>Kripke, 1980.

rather that there are two different people, each named “Paderewski.” Moreover, Peter has quite divergent views about the musical talent of pianists and politicians, taking the latter to lack what the former possess. Kripke then observes that just given our standard grounds for making belief attributions, a speaker fully apprised of the facts, in particular that there is only one person named “Paderewski,” could attribute to Peter, without challenging his rationality, both the belief that Paderewski had musical talent and the belief that Paderewski did not have musical talent.<sup>2</sup> But which is it? Does Peter believe, or does he not, that Paderewski has musical talent? This is the puzzle. Its source, on Kripke’s view, is to be found in a malfunction in the mechanics of belief attribution, not in a failure of substitution. We cannot even pose the question in this case of why “*a* believes that  $P(b)$ ” does not follow from “*a* believes that  $P(a)$ ”, even though  $a = b$ , for unlike the failure to infer “Max believes Cicero was a Roman orator” from “Max believes that Tully was a Roman orator,” where there is a linguistically apparent difference in their logical forms, in the case at hand such linguistic distinctions are neutralized. What we appear to have instead is an instance of the trivially *valid* inference from “*a* believes that  $P(a)$ ” to “*a* believes that  $P(a)$ ”, given that  $a = a$ . Thus, whatever account we are to give for the genesis of the puzzle, it apparently cannot be pinned to a problem in the logical relations of the belief statements, and in particular to any specific assumptions about the logical form of proper names, e.g. that they abbreviate descriptions.

It is a striking characteristic of the puzzle as just described that although the belief attributions:

Peter believes Paderewski has musical talent

and

Peter believes Paderewski doesn’t have musical talent

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<sup>2</sup>Nor would the speaker be calling his own rationality into doubt were he to report that Peter both did and did not believe that Paderewski had musical talent, all the while supposing that the speaker is aware of the pertinent fact regarding Paderewski; that is, aware that there is only one such person so named.

have logical forms that appear to imply that Peter believes an inconsistency, the belief that underlies these reports, that Peter believes there are two people, each named “Paderewski,” is a perfectly consistent belief to hold, and does not indicate any lack of logical acumen. Indeed, (as Kripke observes), no degree of logical acumen could lead Peter to reject the underlying belief, at least not without the interjection of some further premise that could cause him to revise his beliefs. But what would such a premise be? It could be supplied in the following way. Suppose that some benevolent speaker were to come along and, aware of Peter’s predicament, says to him:

But Peter, Paderewski is Paderewski

If Peter takes the point, he will now have good grounds for changing his beliefs, and if he does so, he will come to hold, as do the rest of us in the know, that there is only one person named “Paderewski,” who is both a pianist and a statesman. Thus, the sentence above may be uttered by the speaker so as to impart information to the hearer that will be sufficient cause for the hearer to change his beliefs. But now the puzzle re-asserts itself in a somewhat transmogrified form, for the sentence uttered appears to be nothing other than an *uninformative* logical tautology of the form  $[a = a]$ .<sup>3</sup>

Notice at this point that the puzzle, now framed in our preferred way as a (new) puzzle about identity statements, turns on a difference in the beliefs held by the speaker and hearer about how many people bear a given (proper) name: the *speaker* believes there is one person named “Paderewski,” while the *hearer* believes there are two people, each named “Paderewski.” What is perplexing is how the speaker’s utterance, which apparently has only trivial objectual content, can cause the hearer’s *linguistic* beliefs to become coincident with those of the speaker. This is the conundrum that we will attempt to resolve. Our tactic

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<sup>3</sup>This “new puzzle” of identity was originally introduced in Fiengo and May, 1998, 2002, (reprinted as Chapters Two and Three). Devitt (1989) briefly mentions a similar example, although he employs the example to rather different ends; for remarks, see Chapter Three, fn. 50.

will be to argue that there may be more to the content of an identity statement than just objectual content, and it is this additional content - linguistic content, to tip our hand - that will do the heavy lifting. This linguistic puzzle, we should point out, is to be distinguished from a another puzzle in which the relevant belief of the hearer is not the linguistic belief we have described, but rather the objectual belief that there are two people, which contrasts with the speaker's belief that there is just one.<sup>4</sup> But while the linguistic and the objectual puzzles are similar, and can even be found with superficially non-distinct linguistic forms, they nevertheless have quite distinct properties. There are, as we shall see, (at least) two Paderewski-puzzles, neither of which should be subsumed under the other.

## II. LINGUISTIC INFORMATION

If there is a linguistic Paderewski-puzzle, then the natural thing to do is to look for a linguistic account of the puzzle. Now, what would we expect such an account to consist in? At the most general level, we would expect that it would show how linguistic information can be semantically significant, and how this constitutes sufficient content to account for the failure of substitution and for the informativeness of identity statements. In putting together such an account, the natural first step would be to isolate relevant linguistic properties, as these are given to us by our best linguistic theory, and then explicate how these properties are manifest in a sufficiently finely articulated notion of logical form for sentences of the language. Davidson, in a passage from "Truth and Meaning," articulated this step nicely:<sup>5</sup>

It is consistent with the attitude taken here to deem it usually a strategic error to

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<sup>4</sup>Notice that the belief of the hearer is not that there are two people Paderewski, and of the speaker that there is just one, since the proposition that there are two people Paderewski is necessarily false, (presuming one does not dismiss it *tout court* as a use/mention confusion). One might be tempted to avoid this conclusion by holding that the term "Paderewski" is ambiguous as used in "There are two people Paderewski." But this would appear to imply that "There are indefinitely many people Paderewski" is indefinitely ambiguous, a rather unsatisfying result.

<sup>5</sup>Davidson, 1967, p. 32.

undertake philosophical analysis of words or expressions which is not preceded by or at any rate accompanied by the attempt to get the logical grammar straight.

With this in place, the second step then would be to make explicit how the differences in logical form so isolated are sufficient for the purposes at hand, for instance, to invalidate substitution. Insofar as such an account could be carried through, it would give credence to the intuition that with pairs like “Max believes that Cicero is a Roman orator” and “Max believes that Tully is a Roman orator” the linguistic difference between “Cicero” and “Tully” is the cause of the failure of substitution, as well as the informativeness of “Cicero is Tully.”

There is a tradition of scepticism about the prospects for an account of the sort just outlined, going back at least to Church’s critique of Carnap’s approach in *Meaning and Necessity*.<sup>6</sup> More germanely, the strategy described would seem to be stymied at the outset by the very case we want to analyze, for it could plausibly be taken as a moral of the Paderewski puzzle that *prima facie* there are no relevant linguistic distinctions to be drawn, since just the sort of linguistic distinctions we find in the Cicero/Tully case are neutralized. But given this, so the reasoning goes, the sound methodology would be to look elsewhere, in some non-linguistic domain, for an account; a natural recourse, and one that has had considerable popularity, is to take the primary analytic posit to be the conceptions we harbor of things.<sup>7</sup> The operant observation on this way of looking at the matter is that having distinct conceptions does not imply that distinct things are being conceptualized. Someone may think of Paderewski in this way or that, but from this nothing follows whether he is thinking of one person or two. Since plainly we can conceive of

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<sup>6</sup>Initially in Church, 1950, where he employs the so-called translation argument. Also see Church, 1956, in which he outlines his case for language independent propositions.

<sup>7</sup>We lump together here what has gone under a number of rubrics, including ways of thinking, dossiers or files of information, modes of presentation (at least on one understanding of the notion), body of knowledge. While there may well be differences of detail if not substance among these notions, there is a common core in that they all assume that a speaker’s use of a name is based on a compendium of conceptual information.

something without thereby being able to name it, the affinity of this sort of approach with the objectual description of the puzzle should be apparent, (for how else is one to think that there are two distinct people other than that he conceives of them as such?)

Our goal here, however, is not to undertake a critical exegesis of the conceptual view, although no doubt there is much to say; rather we want to consider the implications of simply denying the presupposition that underlies the view, namely that there are no relevant linguistic distinctions to be drawn. So suppose that we assume, looks to the side, that in “Peter believes Paderewski had musical talent” and “Peter believes Paderewski doesn’t have musical talent” or “Paderewski is Paderewski” we have two *distinct* linguistic forms. Or, as we would wish to say, that we have two distinct linguistic *expressions*. One way to express such a distinction would be by a spelling reform; this is what Frege gestures towards in “The Thought,” when he suggests that coreferential occurrences of “Dr. Gustav Lauben” be distinguished as “Dr. Lauben” and “Gustav Lauben.”<sup>8</sup> Now this approach has a distinct virtue, in that it provides a linguistic distinction on the order of that between “Cicero” and “Tully.” It is in essence the approach we will follow, although we will not do so by spelling reform as such, for it is obvious that what is of relevance is not how the words are spelled, but only that they are spelled differently. In other words what we are trying to capture is the numerical distinctiveness of linguistic expressions, and we can represent this in a most convenient and perspicuous way by the annotation of numerical indices. “Paderewski<sub>1</sub>” and “Paderewski<sub>2</sub>,” by this light, are formally type-distinct linguistic expressions, (just as “x<sub>1</sub>” and “x<sub>2</sub>” are formally distinct variables), as opposed to various occurrences we might find of “Paderewski<sub>1</sub>”, which are only token-

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<sup>8</sup>The only alternative, Frege thought, was that if there were two co-spelled expressions with different senses, they would have to be expressions of different languages. This is because for Frege a language is a system of signs, pairings of formal symbols and senses; different systems of signs constitute different languages. Thus, his protagonists in “The Thought,” Leo Peter and Herbert Garner, if they each have the name “Dr. Gustav Lauben” with different senses, so they are different signs, then they each speak different languages. Spelling reform allowed Frege to escape this conclusion, even if this has, in Frege’s context, a certain artificiality.

distinct.<sup>9</sup>

The reason for representing numerical distinctiveness of expressions, and in particular, distinguishing type-distinctiveness from token-distinctiveness, was recognized early on; both Russell and Frege weighed in with apropos remarks. Russell comments in *Principles of Mathematics* (§82) that “When an  $x$  is inserted to stand for the variable, the identity of the term to be inserted is indicated by the repetition of the letter  $x$ ”, while Frege elaborates the point in the second volume of *Grundgesetze* (§99) as follows:<sup>10</sup>

Signs would hardly be useful if they did not serve the purpose of signifying the same thing repeatedly and in different contexts, while making evident that the same thing was meant. . . . In speaking of the same sign, the coincidence of the reference is transferred to the sign.

What Russell and Frege are observing here is that if occurrences of the same expression-type, (coindexed under our notation), then they are necessarily coreferential, regardless of what the reference of the sign is. On the other hand, type-distinct expression occurrences, (indicated by contra-indexing), are under no such encumbrance; depending on their reference, they may or may not corefer.

The move we are contemplating here has a certain attractiveness, for it at least gives us a leg-up on the puzzle. This is because the form of the belief-reports will now be:

Peter believes Paderewski<sub>1</sub> has musical talent

and

Peter believes Paderewski<sub>2</sub> doesn't have musical talent,

from which we cannot extract anything flatly inconsistent, i.e. of the form  $[A \ \& \ not-A]$ , and so are of forms that can be used to report rational beliefs. In a similar vein, our identity statement will be:

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<sup>9</sup>This is just a brief rehearsal of points we make at length in Chapter One.

<sup>10</sup>Frege, importantly, points out that the operant notion of *same sign* goes beyond mere typographical coincidence. In continuing the passage cited in the text, he remarks that “we shall understand by ‘signs of similar shape’ those intended by the writer to have similar shapes in order that they may designate the same thing.” Frege is right to emphasize the intentionality at play here; we turn to it in the next section.

Paderewski<sub>1</sub> is Paderewski<sub>2</sub>,

which is of the form  $[a = b]$ , standardly the form of informative identity statements, such as “Cicero is Tully.” Note that in neither case is anything implied as a matter of the “spelling” of the linguistic terms as to whether the occurrences of “Paderewski” are coreferential.

While effecting this reduction is a great result, it really doesn’t get us all that deeply into the problem posed by the Paderewski-puzzle. As we have described the puzzle, it turns on beliefs of speaker’s about how many people bear a particular name; but as of yet we do not have any *connection* between the postulated difference in linguistic form and such beliefs. What we are still lacking is an account which, in some principled way, links these together; we have no grasp yet of how the linguistic differences correspond to beliefs about naming. At best we are in a position to answer an initial question as to what the linguistic information *is* that is brought into the equation. But we still have to answer the question of what governs the *beliefs* we can have about that linguistic information, our *de lingua* beliefs that so-many people can bear a given name.

### III. BRIDGING THE GAP

What we are in search of is a bridge principle. To arrive at it, let us consider first the far end, the beliefs being bridged to; these would be beliefs that there are  $x$ -many people named  $\alpha$ , for  $\alpha$  a proper name.

What might be asked about such beliefs? Well, one thing that might be asked for is an explication of the main predicate, the term “named.” A rough definition might be something like the following:  $a$  is named  $\alpha$  iff  $a$  is designated by employing the lexical item  $\alpha$ . But this definition begs a further one; what is the analysis of “employ a lexical item,” and yet in turn, of “lexical item”? Well, a lexical item is an entry in a lexicon or vocabulary, and so we are down to a base notion in need of explication, that of a lexicon.

A lexicon is a list of entries, each distinct from all others, individuated by linguistic properties. Among these properties, a principle one is pronunciation, what we would more technically call a phonological spelling. The application of this property as an identity criterion is governed for speakers by a normative belief that if two items are pronounced differently, they are different items, up to limits of dialect and language. Thus, most speakers believe that “New York” and the native dialect’s “Noo Yawk” are dialectal variants, and that “Venice” and “Venezia” are cognate, the English and Italian ways of pronouncing the same word. But a speaker could easily believe the contrary, that “New York” and “Noo Yawk” are pronounced so differently that they must be, in this speaker’s view, different words, (which nevertheless may still be taken to refer to the same place). Thus, when we speak of a lexicon, we mean a *speaker’s lexicon*, built on beliefs about how the relevant linguistic criteria individuate the entries.

We can now fill in our definition, moving from lexicon and lexical item, to *employing a lexical item*. An employed lexical item is one which occurs as a constituent of sentence types. An employed lexical item is thus a lexical item under a syntactic description; it is a syntactic *expression* containing a lexical item. We notate such expressions by the standard technique of embracing the lexical items in labeled brackets: “[<sub>NP</sub> Paderewski]” is a syntactic expression of the lexical item “Paderewski.” So, finally, by *a is named by  $\alpha$* , we mean *a is designated by an expression of  $\alpha$* ; that *a and b are named by  $\alpha$* , we mean *a and b are designated by expressions of  $\alpha$*  and so on.

By way of terminology, we will be using the term *name* to designate those lexical items by which things are named. There is an implication of our understanding of names that needs to be emphasized at this point: *names do not refer*. That is, reference is not among the linguistic properties that individuate lexical items. For suppose that reference did play this role; then a speaker would have in his lexicon as many names of the same phonological shape as he believed there to be things so named. Let us designate these

now distinct names as “Paderewski<sub>I</sub>”, “Paderewski<sub>II</sub>” and so on. Now consider the following statement, with respect to such a speaker’s lexicon:

(N) There are many people named “Paderewski”

Obviously, this sentence could be true; but this is not what it turns out to be, since on the contemplated view there is no one named “Paderewski” at all, only someone named “Paderewski<sub>I</sub>”, someone named “Paderewski<sub>II</sub>”, etc. Nor would matters be improved by replacing what stands between the quotation marks with one of these, for each of these can designate at most one person. Of course, if reference is not a criterion for lexical individuation, then no lexicon ever has more than one name “Paderewski.” This one lexical item, however, can name any number of things. But bear in mind that reference, while not a property of names, *is* a property of syntactic expressions containing names, and these may be many, each with definite reference. On this way of looking at things, the statement above can be straightforwardly true, as indeed there may be many people designated by expressions containing the name “Paderewski.”

The thesis we have on the table thus has the following aspects: (i) Syntactic expressions of names are the vehicles of reference; (ii) names are in a one-many relationship with their expressions. More precisely, (ii') there is a one-many relationship between names and distinct expression-types, and (ii'') there is a one-many relationship between names and tokens of each expression type. We assume that the multiplicity implied by (ii) is indexed in syntactic structure, (indicated by our use of subscripted (Arabic) numerals<sup>11</sup>), and there are two cases to be distinguished; non-coindexing, corresponding to (ii'), and coindexing, corresponding to (ii''). “[Paderewski<sub>1</sub>]” and “[Paderewski<sub>2</sub>]” are (tokens of) distinct expression types, and *qua* being vehicles of reference, nothing follows whether their reference is the same or not. A

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<sup>11</sup>Henceforth, presence of a subscript will indicate an expression, absence a name: “Paderewski<sub>1</sub>” indicates a syntactic expression, “Paderewski” the name.

stronger result holds, however, for multiple occurrences of one of these expressions; all of them corefer. Coindexing, on the natural interpretation, indicates sameness of expression-type; non-coindexing, difference of expression-type.

A question arises at this point with respect to the relation (ii); what fixes the cardinality of the expression-types for each speaker of the language? The answer is that a speaker will believe that there are as many expression-types containing a given name as he believes there are people bearing that name. This relation is bijective because while speakers assume that any number of different people may bear a given name, they do not normally believe that any one person can have one particular name more than once; Paderewski only has the name “Paderewski” once. Availing ourselves of our notational resources, we can encapsulate this *Singularity* as follows:<sup>12</sup>

*Speaker's believe co-spelled expressions corefer if coindexed, and that they do not corefer if not coindexed.*

In a given discourse, a speaker's use of expressions of a name will directly reflect the speaker's beliefs about how many values that name has; in referring to each, a speaker will use different expressions, for only this will comport with his beliefs; (otherwise his expressions would corefer). Thus, in accordance with Singularity, the speaker's use of  $x$ -many distinct but co-spelled expressions will be based on his belief that there are  $x$ -many distinct people so-named. Singularity, therefore, is our bridge principle.<sup>13</sup>

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<sup>12</sup>Our formulation here differs from that in Chapter One merely in making explicit that speakers believe Singularity.

<sup>13</sup>Beliefs stemming from Singularity are normative and defeasible; one can imagine non-standard scenarios that make sense precisely because Singularity is set aside. So, suppose that baby Ignace is kidnaped. The kidnappers, ignorant of the child's name bestowed one; they name him “Ignace.” If one knows this, it seems that one would believe that one person has the same name twice, “Ignace” as bestowed by his parents and “Ignace” as bestowed by the kidnappers, and on the basis of this belief could assert “Ignace is Ignace” informatively. In this case, there would be good cause for holding that the norm, as fixed by Singularity, does not obtain.

## IV. THE PUZZLE DEEPENS

Let's take stock and see where we are with the puzzle, now that we can connect the expressions used to the relevant linguistic beliefs of speakers. Consider, in the context of Singularity, a sincere utterance of "Paderewski<sub>1</sub> is Paderewski<sub>2</sub>". The immediate conclusion we come to is that *no speaker is in a position to assert this consistently with his beliefs*.

Why is this? On the one hand, for the speaker, who believes that there is only one person named "Paderewski," the statement implies that there are two people named "Paderewski," as two distinct "Paderewski"-expressions are used. On the other hand, someone such as the hearer, whose beliefs are consistent with this implication, would not assert this either. Rather, he would assert just the opposite, namely "Paderewski<sub>1</sub> isn't Paderewski<sub>2</sub>"; i.e. a statement of the form  $[a \neq b]$ . So, we now at least have a more subtle description of what is going on in the puzzle: "Paderewski is Paderewski" is useable and informative but not assertable consonant with anyone's beliefs.

That this should be so is odd to say the least, especially given that Singularity licences the following bit of reasoning. The hearer, by assumption, believes (1):

$$1. \exists x \exists y x \neq y (x \text{ is named "Paderewski"} \wedge y \text{ is named "Paderewski"})$$

From (1) we can infer (2), by Singularity; that is, that there are two "Paderewski"-expressions that do not corefer.

$$2. \exists x \exists y x \neq y (x \text{ is referred to by "Paderewski}_1" \wedge y \text{ is referred to by "Paderewski}_2")$$

Now, from (2) and "Paderewski<sub>1</sub> is Paderewski<sub>2</sub>", it ought follow that (3):

$$3. \exists x \exists y x = y (x \text{ is referred to by "Paderewski}_1" \wedge y \text{ is referred to by "Paderewski}_2")$$

By Singularity we then proceed immediately to (4):

$$4. \exists x \exists y x = y (x \text{ is named "Paderewski"} \wedge y \text{ is named "Paderewski"})$$

which entails (5):

5.  $\exists x$  ( $x$  is named “Paderewski”),

which, again by Singularity, implies (6):

6.  $\exists x$  ( $x$  is referred to “Paderewski<sub>1</sub>”).

Now, if the hearer’s acceptance of “Paderewski<sub>1</sub> is Paderewski<sub>2</sub>” is sufficient by this line of reasoning for him to reject (1), the result will be that his beliefs will come in concordance with those of the speaker. But the question remains: How does the speaker’s utterance give rise to this reasoning outlined? After all, the “Paderewski”-expressions are used, not mentioned, so how is sufficient linguistic information provided in order for the hearer to change his beliefs in the way described? So far, we have no grasp on an answer to this.

The problem we are facing harkens back to the remark of Davidson’s that we cited above; we still don’t have the logical form quite right yet. To see why this is so, we need to make explicit something that has been at best only implicit thus far. Consider a speaker who utters the sentence “[<sub>S</sub> Paderewski was a Pole].” Among the things we can say about that speaker is that he uses the syntactic expression “[<sub>NP</sub> Paderewski]”, and that with such use he believes he can accomplish the goal of speaking of that about which he intends to speak. A speaker who wishes to speak of Paderewski will use the expression “[<sub>NP</sub> Paderewski]” because he believes that “[<sub>NP</sub> Paderewski]” refers to Paderewski, so that by using this expression he may refer to Paderewski. Following the usage we have established, we call these sorts of beliefs, for instance, that “[<sub>NP</sub> Paderewski]” refers to Paderewski, beliefs of *Assignments*.

In the normal course of sincere speech, a speaker standardly presupposes such beliefs of Assignments; this is the effect of the Assignment Principle, introduced in Chapter Two. Thus, a speaker who sincerely asserts “Paderewski was a Pole,” believes (among other things), that (i) Paderewski was a Pole

and (ii) “Paderewski” has the value Paderewski. But while (ii) is normally implicit, part of background assumptions of discourse, as we argued in Chapters Two and Three, Assignments may also be made explicit, as part of what is said, or if you wish, part of the content of the proposition expressed. In the terms we find congenial, what we are suggesting is that there is a systematic ambiguity of logical form, one containing an assignment, the other not. “Paderewski is a Pole”, for example, will have the logical forms  $(D)$  and  $(D')$ :

$$(D) P (\text{Paderewski}_1)$$

$$(D) P (\text{Paderewski}_1) \wedge g(\text{“Paderewski}_1\text{”}) = \text{Paderewski}_1$$

In giving  $(D)$ , we have formalized Assignments as functions from expressions to values; we can think of  $g$  for our purposes here as the reference function.<sup>14</sup> Note that  $(D)$  entails  $(D')$ :

$$(D') P (g(\text{“Paderewski}_1\text{”}));$$

that is, that the reference of “Paderewski<sub>1</sub>” is a Pole.

Now why would a speaker deviate from the normal course of events and utter a sentence with a logical form such as  $(D)$ ? When would it serve his communicative purposes? One main reason, perhaps *the* reason, is that in this way the speaker can attribute Assignments to someone other than himself, and in doing so make what we might rightly call a *de dicto* attribution. By itself such an attribution might not amount to very much, saying no more than, say, someone believes that “Cicero” refers to Cicero. But when placed in coordination with the attribution of other, non-linguistic, beliefs, the effect of such attribution can be considerably greater. So consider the following logical form, with the assignment given colloquially:

$$(DB) \text{Max believes } [\text{Cicero}_1 \text{ was a Roman, and “Cicero}_1\text{” has the value Cicero}_1]$$

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<sup>14</sup>We hedge here because of non-denoting name-expressions. While there are any number of ways of treating such expressions, (e.g. as having some sort of abstract denotata, or as standing as disguised descriptions of fiction), as we pointed out in Chapter Two, whatever approach is adopted, it will remain orthogonal to the issues that arise from the attribution of Assignments; these are constant across denoting and non-denoting names.

A speaker who utters this sentence with this logical form says that Max believes that a person referred to by “Cicero” is a Roman. To say this, however, is to lay in a rather restrictive claim regarding Max’s belief, for by doing so the speaker is refraining from attributing the belief that Cicero was a Roman with respect to any other way of naming Cicero. So, for instance, it cannot be inferred from *(DB)* that Max also believes that a person referred to by him as “Tully” was a Roman, that is, *(DB)* does not imply *(DB')*:

*(DB')* Max believes [Tully<sub>2</sub> was a Roman, and “Tully<sub>2</sub>” has the value Tully<sub>2</sub>].

The inference to *(DB')* fails because ““Tully<sub>2</sub>”” cannot be substituted for ““Cicero<sub>1</sub>””. These expressions are not coreferential; unlike “Tully<sub>2</sub>” and “Cicero<sub>1</sub>”, which denote the same person, they denote different *expressions* of the language.

Notice here that Assignments are semantic beliefs that speakers can confidently and reliably attribute to agents. Indeed, there may be nothing of semantic relevance in the current context other than such beliefs that can be attributed with such certainty, certainly not the beliefs that an agent associates with his representation of a person or object, (given that there even are any), for these are not the sort of beliefs to which anyone other than oneself has particular access. An Assignment can be attributed even if the speaker is in no position to attribute to the agent any descriptive or qualitative grounds upon which the agent associates that name with that value.<sup>15</sup>

The circumstances we are observing are really no different with the following pair, those of the

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<sup>15</sup>It might be thought that the role played by attributed Assignments could be filled not by attributing specific descriptive or qualitative conditions to the agent, but by a weaker attribution, just that there are such conditions, whilst leaving their particular content unspecified. Presumably, this would attain the sort of epistemic neutrality that accrues to attributed Assignments, given that having some such conditions is constitutive of having a name in one’s language. We are dubious, however, of this latter claim. One may have no idea whatsoever what conditions are satisfied by the reference “Cicero” or “Tully.” But that would be no bar to accepting the truth of “Cicero is Tully,” - say it was uttered by George Washington, who is compelled to unimpeachably speak the truth - and hence coming to know that “Cicero” and “Tully” corefer. All that is needed for this, and hence for having a name in one’s language, is that these are names, and that they can be employed in expressions that have a semantic value; cf. discussion below and in Chapter Three. Moreover, it is central to our proposal that there are clear and precise identity conditions provided by the grammar that distinguish Assignments; the parallel problem of conceptual individuation is notoriously murky.

puzzle:

Peter believes [Paderewski<sub>1</sub> has musical talent, and “Paderewski<sub>1</sub>” has the value Paderewski<sub>1</sub>]

Peter believes [Paderewski<sub>2</sub> doesn't have musical talent, and “Paderewski<sub>2</sub>” has the value Paderewski<sub>2</sub>]

Here, however, another factor comes into play; given Singularity relative to what is being attributed to Peter, it follows that he believes that there are two people, each named “Paderewski,” one of whom has musical talent, the other not, and of course there is nothing inconsistent about this. But to echo Kripke, does Peter, or does he not, believe that Paderewski has musical talent? The answer depends upon how we take the question. If it is *de dicto*, then once we have clarified which “Paderewski” expression is being used, there is a yes or no answer to be had. But this is not the way Kripke intends it to be taken. Rather, the puzzle arises, putting it in our terms, from posing the question non-*de dicto* in the context of *de dicto* attributions. But given the clash of beliefs about how many people are named “Paderewski” between the speaker and the agent, the question is inevitably unanswerable as asked.

## V. THE IDENTITY PUZZLE

Like Kripke, it is our view that the puzzle as just outlined arises from aspects of belief attribution; we differ, given our articulation of the “logical grammar,” in the principle at stake; it is from Singularity that the puzzle arises, not from disquotation in Kripke's sense. The utility in looking at things our way arises in part from its applicability to other aspects of the puzzle. So, with our current understanding, let us return to the identity puzzle - How can “Paderewski is Paderewski” be an informative identity statement?

As we left matters, we had gotten as far as analyzing “Paderewski is Paderewski” as being of the form  $[a = b]$ , which gave rise, as we saw, to certain unfortunate consequences, since the relevant Assignments were presupposed attributed to the speaker. But now we have another option; the *de dicto* logical

form:

Paderewski<sub>1</sub> is Paderewski<sub>2</sub>, and “Paderewski<sub>1</sub>” has the value Paderewski<sub>1</sub>, and “Paderewski<sub>2</sub>” has the value Paderewski<sub>2</sub>

That is, identity statements too are ambiguous; they also have logical forms which contain Assignments, schematically:

$$(D=) a = b \wedge g("a") = a \wedge g("b") = b,$$

from which it follows directly that:

$$g("a") = g("b").$$

So, given the logical form above, it follows that the reference of “Paderewski<sub>1</sub>” is the same as the reference of “Paderewski<sub>2</sub>”. But now the question arises: to whom are the Assignments contained in a logical form of the form  $(D=)$  being attributed? A first-party attribution is inherently eliminated by the fact that the Assignments are explicit, and no third party is overtly specified (as in belief attributions). Rather the attribution is to the second party, that is, normally to the addressee. It is as if the speaker, in uttering “Paderewski is Paderewski” *de dicto* says in effect to the hearer, *your* “Paderewski”-expressions corefer, and this can be asserted consistently with the speaker’s beliefs about how many people are named “Paderewski.”

The existence of *de dicto* logical forms is a general phenomenon, not bounded to any particular linguistic context. We have previously, in Chapter Two, discussed their occurrence in propositional attitude contexts; their occurrence embedded in modal contexts is another example. Suppose a speaker is faced with an interlocutor who is highly reticent about revising any of his beliefs, a person for whom the best strategy would be to have him just entertain that there is only one person named “Paderewski.” To this person, the speaker may say, *de dicto* in our sense,  $(P)$ :

$(P)$  It is possible that Paderewski is Paderewski,

$(P)$  entails:

It is possible that the reference of “Paderewski<sub>1</sub>” is the reference of “Paderewski<sub>2</sub>” as entailments hold within modal contexts. What is not entailed by (*P*) is:

The reference of “Paderewski<sub>1</sub>” is the reference of “Paderewski<sub>2</sub>”, correctly so, given the invalidity of inferring *p* from  $\Diamond p$ , in contrast to its unembedded counterpart, which does have this entailment. Where they do *not* contrast, however, is in what their usage tells us about what the speaker and hearer believe; this is the same. Since both involve attributions, usage of either will conform to the hearer’s beliefs; it is his beliefs of Assignments, and consequently about how many people are named “Paderewski,” that are presupposed in the discourse. A speaker can respect these presuppositions because his beliefs do not come into play; his presuppositions are just not on the table, reflecting a general property of using language attributively.<sup>16</sup>

We now have an important result. Identity statements can contain linguistic information, and this information can be attributed to the hearer by the speaker. (Note that this does not undermine the necessity of true identity statements, for (*D=*) is a conjunction of identities, and a conjunction of necessary truths is itself a necessary truth; cf. the discussion in the Appendix to Chapter Two, and in Chapter Three.) This refines the puzzle for us, to the question of how this information can be *informative* - that is what is the effect of this information on the epistemic states of the hearer, such that it will be causal of a change in his belief states?

Well, let’s follow through the logic of the communicative interaction of the speaker and hearer. The speaker’s communicative goal is to cause the hearer to alter his beliefs; the speaker wants the hearer to believe that there is only one person named “Paderewski” just as he does. As such, he makes his utter-

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<sup>16</sup>So whether a speaker believes Pegasus exists or not, or is agnostic, is no bar to him attributing that Pegasus exists to someone else. A speaker can say “Max believes Pegasus exists” even if he believes that there is no such thing as Pegasus. Speakers’ beliefs are immaterial in governing a speaker’s usage in attributive contexts, including those we are discussing in the text. Thanks to Jeff King for discussion of these points.

ance. The hearer accepting “Paderewski is Paderewski” *de dicto* will infer that his “Paderewski”-expressions corefer, thereby negating his previous view that they did not. This, however, is unstable, for it does not square with Singularity, there being too many expressions given his (interim) revised belief of coreference. In order to bring his language back into conformance, the hearer has but one option - give up that there are two distinct “Paderewski”-expression types, and replace it with the belief that there is just one. If this exhausts the hearer’s inventory of “Paderewski”-expressions, it follows that he now believes there is only one person named “Paderewski.” The speaker’s desired result has been achieved; he has brought the hearer’s beliefs into conformance with his.<sup>17</sup>

It should be clear that this description of the informativeness of “Paderewski is Paderewski” is just an informal rendering of what we gave as (1) through (6) above, and we now have a grasp on the question that we posed there. The speaker’s utterance gives rise to the reasoning outlined because the linguistic information conveyed in the *de dicto* logical form is sufficient information to cause the hearer to adjust his linguistic beliefs in the manner described. (Or, if modally embedded, to contemplate adjusting.) Making this change of course may require some housekeeping in the hearer’s overall epistemic states, since beliefs that were previously taken to be about two people, are now taken to be about one. If someone previously believed that Paderewski had musical talent, and that Paderewski didn’t have musical talent, he is going to have to decide whether he does or he doesn’t (or remain agnostic). This last step is the ultimate effect of the information that the speaker has conveyed to the hearer by his utterance of “Paderewski is Pa-

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<sup>17</sup>We should perhaps point out here something that should have been apparent as we proceeded. The puzzle as we have described it is, in part, to analyze (i), and to show how one can be dislodged from such a belief by an utterance of “Paderewski is Paderewski.”

(i) *Believe*[ $a, \exists x \exists y x \neq y (x \text{ is named "Paderewski"} \wedge y \text{ is named "Paderewski"})$ ]

Since the quantifiers are inside the propositional attitude, it doesn’t matter for the puzzle whether the facts of the matter are such that the speaker or hearer is right. The speaker may be wrong that there is only one person and the hearer might be right that there are two people named “Paderewski.” All that is relevant is that the speaker want the hearer to have the same *beliefs* as him.

derewski.”<sup>18</sup>

## VI. INFORMATIVENESS AND THE REVERSE PUZZLE

Let us dwell for a few moments on the remarks in the paragraph that concluded the previous section. As we have it, we can think of the epistemic result of a hearer’s acceptance of “Paderewski is Paderewski” as an instruction to merge his beliefs about Paderewski, to form the union, if you will, of his “Paderewski<sub>1</sub>”-beliefs and his “Paderewski<sub>2</sub>”-beliefs, while resolving whatever conflicts or inconsistencies this would engender. Now this joining of disjoint sets of beliefs into one presumably has an inverse, an operation splitting one set of beliefs into two. Indeed this is just what a speaker would want a hearer to do if, in reversing the initial scenario, it is the *speaker* who believes there are two people named “Paderewski,” while the hearer believes there is just one. The puzzle here is what could the speaker say in order to instruct the hearer to divide his unary “Paderewski” beliefs into two?

The answer that comes immediately to mind is: say the opposite of what was said before, not “Paderewski is Paderewski,” but rather “Paderewski isn’t Paderewski.” But uttering this in the context seems very odd indeed. The hearer believes there is only one person named “Paderewski,” so the only relevant identity statement he would hold to be true would be “Paderewski<sub>1</sub> is Paderewski<sub>1</sub>,” a sentence of the form  $[a = a]$ . But then the initial reaction of the hearer to the speaker’s utterance of “Paderewski isn’t Paderewski” is that it is the negation of this, that the speaker had uttered a logical falsehood. At this point

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<sup>18</sup>We have perhaps somewhat oversimplified the mechanisms of belief revision here, for we might suppose that change in belief states is normally weighted. If  $a$  comes to believe that  $p$  where he previously believed that  $\neg p$ , then given the context,  $a$  will retain belief that  $\neg p$  to some degree. Suppose a speaker who believes that Paderewski isn’t Paderewski, accepts a speaker’s utterance of “Paderewski is Paderewski.” The hearer, as described in the text, will revise his beliefs, but we may assume, will leave a 10% chance that  $a \neq b$ ; i.e. that his initial belief was correct. But note that the negation of this,  $a = b$ , is not what the hearer now believes is 90% certain. What the speaker now believes is, given Singularity,  $a = a$ , and that is 100% certain. Note that it could be that the hearer is now 90% certain that there is one person named “Paderewski,” leaving a residual 10% certainly that there are two people so-named. But these, clearly, are not complementary; the belief that there aren’t two people named “Paderewski” does not even imply that there is one person so-named.

the hearer might walk away left with doubts about his interlocutors sanity. He may, however, be more charitable, for knowing the linguistic options, he could recognize that it is possible that the speaker's intention was to utter a sentence of a different form, viz. "Paderewski<sub>1</sub> isn't Paderewski<sub>2</sub>". This is a perfectly reasonable thing to say, and if this is what the speaker did assert, so the hearer would reason, it would only be because he believes there are two people named "Paderewski." Now, the hearer continues, why would the speaker tell me, the hearer, about his beliefs in this way? Well, presumably because he wished to highlight the differences in our beliefs, and perhaps he did so, given the context, because he thinks I'm wrong about there being only person named "Paderewski." *Ergo*, the point of the speaker's utterance was that he wants me to change my beliefs to be like his.

Well, our goal has been reached, but in a way that is much different, (and weaker), than before. In the prior case, the hearer's reasoning got off the ground because the sentence the speaker uttered was a denial of what the hearer holds; belief revision then results solely from the hearer's reflections upon his own epistemic states. In this latter case, however, if there is an inconsistency, it is ineffectual. Rather, the hearer's reasoning is generated by his benevolent desire to give a sensible reconstruction of the speaker's speech act, and reason it through to a likely conclusion as to cause. As a result of these reflections in part about the *speaker's* epistemic states, the hearer may indeed alter his beliefs, and hold that there are two people named "Paderewski,"

Now suppose that a hearer, by this more indirect route, does change from believing that there is one person named "Paderewski" to that there are two. But now the hearer is stuck. Since the hearer has one set of (non-linguistic) beliefs about Paderewski, the task that faces him now is to cleave this set into two; this is the consequence, given Singularity, of his newly found belief. But he is left in the dark as to how to proceed; he does not have sufficient information on where to make the cut. In this regard, the

speaker's utterance cannot be said to be informative, for it cannot cause any stable reorganization of the hearer's non-linguistic beliefs. For this, more information is needed; it would be in line for the hearer, having reasoned through from the speaker's utterance of "Paderewski isn't Paderewski," to respond "Oh, how are they to be distinguished?" In contrast, no comparable request would be needed in the initial case; the hearer may respond to the speaker's utterance of "Paderewski is Paderewski" with nothing more than "Oh, I see." Further information is not required, as there is sufficient information to undertake unioning previously distinct sets of beliefs to arrive at a new, stable set of beliefs, (again, short of having to resolve conflicts and inconsistencies, or at least remaining agnostic about such).

If "Paderewski isn't Paderewski" is ultimately uninformative in the reverse context, is there some way that information can be provided that would allow for the division of beliefs? There is a minimal way of changing things that would have this result: replace the proper names with definite descriptions. The speaker might rather say, for instance, "The pianist isn't the statesman." Accepting this - "Oh, I see" again seems an appropriate response - the hearer will now have a handle on things, for a wedge as to where to split his beliefs has been provided, between those relevant to being a pianist and those relevant to being a statesman. What we see here, then, is a difference emerging between names and descriptions; names, in the context, are informationally "weak"; descriptions, informationally "strong." In the standard context, in which information is needed to join beliefs, weak information is sufficient, so of course stronger information will suffice as well. But not in the reverse case; here nothing less than strong information will do.

It will perhaps not have gone unnoticed that lurking in these remarks is an argument against reducing names to descriptions, for if names in some sense carried descriptive information, we would expect them to be informative in the reverse context just like descriptions. This conclusion is of course nothing new, but it does differ from the standard arguments in that it arises from epistemic rather than modal con-

siderations. But while both sorts of considerations lead to the same conclusion about names and descriptions, it turns out that they do not carve the referential joint in exactly the same way. So consider a speaker, in the reverse context, saying to the hearer “That guy isn’t that guy,” uttering the first demonstrative while pointing to the pianist in the concert hall, then very slowly saying “isn’t” as they quickly dash outside to the political rally in the town square, and demonstrating the orating politician while uttering the second demonstrative. This utterance *is* informative; “strong” information, it appears, can be supplied contextually as well as linguistically. Demonstratives, therefore, fall on the side of the fence with descriptions, in opposition to proper names. This divergence between name and demonstrative expressions stands in contrast to well-known arguments that names and demonstratives cluster together, as opposed to descriptions, as devices of rigid (or direct) designation, which are based on the properties of these expressions in modal contexts.<sup>19</sup> The modal arguments are intended to show that reference is not the same as satisfying a description, and this is true of reference made by the use of either names or demonstratives. Our epistemic argument, in contrast, pertains to how different referential vehicles can be used by speakers in the service of effecting changes in the belief states of their interlocutors. In this regard names and demonstratives do not form a natural class; rather demonstratives cluster with definite descriptions, in that they can overtly carry information on which the hearer can base the revision of his beliefs, something names, in the circumstances described, cannot do.

## VII. A DEMONSTRATIVE PUZZLE

To this point, we have dwelled on the linguistic Paderewski-puzzle, the puzzle that turns on linguistic beliefs of the speaker and hearer. At the outset, however, we remarked that this is to be distinguished from

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<sup>19</sup>Putting together observations stemming from Kripke, 1980 and Kaplan, 1989.

a different puzzle, one that is not linguistic in character; now that we have brought demonstratives into the picture, we are in a position to broach this puzzle, albeit only briefly and rather sketchily.

The setting for this puzzle is much like the original; the twist is that the linguistic information is removed. So suppose that the speaker and hearer know of the pianist and the statesman, the speaker believing they are one and the same, the hearer that they are not. However, neither the speaker nor the hearer know his name - the name "Paderewski" is not to be found as an entry in either of their lexicons.<sup>20</sup> The speaker now utters to the hearer "That guy is that guy," pointing first to Paderewski as he plays the piano on the concert stage, then while slowly uttering "is," they dash outside, somewhat preceded by Paderewski, and pointing to him, now on the political rostrum exhorting the crowd, finishes the utterance.<sup>21</sup> Clearly this can be an "Oh, I see" case; the speaker's utterance can be informative, effecting a revision in the beliefs of the hearer. No longer will he believe there are two people; now he will believe there is just one.

To understand this "demonstrative" form of the puzzle, and to see how it differs from the "linguistic" form of the puzzle we have been considering, we need to be clear first about the logical form of "That guy is that guy," and how it differs from the logical form of "Paderewski is Paderewski." For, as we shall see, only the logical form of the latter is subject to Singularity, and it is from this that the distinction between the puzzles emerges.

To unfold this, recall that we have taken it that for names, expression-types are projected from lexical items, and that tokens of these types are what occur in syntactic structures. We annotate tokens by

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<sup>20</sup>We stipulate this lack of knowledge in order to simplify the puzzle; as will become apparent it is by no means required.

<sup>21</sup>This example is modeled on an example of Kaplan's (1989). Of course, accomplishing such an utterance may take some considerable time, so as to allow Paderewski to change his location, but this is not necessary for the sentence *That guy is that guy* to be informative. Imagine that one seeks to deny that someone has been instantaneously replaced by his doppelganger; then one can utter this sentence in normal time while demonstrating the person in question as he stands rigidly before the interlocutors.

indexing, so that all tokens of a given type will bear the same index, and tokens of different types will always bear different indices. Moreover, as we understand what it means to be a token of a syntactic type, it directly follows that all tokens of an expression-type are covalued; all tokens (in a given discourse) of “[Paderewski]<sub>1</sub>” will corefer, *as a matter of grammar*. It is a characteristic of natural language, however, that there may also be expression-tokens whose relevant syntactic contents are spelled the same - they all contain the name “Paderewski” - but yet are not covalued. An immediate consequence of this observation is that syntactic tokening cannot be of names, for if it were, all expressions containing the same name would have to be covalued. Thus, our insistence that what are syntactically tokened are expressions of names, (and our practice of appending indices to syntactic expressions, i.e. to NPs, and not to the names they contain), and our insistence that, properly speaking, it is expressions, not names, that refer. Moreover, since expression-tokens that contain the same name but which are not covalued must be tokens of different expression-types, to wit, tokens of “[Paderewski]<sub>1</sub>” and “[Paderewski]<sub>2</sub>,” we can take the position that the relation from expression-type to value is a function.<sup>22</sup>

Now what about expressions that rather than containing names, contain demonstratives like “that guy.” Tokens of such expressions contain orthographic occurrences of the word “that” and orthographic occurrences of the word “man.” But does it follow from this coincidence that these are tokens of a demonstrative expression-type “that man”? Can we say of them just what we have said of name-expressions? The quick answer is no; the reason, roughly, is that syntax underdetermines demonstrative expression tokening. This answer, however, is a bit cryptic; to flesh it out, we need to spell out some our understanding of the linguistic characteristics of demonstratives.

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<sup>22</sup>We would only be prevented from taking this position if tokens of the same type could be distinctly valued; but this is precisely what is not possible, given the relation of expression-type to expression-token. See discussion in Chapter One.

Demonstratives, we propose, introduce functions from contexts to indices. So suppose that we think of demonstratives, as delivered syntactically, as doubly incomplete, containing a place for a context and an index. Then, in a context  $C^i$ , the index “1” might be determined, and we will have the expression-token “[<sub>1</sub> that  $\alpha$  ( $C^i$ )],” while in context  $C^j$ ,  $i \neq j$ , the index “2” might be determined, and we will have the expression-token “[<sub>2</sub> that  $\alpha$  ( $C^j$ )].”<sup>23</sup>  $C^i$  and  $C^j$  need not, however, determine different indices. There is no bar to occurrences of demonstratives in distinct contexts determining the same indices, i.e. to coindexing, so that we can also have “[<sub>1</sub> that  $\alpha$  ( $C^j$ )]” and “[<sub>1</sub> that  $\alpha$  ( $C^i$ )].” The determination of the index by the function introduced by a demonstrative serves as its definition; typically a successful definition involves demonstrating an object, the demonstration being part of the context that determines the index.<sup>24</sup>

The characterization of demonstrative expressions we have just given is meant to encompass their *linguistic* properties. As such, it is to be distinguished from a common view that demonstratives introduce functions from demonstrations to values; we differ in what we take to be both the domain and range. For reasons that will become increasingly clear as we proceed, demonstrations cannot take the place of contexts, nor values of indices; we can observe at this point that these notions are not co-extensive - there may be any number of demonstrations in a context held fixed, and there may be any number of distinct indices, (more precisely expressions bearing distinct indices), with the same value. This is not to deny, however, that demonstrations play a role in the overall account. It is just that we see this role as ancillary to the information needed for a sufficient linguistic description. Demonstrations, and the relation they bear to

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<sup>23</sup>The schematic letter ranges over whatever else may occur in the nominal with the demonstrative word “that,” (“this,” “those,” etc). Thus, we take the account to generalize over both simplex and complex demonstratives.

<sup>24</sup>Note that there is no requirement that an index be defined *de novo* for each occurrence of a demonstrative; if it is already defined, then we have anaphoric occurrences, in which demonstrative expression picks up both the indices and context of an antecedent demonstrative. In way of illustration, consider a speaker who utters “That guy saw that guy” only to be contradicted by another speaker, who says “No, that guy didn’t see that guy.” Clearly, the force of the second utterance derives from its dependence on the demonstratives in the first; the second speaker intends to speak about the same individuals in the same contexts as did the first speaker. Another anaphoric use of demonstrative expressions is when they play the role of bound variables, as in “Every guy thinks that guy is handsome.”

their demonstrata, are part of the definition of context; all that is required linguistically is that this definition characterize the domain of the demonstrative function onto indices.

The possibility of this last case raises the following question: are “[<sub>1</sub> that  $\alpha$  ( $C^k$ )]” and “[<sub>1</sub> that  $\alpha$  ( $C^k$ )]” tokens of the same expression type, a type we may represent as “[<sub>0</sub> that  $\alpha$  ( )]” so as to indicate its incompleteness with respect to context and index? Now if it is central to the type-token distinction that two tokens of the same expression-type be coindexed and therefore have the same value, then, since these are coindexed, and therefore covalued, it might be said of these two cases that they are indeed tokens of the same type. But in general this will not do, since “[<sub>3</sub> that  $\alpha$  ( $C^k$ )]” is, on this view, *also* a token of the expression-type “[<sub>0</sub> that  $\alpha$  ( )],” and “[<sub>1</sub> that  $\alpha$  ( $C^k$ )]” and “[<sub>3</sub> that  $\alpha$  ( $C^k$ )]” are not only not coindexed but might not even be covalued. The terminological tension should be clear. On the one hand there is a notion of “token-of,” special to linguistics, that suggests “derived from.” This sort of talk appears elsewhere in linguistics, as when it is said that two phonetically distinct allophones are tokens of the same phoneme. The other sort of talk focuses rather on the question whether we have repetitions of the same thing, where the expression “same thing” may be taken more or less strictly. These usages may diverge; in the case of allophones, it is perfectly legitimate to say that two phonetically distinct allophones are tokens of (derived from) the same phoneme (-type), but that they are not repetitions of the same thing (they are phonetically distinct).

The former usage, the linguistic one, though harmless, is not the one we have been adopting so far. We have said that there is an expression-type “[<sub>1</sub> Paderewski],” and that it has tokens. And we have said that the value of the expression-type “[<sub>1</sub> Paderewski]” is Paderewski and that the values of all of the tokens of the expression-type “[<sub>1</sub> Paderewski]” are Paderewski. So types “with values have tokens with values. The type-token distinction, as we have been deploying it, is a relation between expressions with values. But it

makes no sense to talk of the value of “[<sub>( )</sub> that  $\alpha$ ( )].” A value can only be determined when a context is specified and an index derived. But in the type-token talk we have been engaged in, the point has been that tokens of the same type are (a) coindexed, and (b) have the same value as that type. But as just discussed, there are no demonstrative expression-types that have values. Even if we wish to call “[<sub>( )</sub> that  $\alpha$ ( )]” a demonstrative expression-type (in the linguistic “derivational” sense), it nevertheless has no value. So we must revise our type-token talk accordingly. So far we have said: Coindexed NPs are tokens of the same type. Now we must add the proviso: *if they both have a type*. So far we have said: Coindexed expressions have the same value as the type they are tokens of. Now we must add the proviso: *if they both have a type*.

Importantly, notice that having added these provisos, we *still* may say: Coindexed expressions are covalued. That is, if expressions are co-indexed, they are co-valued; this is an extensional property of the semantics. The semantics, if you will, does not care about the genesis of this coindexing, whether it arises from the different ways in which name expressions and demonstrative expressions are projected. Co-valuation - coreference in the case at hand - is a matter of grammar, indeed the *same* matter of grammar, regardless; the semantics need look no further than that there is coindexing to determine that token expressions have the same value. Coindexed demonstrative-expressions will have the same value (demonstrata); when they are not coindexed, they are not so compelled. But this is no more (or less) than what we can say of name-expressions, at least from the perspective of grammar.

Notice that nothing we have said so far disallows multiple occurrences of a fully determined demonstrative expression; all we have said is that in the relevant sense they are not tokens of the same type. Thus a representation such as the following ought to be allowed:

[that guy ( $C^i$ )]<sub>1</sub> saw [that guy ( $C^i$ )]<sub>1</sub>

But there is yet another question lurking, pertaining to how fine contexts are sliced. Clearly, in this

sentence we have two demonstrative expressions-tokens, and that when uttered, they occur at different times. And it must be admitted that difference in time alone *can* distinguish contexts, as can spatial differences alone. But *must* they? If they must, then the sentence given may never be uttered. But before we draw that conclusion, we must be more clear about what contexts are. What plainly they are not are complete representations of the actual conditions of utterance, for speakers are rarely, if ever, in a position to apprehend the total objective conditions of utterance. Rather, speakers employ a much more labile and subjective notion of context, which depends upon their beliefs about the objective conditions, and their views of the relevance to their speech act of the various aspects of utterance context. Thus, a context, as it figures in the determination of demonstrative expressions, will be, more often than not, partial, and not complete. So, for instance, while objectively the time of utterance is different for each utterance of a demonstrative expression, a speaker may or may not believe that this is a relevant factor. If change of time is paramount to the speaker, then context will be taken to change; if it is not, the speaker will consider the current context to be unchanged, (and *ceteris paribus* for other aspects of context). Returning to the sentence above, it will be on this view utterable, with the meaning that with respect to an unchanging context, the person demonstrated saw himself.<sup>25</sup>

With this much under our belt, we are now in a position to return to the issue that set us down the present path: what is the logical form of “that guy is that guy”? There are two possibilities:

[that guy ( $C'$ )]<sub>1</sub> is [that guy ( $C'$ )]<sub>1</sub>

in which context is invariant, and:

[that guy ( $C'$ )]<sub>1</sub> is [that guy ( $C'$ )]<sub>2</sub>

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<sup>25</sup>Note here that a speaker may believe that a context is invariant with respect to occurrences of demonstrative expressions, even though each of those expressions may be associated with a distinct demonstration. Indeed, insofar as demonstrations are actions at unique space/time coordinates, any demonstration will be distinct from any other, regardless of whether a speaker believes that context has shifted or not. If this is so, then demonstrations could not serve in place of context as our operant notion, for they would be too finely individuated.

in which context changes. (What we cannot have is:

$$[\text{that guy } (C') ]_1 \text{ is } [\text{that guy } (C') ]_2$$

if the relation from contexts to indices is a function.) Of these two logical forms, clearly it is the latter that could be uttered in the puzzle context. Not only is it of the form “ $a = b$ ,” (the other being of the form “ $a = a$ ” and analytic relative to the context), but it also represents an essential aspect of the demonstrative puzzle so described, viz. that each demonstrative expression is uttered in a different context, one in the concert hall, the other at the rally. Our attention is therefore directed towards this logical form as the logical form of “That guy is that guy,” as uttered on the context of the puzzle.

The reason for our continued scrutiny is that we have still not settled whether an utterance of the sentence in question, with this logical form, will suffice for the speaker’s communicative purposes as described above. This is pertinent, for as we have seen, a sentence with a logical form comparable with respect to indexing but containing name expressions did not suffice. Recall that in this latter case - “Paderewski<sub>1</sub> is Paderewski<sub>2</sub>” (non-*de dicto*, sans Assignments) - it would follow from Singularity that a speaker of this sentence believes that there are two people each named “Paderewski,” so that it would be unsuitable for use in a circumstance such as that of the initial puzzle in which the speaker believes there is only one person so-named. But this is not the conclusion to be drawn about “That guy<sub>1</sub> is that guy<sub>2</sub>” in the case at hand. The reason for this is not hard to see, once we recognize that under the logical form proposed, *utterances of a sentence of this sort are not constrained by Singularity*. Singularity, at heart, is a condition that constrains speakers’ beliefs about the relation of linguistic types; it says that if spelling is invariant, then different types, and hence their respective tokens, have different values. It is thus applicable just where we are willing to say that there are types that syntactic occurrences are tokens of. But demonstrative-expressions, as we have seen, are of no syntactically determined type, and so Singularity simply does not come

into the picture. Since Singularity is by-passed, “That guy<sub>1</sub> is that guy<sub>2</sub>” does not imply that two people are demonstrated, only at most that there are different contexts, and this is compatible with a speaker uttering this sentence perfectly well believing that he is demonstrating the same person twice over, as is the case in the above scenario. Therefore, what the speaker says, and what the hearer takes him to be saying, is that the person demonstrated in the first context is the same person as demonstrated in the second. But since this denies what the hearer would have taken to be the case in the circumstances - that the demonstrations are of different people - the hearer will have gained information that is sufficient to cause him to consider altering his beliefs.

At this point, the difference between the two Paderewski puzzles should be emerging with some clarity. In the puzzle with demonstratives, the speaker, on the basis of his own beliefs about how many people there are, (i.e. just one), can make an informative assertion *non-de dicto*, and by doing so bring the hearer’s otherwise divergent beliefs into accord with his own. The puzzle here *is* objectual; there is no issue as to variant linguistic beliefs of the speaker and hearer. In contrast, it is just such beliefs that are at issue in the puzzle with proper names. In this case, the speaker cannot make an informative assertion based on his own beliefs about how many people are named “Paderewski,” but can do so on the basis of his beliefs about the hearer’s beliefs about how many people are so-named. The logical form of his utterance must be, as we have said, *de dicto*. This puzzle is linguistic.

## VIII. DEMONSTRATIVE REFERENCE

At this juncture we make an observation: the demonstrative puzzle does not depend upon the speaker and hearer not having the name “Paderewski” in their lexicons. For we need only notice that the puzzle would have continued apace in the scenario described above if the speaker had uttered not “That guy is that guy,”

but “That Paderewski is that Paderewski,” or even, with accompanying ostension, “Paderewski is Paderewski.” Either of these latter utterances too would be informative. So, even though the speaker and hearer have the name “Paderewski” in their lexicons, there is apparently no impediment to the speaker uttering a sentence with the logical form “Paderewski<sub>1</sub> is Paderewski<sub>2</sub>,” all the while believing that there is only one person *named* “Paderewski,” so long as his utterance is demonstrative, and thus Singularity is not in play.<sup>26</sup>

The picture that emerges from this observation when combined with our previous results is that expressions of names have a dual status, so that when expressions of names are used successfully there are two routes at the disposal of speakers by which the same value can be secured, one via semantic reference, the other by demonstrative reference. Semantic reference is reference based on semantic beliefs of speakers; these beliefs may persevere over time, and may be the basis by the use of a name for repeated references to a given individual. In way of contrast, demonstrative reference is more ephemeral in nature; it is inherently dated, located and oriented, with referential value being obtained through demonstration. Demonstrative reference and semantic reference are independent, and they are canonically associated with different linguistic vehicles. Normally, speakers will use demonstrative expressions to make demonstrative reference, and name-expressions to make semantic reference, (or descriptions, where names are either unavailable or inappropriate). However, demonstrative reference at least is not inherently tied to a particular type of linguistic expression. While speakers will use proper names semantically when context is insufficient to support demonstration, demonstrative reference can be predominant when context warrants, in which case proper names can be used as the linguistic vehicles of demonstration. Such is the case in the

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<sup>26</sup>That there is a difference in identity statements of the sort we are discussing is recognized by Kaplan in “Demonstratives”, although he recognizes that this poses a difficulty for his approach. The reason is that the informativeness of identity statements results from a variance in the way character delivers a content with respect to a context when demonstrative terms flank “be”; but proper names have constant character with respect to context, so any two proper names with the same reference have the same character, so that “the informativeness of  $[\alpha = \beta]$ , with  $\alpha$  and  $\beta$  proper names, is not accounted for . . .” (Kaplan (1989, p. 562)).

demonstrative Paderewski puzzle.

As might be expected, demonstrative uses of proper names conform to general conditions on demonstrations that license the use of demonstratives. These conditions are quite flexible; speakers know that hearers are forgiving when it comes to demonstration, and do not require that the referent be the proximate demonstratum. All that is absolutely required of a speaker is that he believe that whatever is proximately demonstrated will be associated by the hearer with the appropriate object. For instance, pointing to a picture of Paderewski may be sufficient to demonstrate Paderewski, in which case the speaker may utter either “That guy is a pianist” or “Paderewski is a pianist,” and pointing to a picture of him as an adult and then to one of him as a baby may be sufficient to demonstrate Paderewski twice, the different pictures providing sufficient diversity of context to support uttering either “That guy is that guy” or “Paderewski is Paderewski.” What holds for pictures holds more diversely, for both single and multiple uses of demonstratives; with the latter, for instance, doing different things, wearing different costumes, having different identities, as well as being depicted differently may be sufficiently divergent contexts to support multiple indications of the intended referent. But regardless of how the demonstration is accomplished, there is an additional encumbrance on the demonstrative use of names, for, (keeping to our example), an utterance of “Paderewski is a pianist” implies a belief that it is a picture of *Paderewski* being demonstrated, and this has to come into the mix somewhere. So, unless the speaker believes it is a picture of Paderewski, and believes of the hearer that he believes it is a picture of Paderewski, (or at least believes that the hearer believes that the speaker believes that the picture is a picture of Paderewski<sup>27</sup>), a proper name cannot felicitously be used demonstratively. Of course, the point generalizes; so long as it is believed that, relative to the

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<sup>27</sup>That is, the speaker need not believe that the picture is a picture of Paderewski so long as he believes that it is believed of him that he believes that it is a picture of Paderewski.

context, the *demonstration* is of Paderewski, a proper name can be used demonstratively.

What we can now see is that if context is held constant, and the aforementioned epistemic condition is met, demonstrative expressions and name expressions are interchangeable; either may be used to the same communicative ends as vehicles of demonstrative reference, and this is to be distinguished from the use of name expressions as vehicles of semantic reference. Failing to heed this dual nature of name expressions can lead to confusion of cases; here is one that from our point of view would be particularly egregious. Consider Frank, a bright, if somewhat naive, student in Cambridge in the halcyon days of the early part of the last century. Frank, we may assume, has the name “Russell” in his lexicon, so that (1) holds:

(1) Frank believes that “Russell” refers to Russell

But although Frank’s linguistic usage conforms with this belief - his intention in using the name “Russell” is to refer to Russell - Frank’s behavior belies a different truth. When he says he is going to Russell’s lectures, he in fact goes to Wittgenstein’s, and when he sees Wittgenstein on the street, he points to him and says “There goes Russell.” It thus seems that (2) holds:

(2) Frank believes that “Russell” refers to Wittgenstein,

so that (3) is the case:<sup>28</sup>

(3) Frank doesn’t believe that “Russell” refers to Russell.

But how can (1) and (3) both be true?

One answer, of course, is that they cannot be, if (3) is true, then (1) is false. This result, however, would seem to undermine one of our central claims. (1) appears as a belief of an assignment, and (3) as the denial of such belief. (3), however, does not imply that Frank is incompetent in his linguistic usage.

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<sup>28</sup>We exclude the case in which (1) and (2) are taken together to imply that Frank believes “Russell” refers to both Russell and Wittgenstein.

Linguistically, he uses the name properly, to refer to the person he believes to be named “Russell,” but he has misapplied it, for he is mistaken as to who Russell *is*. But if the falsity of (I) does not imply that Frank lacks such linguistic competence, then, the argument goes, it cannot be that beliefs such as (I) reflect a speaker’s linguistic knowledge of a name in the way that we have described it, and so such beliefs cannot play the central explanatory role we have ascribed to them. Clearly, this is not a result that we are prepared to embrace, and indeed we should not, for it traffics in just the confusion we warned against.

The problem with this argument stems, we believe, from the rendering of (I), which runs roughshod over an important distinction, collapsing two quite distinct sorts of beliefs in one wording. One, roughly that “Russell” means Russell, is a belief of an assignment; the other, which can be paraphrased as “That’s Russell,” is an *identificational* belief. To see how these might be confused, suppose that Frank was asked to identify the person he has in mind when he uses the name “Russell,” and he does so by in fact demonstrating Russell, (not Wittgenstein). We could then say that:

(I) Frank believes that “Russell” refers to that person.

But since the demonstrative picks out Russell, the context would be such that we could also have (I’):

(I’) Frank believes that “Russell” refers to Russell.

(I’) is equivalent to (I), differing only in that it contains the demonstrative name “Russell” instead of the demonstrative “that person.” Now the similarity of the identificational belief (I) rendered as (I’) to a report of a belief of an assignment will be innocuous, so long as Frank properly identifies whom he means to refer to by his use of the name “Russell.” The coincidence, however, can break down, and when it does the two sorts of beliefs split apart. Thus, if Frank (mis)-identifies Wittgenstein, not Russell, as the reference of “Russell,” then (I) above is false, and (2) and (3) true, where (1) through (3) are *identificational* beliefs - in each case, the (used) name being a demonstrative name. But nevertheless, Frank still believes

an assignment; as noted, linguistically he uses the name properly, to refer to the person he believes to be named “Russell,” and this is unaffected by his misidentification. So if (1) is understood as attributing a belief of an assignment, it remains true, even though (3) is false, for (3) is the denial of an identification, not of an assignment.

To recap, what the present considerations emphasize is the importance of keeping clear two quite distinct uses of proper names, to each of which there is a corresponding puzzle. Although both the linguistic puzzle and the demonstrative puzzle can turn on utterances of “Paderewski is Paderewski,” under analysis what is said in each case is quite different. In only the former case is what is said *de dicto*. These cases are not to be conflated, for this would be to confuse the puzzles, and to be confused, at a more basic level, about linguistic beliefs fundamental to our grasp of reference as an aspect of our linguistic competence.

## IX. CONCLUDING REMARKS

To conclude, what the intricacies and subtleties of the Paderewski-puzzle lead us to is the view that there is not one puzzle, but two, one fundamentally linguistic in nature, the other not. In arriving at this conclusion, we have, of course, been sketchy at times, and rather blithely skipped over many details. For instance, we have not explicitly argued for our initial stipulation regarding the distinctiveness of “Paderewski”-expressions; this we have done, however, in some detail, in our book *Indices and Identity*. Also, dealt with elsewhere are the relations of the Paderewski-puzzle and the Pierre-puzzle, and of the identity puzzle given here to the traditional puzzle of “Cicero is Tully.” In both of these cases, considerations of the equivalence of Assignments come into play; cf. our discussion in “Names and Expressions” and “Identity Statements.” Moreover, there are a number of further matters discussed in those papers that

extend the observations here, including the embedding of identity statements in propositional attitude reports, giving a sort of “double” puzzle, and the reduction of certain aspects of the notion of a causal referential chain to anaphora in discourse, (linking via coindexed). Additional issues, for instance, regarding the mechanisms of belief revision, remain outstanding. Our goal here, however, has been more modest - to give at least a plausibility argument for the linguistic character of the connected problems of substitution and informativeness, as this is highlighted by the Paderewski puzzle.