

The *Tao* of Metaphysics

Elena CASETTA[†] and Philipp KELLER[‡]

Draft - Comments very welcome

We present a unified diagnosis of three well-known puzzles about proper names, based on a new view of the metaphysics of words and proper names in particular adumbrated by David Kaplan in “Words”. While our solution comes at some metaphysical price, we think it is worth being considered a serious contender and may illustrate the promise of taking more seriously the metaphysical foundations of our semantic theories.

POLONIUS: What do you read, my lord?

HAMLET: Words, words, words.
(*Hamlet*, II ii)

Parole, parole, parole, parole parole soltanto parole, parole tra noi
(Mina & Alberto Lupo)

Words, words, words

Our plan is as follows: Starting with three well-known philosophical puzzles, involving uses of words to refer to objects, we trace their notoriety to semanticists’ reluctance to draggle their white shirts in metaphysical swamps, presenting a uniform diagnosis. We hope to show that a rethinking of the metaphysics of words - the “*tao* of metaphysics”¹ - while also of independent interest, may provide new insights into classic problems in the philosophy of language. By getting straight the metaphysical foundations of our semantics, its implications on the natures and essences of words, their individuation criteria and modal profiles, we can hope to repair the notorious shortcomings of otherwise attractive direct reference theories. This, at least, is the hypothesis to be explored.

The first puzzle, involving a heavenly body known to the Babylonians under two different names, originated perhaps with Eubulides of Miletus (fourth century BC), but received its modern form with the opening paragraph of Frege’s “Sense and Reference”. The other two problems, about Peter/Pierre, an unfortunate bilingual, and the musician/politician Paderewski come from Kripke (1979). The protagonists of all three puzzles are rational and competent speakers of their respective language or languages, eminently rational or at least such that we should rather not want them attribute contradictory beliefs. The question raised by all three puzzles is how to account for a difference in cognitive value between two utterances, where neither a purely semantic difference nor a difference in syntactical-lexical form alone will do.² There has to be, we will conclude,

[†] Università di Bologna, Italia. Email: elenacasetta@hotmail.com

[‡] University of Geneva, Switzerland. Email: philipp.keller@lettres.unige.ch

¹ Kaplan (1990, p. 119) asks: “Is it possible that a name which in fact names a given individual, might have named a different individual?”. According to him, this is a “substantial metaphysical” question about the essence of a name: perhaps the question is not important, perhaps it’s only a matter of decision., and perhaps it is the *tao* of all substantial metaphysical questions.

² The puzzles are often framed within the semantics of belief ascriptions. Reports of the respective utterances by that-clauses, however, seem to present the same problems: “Hammurabi said that Hesperus is Phosphorus” does, but “Hammurabi said that Hesperus is Hesperus” does not, imply that Hammurabi said something informative.

something else. Because the utterances concern questions of identity, not only they themselves, but the pairs of proper names equated are of different cognitive values. The hypothesis to be tested is that the difference in cognitive value can be accounted for in terms of the metaphysics of the proper names.

Here, then, are the three puzzles:

(1) Hammurabi, ancient Babylonian fond of trivialities, assents without any doubt to “Hesperus is Hesperus”, while he feels being under no obligation whatsoever to accept “Hesperus is Phosphorus”, which strikes him as a rather adventurous astronomical hypothesis. For us philosophers, however, the situation is different: as we know from our Frege course, these names, as used by the ancient Babylonians, refer to one and the same planet, namely Venus.

(2) Peter is from Paris. During his childhood, he often heard of the famous city where Christopher Columbus was born and which he then called “Gênes”. His friends often heard him say “Gênes est jolie” and concluded that “Pierre croit que Gênes est jolie” is true. Much later, Peter finds himself in Genoa, where he learns Italian by direct interaction with its inhabitants. As his mastery of Italian increase, he acquires a solid disposition to utter “Genova non è bella”. Knowing him to be rational and honest, his neighbours conclude from his utterance that “Piero crede che Genova non è bella” expresses a truth. Some monolingual visitor from Paris, having heard Pierre sincerely utter “Gênes est jolie”, assures them that so still does “Pierre croit que Gênes est jolie”. Using a rudimentary principle of translation, some American tourists think the same both of “Peter believes that Genoa is not beautiful” and of “Peter believes that Genoa is beautiful” - aren't they attributing him contradictory beliefs?

(3) Saul often heard his parents talk of a man called “Paderewski” and his musical accomplishments. Much later, he meets a politician called “Paderewski”. He is astonished to hear that Paderewski is Paderewski, that the two Paderewskis are really one and the same man, for he believed that no politician ever was a musician. Firmly believing in the law of self-identity, he would not, however, be astonished to hear that Paderewski is self-identical.

The three puzzles share the following common structure. We have a difference in cognitive values between two identity statements that is not readily accounted for by differences in their semantic values or their syntactical-lexical form.³ Their only difference resides in the fact that an appeal to the syntactical-lexical form of the names involved, which is a possible (and, to some, even plausible) move in the first case, is much less intuitive in the second and ruled out in the third case. A Fregean solution to the puzzles associates the proper names used with descriptions: “the morning star” and “the evening star” - giving the meaning of “Phosphorus” and “Hesperus” respectively -, “the city of which I read most when a child” and “the city in which I live now” - encoding different ways of being acquainted with one and the same city - and finally “the author of such-and-such musical works” and “this famous politician” - presenting the referent of the name in different ways. A direct reference theory cannot incorporate descriptive material into the semantic value of the proper names, identifying the latter instead with the referent. For them, the puzzles translate directly into problems of the semantics of the respective belief ascriptions, which, after all, differ not just in cognitive value but also with respect to their semantic properties, most notably their truth. On this theory, the differences in cognitive value between the identity statements cannot be explained by a semantic difference between the names alone. But what else is available? An obvious first candidate is syntactical-lexical form - the “Paderewski” case, however, shows it to be of no avail, as do

³ By a “difference in cognitive value”, we just mean that (utterances of) the clauses “Hesperus is Phosphorus”, “Gênes is Genoa” and “Paderewski is Paderewski” (uttered, perhaps, with a stress on the eight syllable) are more informative than “Hesperus is Hesperus”, “Gênes is Gênes” and “Paderewski is Paderewski” (or “Paderewski is self-identical”) respectively: one can rationally and justifiably believe the latter without the former. By “syntactical-lexical form” we mean, following Kaplan (1990), those elements of the form of an utterance or inscription which are independent of their semantics.

similar cases of homophones ('Jon' and 'John'), homographs ('Florence', as pronounced in English and 'Florence', as pronounced in French) and 'phonographs' ('base' meaning 'low' and 'base' meaning 'bottom'). A second and, we think, much more promising candidate is the 'medium', i.e. the name itself, not just its syntactical-lexical form, content or semantic value. In these cases, we will argue, the medium, the message-bearer, *is* the message. Obviously, a lot of questions need to be considered: what are words anyway? what is the ontological status of proper names, what is their nature and essence? how are they individuated? what distinguishes one name from another? It is to these questions that we now turn.

The metaphysics of words

There is a simple and beautiful, venerable and almost universally accepted model of the metaphysics of words: words, it is said, come in two kinds, as tokens and as types.⁴ When I put down my name twice on the black-board, the stock example goes, we have two tokens, but only one type (sometimes we add, misleadingly, "on the black-board"), one abstract form or sequence of letters and two tokenings of it.⁵ The type is abstract, a 'form' of some kind, while the tokens are spatio-temporal particulars, consisting of chalk or ink or sound-waves.⁶

Beautiful as this picture is, it will not do. It leaves us in utter darkness with respect to the ontological status of types.

Some authors take types to be sets of tokens but this makes all untokened types identical (Hugly/Sayward 1981, p. 182).⁷ Moreover, it rules out that the same marks are used to represent different words, which seems clearly possible.⁸ If sets ontologically depend on their members, then the type ceases to exist with every new token coming into being or ceasing to exist (Simons 1982, p. 198).

Some others take types to be the geometrical patterns of their tokens, but that too makes untokened types identical and rules out marks belonging to more than one type; in addition, it is difficult to see

⁴ Alongside the orthodoxy, there seem always to have been some heretics: Husserl (?), Cairns, others? ADD

REFERENCES

⁵ Peirce calls them "replicas" (2.246) or "embodiments" of the type: "There will ordinarily be about twenty the's on a page, and of course they count as twenty words. In another sense of the word "word", however, there is but one word "the" in the English language; and it is impossible that this world should lie visibly on a page or be heard in any voice, for the reason that it is not a Single thing or a Single event. It does not exist; it only determines things that do exist. Such a definitely significant Form, I propose to term Type. A Single event which happens once and whose identity is limited to that one happening or a Single object or thing which is in some single place at any one instant of time, such event or thing being significant only as occurring just when and where it does, I will venture to call a Token... In order that a Type may be used, it has to be embodied in a Token which shall be a sign of the Type, and thereby of the object the Type signifies. I propose to call such a Token of a Type an Instance of the Type. Thus, there may be twenty Instances of the Type "the" on a page." (2,292)

⁶ The type/token model is in need of some obvious refinements: the tokens, for one thing, have to be sufficiently demarcated from their surroundings, not just to be, at least in principle, visible or hearable, but also because we do not want to count "cod" in "code" or "red" in "credit" as tokens of word types for fish and colours respectively. But even if these cases are taken care of, token individuation is still a tricky business. Contrary to what many Microsoft Word users believe, counting of words is not an exact science (the counting of spaces is exact, but does not correspond to words, as "end . beginning" consists of two, not three words). In cases like "data base" and "jack rabbit", moreover, both the 'one-word' and the 'two-word' versions are correct.

⁷ In response to this, some might want to identify types with sets of possible tokens. But this gives us too many types: the mere fact that in some possible world of giants, trees are used as tokens of letters does not make the set of elms a type.

⁸ Fine (2000) and Dilworth (2003) gives some elaborate examples where Goodman's 'syntactic disjointness condition' is violated (cf. Goodman 1968, p. 133). For letters, this is familiar enough from crossword puzzles. Other examples involve tokens of homonyms, say an inscription of "mare" is carried from one box to another in a agricultural exhibition.

how geometrical patterns could be pronounced.⁹ The shape of “Winston Churchill”, drawn by an ant into the sand, is not a token of the English premier’s name (Putnam 1981, p. 2).

Both accounts of types as classes and as patterns of types share a common drawback: words can be encoded in very different notational systems, not just sound and the Arabic alphabet, but Morse Code, shorthand, Gödel numbers and so. For each of these encodings, there is a type/token distinction to be drawn. If we do so, however, we will no longer be able to say that “word” and “*word*” are tokens of the same type.

A different route would be to conceive of types as something like Platonic forms, the relation is one of archetype to reflection or ‘shadow’.¹⁰ In the absence of an account of what makes two shadows shadows of the same Form, however, this is just hand-waiving. or perhaps types are Aristotelian universals?¹¹ but they do not seem to be unsaturated, they do not account for similarity and they are not predicable.

There is a further, more general, drawback to any account of types as abstract objects: how is it that we can pronounce, learn, manipulate and invent them? How is it possible that (almost) all our information about these abstract objects is empirical in nature (Bromberger 1989)? If types are abstract objects, they cannot be causally linked to anything, including their tokens.¹²

But even if they avoid postulating abstract objects, plausible accounts of the type/token distinction will have to deal with the following three general problems.

The first problem concerns the (kind of) relation between tokens and their types. Whatever the ontological status of types is, it had better be possible that two tokens may be identical as to type while being different as tokens. But what can this identity-as-to-type consist in? As illustrated by homographic and homophonic words, syntactical-lexical form cannot be determinative. If it is the type PHILIPP that “Philipp” and “Philipp” have in common and the type P that occurs trice in each of them, are we to say that P occurs trice in the *type* PHILIPP? Neither answer seems comfortable: if it does not, then how do we distinguish PHILIPP from PHILIP (a very different name)? If it does, do not the three P in PHILIPP have something else, a super-type, in common? But if there is a super-letter-type that has three instances in the word-type PHILIPP, which one of these is the first letter of a token of “Paul” a token of?¹³

The second metaphysical shortcoming of the type/token model is both one of individuation and of multiplicity. Words can be pronounced and written in many different ways; to count two utterances or inscriptions as productions of the same word type, no degree of resemblance between them seems required. One may even held that the respective results of inscribings and utterances differ in ontological category: the mark on the black-board seems substantial, a three-dimensional continuant in time, while the modulation of the air by my utterance is a process or event that has temporal parts. But even if tokens of the same type formed an equivalence class under some sort of resemblance relation, would they not *also* resemble their type? Cannot types resemble each other?

Third, consider “Achille”. This is (a token of) a type of which we may produce several tokens during a conversation, while others might be written on the cover of a book. But are the type “Achille” we find on top of *Holes and Other Superficialities* the same type “Achille” we find in an

⁹ Including sound patterns will not do: “I’ve heard that before” does not mean you heard the sound-pattern before; “Could you repeat this?” is not a request to repeat the same sounds (Carins 1941, p. 242).

¹⁰ Lewis and Langford (1932, p. 311), e.g., think that a word “must be regarded either as a class made up of [the many different instances] or as an abstract entity after the fashion of a universal”.

¹¹ Van Inwagen (2000, p. 24) identifies types with universals, but does not say why.

¹² This might motivate some to identify types with particulars, e.g. mental representations. This will not do, as Bromberger (1989, p. 86, Fn. 5) has remarked: mental representations are themselves tokens of types.

¹³ Cf. also Simons (1982). Quine’s (1951, p. 297) identification of an occurrence of *x* within *y* avoids this problem by making the occurrence of a type itself a type. Apart from making it impossible to distinguish, within “*Fab* \supset *Fab*”, between occurrences of “*Fab*” and “*b*” (Simons 1982, p. 196-197), it also has the drawback of rendering the relation between token and types rather mysterious. Wetzel (1993) proposes an amended definition, but relies on a prior account of letter types and tokens.

Italian translation of the *Iliad*? If not, what distinguishes them? If yes, is the latter the same type as the name of Homer's hero in the Greek original? Either, it seems, the translation was starkly misleading or Achille misspelled his own name on the cover of his book. The individuation and multiplication problems therefore arise not only with tokens, but also with types. How many types are there in a given phone-book? How can it be true both that Achille has the same name as a famous race-car driver who tragically died in 1948 in Bremgarten, near Berne and that, if they would have met, it would have been true to say that the two Achilles finally met? If Achille would have moved in the race-car drivers' flat after his death, would he have had to send a name-change form to the authorities? The problems are most clearly visible in the case of variables. Variables are standardly introduced by something like "The variables are the lower case letters "u" through "z", with or without numerical subscripts..." (Mates 1972, p. 44). An occurrence of a variable in a formula is then normally said to be bound if it is within the scope of (the occurrence) of a quantifier and is said to occur free in it otherwise. A formula is said to be sentence if it does no variables occur free in it. This will not do, however. We do not want to say that " $\exists u_1(Fu_1)$ " is not a sentence because the variable "u" occurs free in it (cf. Hugly/Sayward 1981, pp. 185f). On the other hand, we do not want to distinguish between " $\exists u_1(Fu_1)$ " and " $\exists u_2(Fu_2)$ " - these two tokens should be tokens of the same sentence.

The type/token model does not fare very well on the puzzles either. Taking "Hesperus" and "Phosphorus" to be tokens of different types only postpones the problem to the individuation of types. Moreover, even if it worked for "Hesperus" and "Phosphorus", this 'solution' looks much less promising already for "Genova" and "Gênes": if they are tokens of different types, why should not then a simple difference in handwriting or pronunciation proliferate types? As long as we do not have criteria of individuation for types, we do not have a theory. Finally, the theory meets its Waterloo at the Paderewski case: *whatever* your criteria for type individuation, it seems, they will make the two tokens as tokens of the same type.

In his article "Words", David Kaplan criticised the type/token model on roughly the grounds we mentioned. Instead, he proposed what he called the "common currency model", according to which words, and proper names in particular, are continuants, constituted by stages (inscriptions, utterances), in roughly the way different quantities of water constitute a river. Names are "natural objects", with a birth and a life that change in time and move in space while remaining single entities, just like a person changes in time, moves in space and can be, simultaneously or at different times, a member of different language communities. We full-heartedly agree with the general picture, if not with the details.

The most obnoxious detail comes with Kaplan's notion of a 'generic name'. Introduced to account for the similarity among common currency names, it attests to the degree to which Kaplan is still ensnared in the type/token orthodoxy: Achille and the Greek hero, he still wants to say, have a name in common, to wit a generic name and not their (proper, personal, real?) names. What, then, we may ask, is the relation between these two names of Achille? The token/type problems are back. Names, according to Kaplan, are both "natural objects" and "cultural artefacts" at the same time. They can have both mental and physical 'incarnations', but are themselves neither mental nor physical. This indecision also seems to come from a confusion between generic names and their 'embodiments' - the latter are either mental or physical and only the former are neither.

We propose to take a step further than Kaplan. Names, in our view, are like viruses:¹⁴ they are natural objects, in space and time, which endure and move, spread and mutate while spreading. As

¹⁴ We do not take this claim to be purely metaphorical: if you reserve the word "virus" for biological viruses, then the claim is that words and viruses are metaphysically alike, in particular, that they have the same identity and existence conditions. If you use the word more broadly, to cover e.g. computer viruses, then the claim is that words *are* viruses.

long as we are clear about how viruses reproduce and how they can mutate under the influence of environmental factors, some vagueness of individuation is only to be expected: it can be indeterminate, and subject to many different considerations, whether some particular virus, e.g., should be classified as another kind of HIV or rather as a subspecies of an already existing kind.¹⁵ In some cases, such decisions may even be politically biased or depend on the power of the people typically infected by it. The same holds for language: whether some way of pronouncing a word is considered a variant of or an alternative to some other way may depend on whether the respective language community has an army and a navy.

Individual viral cells stand to the virus itself in the same kind of exemplar/species relation than utterances to the words they are utterances of. Indeed, ‘viruses’ like HIV or smallpox are actually virus species. Viruses are transmitted by physical transactions, and so are words. They depend on their host cells for their existence, as words depend on their physical and mental embodiments. In virtue of their multiplicative strategies, viruses can be said to travel and to change; in the same way, utterances and inscriptions of words give rise to other utterances and inscriptions of the same word. It is in virtue of this multiplication that words can be said to travel and mutate: the same word for Boris Nikolaevič El'cin, the last president of the Soviet Union, becomes “Jelcyn” in Polish, “Jelzin” in German, “Eltsin” in French and “Yeltsin” in English. In many cases where a word moves to another language community, no individual inscription or utterance moves; when the tiger moved to Asia, no single exemplar went all the way on its own. Words too, as they say, have no wings but can fly a thousand miles.¹⁶

The virus analogy helps us to keep what is right about the notion of generic names while avoiding the pitfalls of the type/token model.¹⁷ Viruses can be mapped, artificially reproduced and copied. When we say, e.g., that Iran ‘has’ the smallpox virus, we speak loosely: what we mean is that some persons under the control of the Iranian government know how to produce a smallpox virus, and have the means to do so - not necessarily that there is a particular smallpox virus stored in some Iranian laboratory. The smallpox blueprint the Iranians have or have not, however, is not a virus: it cannot infect anyone. It is a template for a virus, something Iran could use to bring into being a virus. ‘Generic names’, in the same way, are not names at all: they do not and could not name anything; they are not names, but models of names, socio-cultural rules that can be used to bring such names into being. Sometimes, as in *One hundred names to give to your child*, this is their very essence.¹⁸

Thinking of words as viruses help us focus on what we think are the most important features of their nature: their way of reproduction and their mutational possibilities. Rather than ask when some

¹⁵ The way by which viruses are characterized, for taxonomic and other purposes, is changing rapidly. In the past, laboratory techniques have included characterisations of virion morphology (by electron microscopy), virion stability (by varying pH and temperature, adding lipid solvents and detergents, etc.), virion size (by filtration through fibrous and porous microfilters), and virion antigenicity (by many different serological methods).

¹⁶ The aging of words has been aptly described by Cairns (1941, p. 247): “As member[s] of successive generations write and rewrite the same expression, it preserves its identity but it also changes. It may even be said to grow old - and, eventually, those who knew it in its youth might hardly recognize it, supposition they were still alive to meet it in its worn down and contracted old age. The possible vicissitudes of an expression, however, are quite different from the natural decay of a manuscript, the wearing out of a phonograph record, or the dying away of a sound of speech.”

¹⁷ As Wolsterstorff (1970, p. 237) has remarked, the species/exemplar model allows us to preserve the most important intuition motivating the type/token model, namely the ambiguity between what we might call ‘generic’ and ‘individual’ counting in the answers to questions like “How many words are on the black-board?”, “How many different plants do you have in your garden?”.

¹⁸ This is perhaps most clear in the case of computer viruses, those close relatives of biological viruses: they also spread, have a life, reproduce and mutate. In their case, we more readily speak of a virus even when no computer has been infected: the source code, the blueprint for the virus, is itself called a virus. The same can be said of words, as long as we keep in mind the very different way in which blueprints and the things they map spread and mutate.

name *N* refers to some individual *X*, a question that presupposes independent means of specifying the referent, we should state necessary and sufficient conditions on human actions to be uses of the same name. Words, like biological viruses, are dependent entities: they depend for their existence on actions of language users, as biological viruses depend on living cells for their reproductive cycle. The clue to a metaphysics of words, then, is their epidemiology.

The epidemiology of words

How do words reproduce and mutate? These are important, and very general questions. For our present purposes, we will concentrate on non-empty proper names, rigidly referring expressions having a referent. While we hope that our model can be extended to other types of expressions, this must, for now, remain unsubstantiated.

As viruses, names are ‘*entia successiva*’, sequences of stages.¹⁹ Bishop Butler (1736) e.g., claims that if someone affirms that *the same* tree has been in the same place for fifteen years, she is not right if she is meaning that the tree stayed the same in the “philosophical, strict sense of the word” - in a “loosely and popular way of speaking”, she can truly say that the tree stayed the same, “despite the continuous movement of its parts”, since the identity of the tree consists of “a continuation of the life itself, communicated under the same organisation to a certain number of material particles”. Similarly, according to David Hume:

“This resemblance is the cause of the confusion and mistake, and makes us substitute the notion of identity, instead of that of related objects. However at one instant we may consider the related succession as variable or interrupted, we are sure the next to ascribe to it a perfect identity, and regard it as invariable and uninterrupted. (...) the objects, which are variable or interrupted, and yet are supposed to continue the same, are such only as consist of a succession of parts, connected together by resemblance, contiguity or causation.” (1739, I.iv.6)

And – finally – according to Thomas Reid:

“When [the] alterations are gradual, because language could not afford a different name for every different state of such a changeable being, it retains the same name, and is considered as the same thing. Thus we say of an old regiment, that it did such a thing a century ago, though there now is not a man alive who then belonged to it. We say a tree is the same in the seed-bed and in the forest. A ship of war, which has successively changed her anchors, her tackle, her sails, her masts, her planks, and her timbers, while she keeps the same name, is the same.” (1785, III.iii.ii)

The shared idea is that is suitable to distinguish between “perfect” and “imperfect identity”, the identity of persons and the identity of natural things and of concrete objects. In the second case, we can speak of identity in a ‘loose, common way’ of different entities succeeding in time. Their similarity produces our mistakenly consideration of them as a single object changing its properties in time, whereas the single object is only a product, a ‘logical construction’, an ‘*ens per alio*’ opposed to the stages constituting it, the ‘*entia per se*’.

More recently, Chisholm (1969) used a theory of ‘*entia successiva*’ to account for the phenomenon of continuity (of concrete objects) undergoing change. How can we say that an object stays the same even if its properties change? Common sense has it that Theseus’ ship stays the same even when we substitute a broken plank with a new one. This view has some immediate problems: how many pieces can we substitute? What if we replace all its parts? What if, as Hume asked, we

¹⁹ The term ‘*entia successiva*’ comes from the Scholastic tradition; the idea may be found in the works of philosophers belonging to the tradition called ‘Cartesian Scholasticism’, as the occasionalist Nicolas Malebranche and the jansenists Antoine Arnaud and Pierre Nicole.

reassemble the removed planks into a complete ship? The sequentialist view is an attempt to preserve common-sense in view of these problems: ‘common-sense objects’ like Theseus’ ship are sequences of mereological aggregates (particles arranged shipwise): even though, at different times, we have different mereological aggregates, we can (loosely) speak of one object changing through time, if the aggregates are appropriately related and all ‘do duty’ for the ship. We are not distinguishing here two kinds of identity, but two ways of speaking about identity: “we use the locution ‘A is B’ (...) in a *loose* sense, if we use it in such a way that it is consistent with saying ‘A has certain property that B does not have’” (Chisholm, 1976, p. 92).

How does this apply to names? Inscriptions, utterances and memory traces of proper names are concrete objects (cultural artefacts), entia per se, and some of them are appropriately related in virtue of coming the one ‘from’ the other. At any particular time and place where and when the name exists, there is at least one physical item having semantic properties that ‘does duty’ for it. The name that we write twice on the blackboard, that both of us pronounce, that is shared by Kaplan, Lewis and by the enemy of Goliath is an ens per alio, logically constructed from a vast number of concrete entities, the ‘stages’. Every stage takes part in an application or an employment of the name that is its use at a time and in a context. Every employment is a process, and it is characterized by the intentions of its principal agent. Applications may be – and typically are – spatially and temporally scattered; it is in virtue of relations holding among the concrete entities they involve that we are typically able to track them.

From the employment at a given space-time we have to distinguish the ‘general’ use of the word, i.e. the mereological sum of its applications: without a certain number of applications there is no such thing as the use of a word. In the same way, without a certain number of stages, there is no word: “The world is not brimming with unspoken words. Words never actually created *are* not.” (Kaplan 1990, p. 117)

The relation tying the different stages into words is that of ‘genidentity’. The notion of ‘genidentity’ – as developed by Kurt Lewin and Rudolph Carnap – is close to the Russell’s notion of a ‘causal line’, “a temporal series of events so related that, given some of them, something can be inferred about the others whatever may be happening elsewhere” (1966, p. 477). There is, however, an important difference: Russell is talking of an epistemic relation, whereas ‘genidentity’ is an ontological one. Genidentity – the linking of the stages – provides an ontological grounding of the persistence of objects through time, and does not explain it away with reference to a certain subject’s cognitive ability to recognize the same object or in terms of a similarity among stages. Lewin, e.g., speaks of genidentity in the biological field both as the relation between successive sections of a single individual, “biological formations which stand in relations of existential being-such-as-to-have-come-forth-from”, and as the relation between successive members of different generations.

Genidentity is an existential relationship underlying the perpetuation of an object from one moment to the next: what we usually consider one and the same object actually consists of a several entities, i.e. the phases of the object at various time (and, possibly, at various worlds). In the case of words, the continuity of the name, and thus its identity, is based on this relation of genidentity and not on its referent or on its syntactical-lexical form: two inscriptions or utterances are genidentical not because of their having the same properties and characteristics (or in virtue of being sufficiently similar with respect to them), but in virtue of their developing one from the other, in genidentical series.

Transposed from the physical or biological field to the metaphysics of words, genidentity, the relation responsible for two utterances (inscriptions, memory traces) being utterances (inscriptions,

memory traces) of the same word, becomes the ancestral of a relation between utterances we call, following Macia (2001), ‘coordination’. Two utterances are coordinated if one of them essentially involves an intention to use some syntactical-lexical form, some sound pattern or some other physical item *in the same way*, whatever it is, as the salient physical item is used in the other. In typical cases when I am about to use a word, it already exists as a sequence of stages, ending in a particular stage -- an intention of co-reference will then determine whether another stage is a stage of the same word or not.²⁰ Coordination of two uses of the lexical-syntactical forms “a” and “b” may be manifested by a disposition to draw the following inference:

a is F
b is G

a is F and G

Whenever some individual is disposed to draw this inference, just on the basis of their utterances of the two premises, the utterances of “a” and “b” are coordinated - they intend to use them to refer to one and the same individual they take both to be F and to be G.

That words are individuated by coordination among utterances is not really a new idea. From our vantage point, it can be seen lurking behind much of what has been said in the last thirty-five years about the rigidity of proper names, i.e. the fact that they keep their reference constant in both actual and counterfactual situations. The question naturally arises how proper names can be bestowed with such an amazing capacity - and it seems a plausible idea that it is our use of them, and the intentions guiding that use, that make them keep their reference:

“What kind of linkage can insure that a name keeps the same reference in all possible worlds? [...] On the one hand names and other genuine singular terms must keep their reference in order for quantification to make sense. On the other hand, history is full of examples of names that due to confusion have come to change their reference. It took me many years to notice something that should have struck me immediately: What I show in this dissertation [(Føllesdal 1961)] is not that names and other referring expressions keep their reference in all possible worlds, I show only the conditional statement that *if* quantification into modal (and other intensional) contexts shall make sense, *then* names and other referring expressions have to keep their reference.

We have hence no guarantee that names keep their reference, we only know that *if* we get confused about reference, *then* we get confused about quantification. When we use a name, a pronoun or a quantificational variable, we signal that we intend to keep on referring to the same object, and we commit ourselves to do our best to keep track of it. [...]

Constancy of reference is therefore not something which is guaranteed, but something we must strive for when we use singular terms. It is a norm that we are expected to live up to as language users.” (Føllesdal 2004, pp. xxviii-xxix)

Co-reference intentions are sometimes even built in the very definition of rigidity:

“Someone uses a substance term rigidly if, in talk of any counterfactual or hypothetical situation, she uses it to refer to whatever in that situation the same substance as the substance referred to by the term in the actual situation” (Putnam 1990, p. 57)

According to direct reference theories, coordination in both the temporal and the modal dimension is essential to our uses of proper names. It is *because* you are able to intend to refer to the same thing I do, whatever it is, that you are able to pick up a name from me you have never heard before and use it to make true or false assertions about a thing you have perhaps never encountered or otherwise heard of. It is *because* you can intend to use a name in the same way for the description

²⁰ We would like to stay neutral on the difficult and partly empirical question how coordination can be or typically is achieved. For Kaplan, the continuity of names across their stages is “not a matter of resemblance between the two physical embodiments”, but “a matter of intrapersonal continuity, a matter of intention” (1990, p.104). What allows speakers to use the same name again is just their intention to do so. Other factors, however, such as shared attention and the use of more or less conventional devices to make things salient may also plausibly play a role.

of both actual and counterfactual circumstances that you are able to ask of this very person whether she might have won the elections.

Coordination is not just a pragmatic phenomenon, but has important semantic consequences: it has to be presupposed to avoid the fallacy of equivocation when drawing, say, the inference from “a is F” and “a is G” to “a is F and G”. Its semantic importance is all-pervasive: coordination is what validates the inference from “I am tired” and “I am hungry” to “I am tired and hungry” or from “this is exciting” and “this is evil” to “this is exciting and evil”.²¹ It is only by recourse to coordination that we are able to explain the difference between the semantic behaviour of the free variables x and y (cf. Fine 2003).

Coordination also has important epistemological consequences. In normal cases, the intention to coordinate the reference of a use of a certain name with another of its uses is self-fulfilling: Coordinating my use of “Achille”, e.g., with yours, I intend to refer by it to whatever is the referent of your utterance. When I thus coordinate my use of a name with yours, I make an identity statement connecting those very uses of the names true. Because my co-referring intention is transparent to me, the identity statement not only is true but a priori knowable. This is why “Hesperus is Hesperus” and the like are, at least in some uses, trivial.²²

I can only go wrong if I have a separate, and different, intention to use the name to refer to something independently given to me. It is only with respect to such uses that an identity statement linking my use with another one with which it shares its referent is informative. In these cases, however, my intention is not the purely notional intention to co-refer, to collaborate in whatever the naming practice of my language community is, but a referential intention, an intention to refer to some unique F.²³ This referring, as opposed to a co-referring intention, may both misfire if there is no or no unique F or, if successful, make me a deviant language user. I will count as deviant if the F, while it is available as a unique referent, is not the referent of the other uses I intend to align myself with.

Referential intentions play an important role in baptisms. In a referential use of a definite description to fix the reference of a proper name, the intention to co-refer links the newly introduced name with the referentially used description. In these cases, “N is the F” will normally be a priori, though the intention is not self-fulfilling - if there is no unique F, the identity statement is not true. It is in such uses of names that another point of analogy between proper names and both biological and computer viruses becomes apparent: all three are just instructions, RNA/DNA, source code or instructions to get to the referent, packed in a protective envelope.

For all their epistemological importance, co-referring intentions may be just one factor in our coordination of our uses of proper names. The metaphysically important point, however, is that a certain constancy of use is guaranteed by the very identity of a word.²⁴ If we distinguish the

²¹ To make these inferences valid, Kaplan (1989, p. 522) loads all relevant contextual factors into “sentences-in-context”, thereby postulating a dubious ingredient sense for those purely referential expressions.

²² The qualification “in normal cases” is important: when the original intention was in some way defective, the co-referring intention will be so too. The coreferring intention may also misfire if there is no intention for it to be coordinated with in the first place, as when someone uses a non-name to fool their hearers.

²³ This description is to some extent stipulative. In a case where I pick up “Madagascar” from you, but use it for the isle, while you use it for the continent, some may prefer to say that I have a co-referring intention but one that does not succeed. Instead of a conflicting intention, I would then have a wrong belief about the semantics of the name I intend to use. This seems the more natural thing to say at least in cases where I would let you correct myself. Such cases, however, seem rather special.

²⁴ In his critique of the type/token model, Kaplan replaces the notion of *resemblance* among different “embodiments” with the notion of *repetition*: in order to pronounce the same word you have heard, you have to repeat *that* word, that is,

different employments of a word, which are pieces of intentional behaviour in space and time, from its use which is a more comprehensive process and not itself intentional,²⁵ we may that we *identify* names with their uses - there is nothing else to a name than its applications, their properties and the coordination relation holding between them: “Eine Bedeutung eines Wortes ist eine Art seiner Verwendung” (Wittgenstein 1969, §61), or rather a relation of coordination among some linguistic acts.

Both words and biological viruses are (vertically) individuated not just by their reproductive process, but also (horizontally) by their ecological niche. Both components are present in the definition of a virus species proposed by van Regenmortel (1990) and finally accepted, after years of controversy, by the International Committee on Taxonomy of Viruses in 1991: “A virus species is defined as a polythetic class of viruses that constitutes a replicating lineage and occupies a particular ecological niche”. Bromberger (1989) has argued that linguists treat words as archetypes of quasi-natural kinds that are members of categories, i.e. individuated by their position in a space of possible answers to certain questions. Archetypes are fully characterised by sets of question-answer pairs and they are exemplified by tokens (Bromberger 1989: 68-69). While we find this picture plausible (reinterpreted as a definition of linguistic niches), we would like to resist Bromberger’s suggestion that “we can even think of archetypes as simply such arrays [of question-answer pairs]” (1989: 70); words are neither questions nor arrays of questions. It is their niches that may be identified with some position or hypervolume of an abstract space.

What, then, is a name’s ecological niche? According, e.g., to Charles Elton (1927), the ‘ecological niche’ of an organism is its *status* within its community, its role in a habitat vis-à-vis other species and the natural resources.²⁶ G.E. Hutchinson takes a niche to be a hyper-volume carved in an abstract space on the basis of a range of ‘ecological’ parameters relating to the species in question. Any biotic or abiotic factor of the environment is a potential parameter for the hyper-volume corresponding to the niche of a certain organism or species. Transposed to the case of names, this means that a name occupies a certain place in its environment and that both its genotype (its ‘nature’) as well its phenotype (its syntactical-lexical form) are affected by environmental factors. We can recognize two kinds of environment for a name: in the (strict) sense, the ‘habitat’ is the semantic context in which the name appears. In the (wider) sense, the environment of a name is the whole mental set of a speaker or community of speakers using it. Both environments play a role, contributing to and influenced by mutations of the names. In a word, the niche of a name is its functional role and names evolve, change and mutate in virtue of changing their functional role, in a process of continuous interaction between the word and its environment. The functional role of many (uses of) names, as many theorists have observed, is *inter alia* to serve as hooks for the storage of descriptive information. To serve this purpose, they have to do more than just tag the things we want to think or talk about; they also have to store the information neatly and, if possible, without too much redundancy, in a way that allows us to use it efficiently, to look at the right places when called upon to justify it, they have to make our body of information support the right kind of inferences etc. The information storage needs of language users, their cognitive set-up and hence the functional roles that may be occupied by names also evolve, their relative importance changes and hence new uses for old names and new names for old roles come into existence.²⁷

you just must have the intention to use the same word. For instance: if you repeat a word said by a speaker with an accent that is difficult to understand, you don’t imitate his pronunciation. Your utterance is different from the one of the speaker but – in virtue of intention of repetition – it is an utterance of the same word and thus continuity is assured.

²⁵ Thanks to Kevin Mulligan for having clarified this matter to us.

²⁶ Elton’s precision of this definition is, for our purposes, too limited: in fact, he focuses the attention especially on biotic factors, i.e. the organism’s trophic level (its position in the food chain). We need a more comprehensive definition in order to apply this ecological notion to words.

²⁷ As Sørensen (1996) has stressed, there are some limits to which functional roles can be occupied by words: Grelling’s paradox shows that there are impossible predicates, Prior’s rules for “tonk” show that they are impossible connectives.

The ecological niche of a name is not just its function in the internal economy of a single language user - it is its functional role within a community. Community pressure, coupled with my desire to be understood, may make me change “Peter” into “Pierre”, or “Bush” into “President Bush”, “Russell” into “Sir Russell”, and even, as we will see, “Hesperus” into “Phosphorus”. Community pressures makes people change their name for the same city from “St. Petersburg”, to “Stalingrad”, “Leningrad” and again back to “St. Petersburg”. Community pressure matter for a speaker because they want it to do so: my purely notional intention to co-refer automatically aligns my use of words with that of others; if their uses change, then so does mine. Community pressure is, however, just one of many factors:²⁸ as in the biological case, the factors to consider in order to individuate the niche are potentially countless.²⁹ The ‘environment’ of a word is a very complex one, and its boundaries are vague. The important point, however, is that the parameters relevant for the individuation of niches are those factors that will differentiate a species (a name) from another one.

The notion of an ‘ecological niche’ allow us to account for another phenomenon: take two words that appear and evolve independently from each other, but are correct translations of each other. The ecologists developed the notion of “ecological equivalents” to account for the analogous phenomenon in nature: there are some organisms that, even without any common origin or contact, occupy the same ecological niche, in different regions of world. In an analogous way, some functional roles are occupied in every, or almost every, language, perhaps because they correspond to ‘invariant’ features of the world.³⁰ Most functional roles, however, are created by the aims and needs of some specific language users: some may make a difference between names others use interchangeably - you distinguish between “mauve” and “violet”, not me, while I distinguish between “Louis-Ferdinand Céline” and “Louis-Ferdinand Destouches”, you don’t. To ‘distinguish’ between two uses of names, in this sense, is just to use them in different functional roles, to be prepared to draw different (and less) inferences, to have two hooks to link information to rather than just one. I can ignore that uses of “Monaco” by Italians are ambiguous and learn so by realising that it can be translated both by “Monaco” and “München” into German. I may have a differential response to different kinds of utterances and inscriptions and be prepared to waive the distinction if told that I do not have to make one, I can take one name to be two and two names to be one. Again, an analogy with biological viruses may come in helpful. Viruses, we have seen, undergo all kinds of minor mutations; because their life-cycles are typically short, some of these are selected, others are not: the virus (species) evolves, may find itself another niche or even become attached to a different host, with all kinds of unforeseeable consequences (as evidenced by the BSE prions).

Sørensen uses a thick/thin distinction to explain how “yields a truth when appended to its own quotation”, e.g., can be a phrase in the thin sense of being a string of genuine words composed in accordance with ordinary grammar, but not a phrase in the thick sense of words collectively composing a coherent satisfaction condition. We would describe this case as one where the individual words carve out a functional role for the phrase that is metaphysically impossible to occupy.

²⁸ Functional roles do not only change under pressure of external, environmental factors, but also in response to the immune system itself. Some names, like “Tegucigalpa” are badly adapted, just because they are difficult to keep in mind; others, like “Hääyöaie”, are difficult or even impossible to pronounce. Even if they are introduced, such names will gradually go out of use and eventually be forgotten, thereby passing out of existence. These are not, of course, absolute qualifications, but depend on some specific language user community: for Finnish speakers, “Hääyöaie” may be a perfectly usable name, while “Brunelleschi” is not. It is a rule of English pronunciation, for example, that the only consonantal letter that can precede a “t” at the beginning of a word is an “s” (Sørensen 1996)., while this is not the case, e.g., for “Ptolemy” in German.

²⁹ Hutchinson’s definition which takes this into account, has been criticized for being too comprehensive: to consider all the ecological parameters relating to an organism (or to a species) would make a precise mathematical model impossible.

³⁰ According to Pinker (1994), ecological niches (functional roles) are prior to the species (names) that occupy them. Children who are only exposed to a simplified hybrid language (a pidgin) will spontaneously inject a rich syntax and attach new senses to old words thereby developing a language (a creole) that is as expressive as any natural language.

When an immune system becomes adapted to a virus, sometimes anti-bodies evolve, neutralising the virus and immunising its host. New names, in a similar way, may become parts of my mental economy, hooks in my informational wardrobe. Anti-bodies, however, can be more or less specific. When a virus comes in different varieties, I can be immune against just one, some, or all of them. These differential responses of the immune system, as we shall see, are the keys to a solution of the puzzles.

The riddles diagnosed

Recall Hammurabi. He learns “Hesperus” as a name for the brightest star on the evening sky, uses and transmits it, and also learns another name, “Phosphorus”, for the brightest star on the morning sky. We tell him that Hesperus is Phosphorus and he is stunned by this amazing fact. Clearly, the words are different: they are introduced by different referring intentions and therefore give rise to different a priori truths: given the baptism, it is a priori knowable by people remembering the baptism that if there is a brightest star on the evening sky, it is Hesperus, though it is not a priori knowable, even for people fully acquainted with the baptism introducing “Hesperus”, that Hesperus is the brightest star on the morning sky. The names originate in different baptisms involving the same baptised thing but different reference-fixing descriptions. But why should this matter for semantics? Because Hammurabi’s uses of “Hesperus” are tied by his purely notional intentions of co-referring to *whatever* was the thing baptised using “the brightest star on the evening sky”. His immune system, so to say, reacts very differently to uses of “Hesperus” and “Phosphorus” and when he learns that he can henceforth link those uses by an intention of co-referring, he makes an important cognitive gain.

What about Pierre? If we suppose, what seems unlikely, that “Genova” and “Gênes” have been introduced independently for the city where Christopher Columbus was born in 1451, his predicament is the same as Hammurabi’s. If we suppose, as we have in the original puzzle, that “Gênes” is just a French translation of the Italian name for Genoa, the case is more complicated. What is special about Pierre’s case is that his uses of “Genova” are causally insulated from his (prior or simultaneous) uses of “Gênes” - they have their own ecological niche and play a different functional role. Even if there is just one word, correctly spelt in one way in Italian and in another way in French, uses of the words fall into two categories, different not only in virtue of their spelling, their being part of different languages and being differently located geographically, but also in virtue of the functional role they occupy in Pierre’s mind-set. Uses of “Genova”, even for Pierre, are linked by an intention of co-referring to other uses of “Genova”, and perhaps even to a reference-fixing description like “the city I now live in”, but they are not so linked to his uses of “Gênes”. It is this functional isolation of the two lines of interrelated uses that allows for a differential response by his immune system.

In this, his uses of “Genova” and “Gênes” respectively may be compared to regional variations of the influenza virus between which the immune system may or may not make a distinction. Small changes (or mutation) in the influenza virus occur all the time, leading to new strains that can replicate in individuals who mounted a strong immune response to previous strains of influenza. Spatial, causal (and temporal) segregation can magnify these differences, as it does in Pierre’s case. A subject immune to the particular type of flu now ravaging Switzerland may go to the States, where another type of flu is on-route. He may, or may not, be immune against the new type: if he is, his immune system recognises the virus as the one it already has anti-viruses for; if not, it has to mount a new response.

But why then is the Pierre case a puzzle about belief-ascription? Kripke’s puzzle, as formulated in (Kripke 1979), starts from three principles and issues in a question, put forward as unanswerable. The principles are:

- principle of disquotation: “If a normal speaker, on reflection, sincerely assents to “p”, then he believes that p.”
- strengthened disquotation principle: “A normal speaker who is not reticent will be disposed to sincere reflective assent to “p” if and only if he believes that p.”
- principle of translation: “If a sentence of one language expresses a truth in that language, then any translation of it into any other language also expresses a truth (in that other language).”

The question, suitable adapted to our case, is the following: “Does Pierre, or does he not, believe that [Genoa] (not the city satisfying such-and-such descriptions, but [*Genoa*]) is pretty?” (Kripke 1979, p. 260) The principles of disquotation and of translation seem to force us both to a positive and a negative answer. Together with the strengthened disquotation principle, we even get the for us uncomfortable result that Pierre does and does not believe that Genoa is pretty.

The problem, as we see it, is not so much with Pierre, but with how *we* should report his puzzling beliefs.³¹ Intuitively, the problem is not so much with his having to deal with two functionally isolated lineages of separately interconnected uses, but our fusing them together in a single language. Because our respective translations will, in the absence of semantic clues such as shading or indexing, be coordinated, we bring into contact two functionally separated varieties of what used to be the same virus and thereby create disaster.³²

What, finally, about Saul, having incompatible *de re* beliefs about Paderewski? Like it may happen with viruses, his immune system does not recognise that the new infection is one it is already immune against. His case is the same as Pierre’s, with the slight and unimportant difference that the two words involved are homographs. At this point, some may protest: if “Paderewski” and “Paderewski”, after all, do not count as the same word, what does? Given the foregoing, the reply is easy: it is tendentious to speak here of words. All we have are their stages, utterances, inscriptions and memory traces, either coordinated or not. Clearly, Saul’s two utterances are not. Because they rather directly stem (via coordination links) from utterances that are, however, we may still say, if we want, that in some sense there is only one word, mistakenly taken to be two by Saul. We do not count, after all, every slight variation in a virus as a new species. Saul’s mistake, if there is one, is not one of word individuation, as if words had an existence apart from our uses of them. It is irrelevant whether or not he (falsely) believes that his two utterances are utterances of different words. His mistake, if you want to call it that, is rather that he coordinates his two utterances individually with utterances that are coordinated among themselves, but not with each other. This is a mistake of non-conformism, not, as Kaplan seems to think,³³ a false relating tokens to types.

Words are modes of presentation (this obviously needs some more development)

We do not claim to have resolved these three notorious puzzles, but rather to have located the central difficulty where it belongs in our view: the central issue raised by these puzzles, we think, does not fall into the semantics, or pragmatics, but into the metaphysics of words. Names are entities among others, parts of our world, having a birth and a life, changing and moving. To

³¹ We hope that our distinguishing between both of Pierre’s languages and the language of us reporters of his beliefs makes this more perspicuous than it was in Kripke’s original case.

³² Stretching the analogy, the case of unfortunate Pierre may perhaps be compared to prions, proteins, crossing species-barriers more easily than viruses. This happened first to the Fore people who got Kuru from eating each other. The prions also infected sheep, giving them Scrapie, and beef, giving them BSE. Pierre may still count himself lucky if he only got contradictory beliefs and not Creutzfeld-Jakob.

³³ Cf.: “Imagine [...] that there was only one common currency name, but that it was stored as it were two. An error in word individuation is being made by the person [...] He is, of course, a perfectly competent speaker of the language, a native speaker in fact. This error that he is making is not really to be held against him, because it could happen to any of us. There are so many people around and so few *generic* names to go around.” (Kaplan 1990, p. 108)

compare their behaviour to that of viruses is useful, we think, in order to understand and describe several phenomena concerning our use of words.

But can we go further than this; does our picture give us a plausible account of the very ‘essence’ of names, some insight into the ‘tao of metaphysics’? This is the question to be explored in this last part.

Stephen Schiffer drew a list of conditions to be met by every acceptable theory of modes of presentations (Schiffer 1978, cf. also Schiffer 1990):

- modes of presentation should allow for de re thoughts
- modes of presentation should satisfy ‘Frege’s constraint’: “if [ideally rational] x believes y to be F and also believes y not to be F , then there are distinct modes of presentation m and m' such that x believes y to be F under m and disbelieves y to be F under m' ” (Schiffer 1978, p. 180)
- sameness of modes of presentation should entail sameness of functional roles.

According to Schiffer (1990, p. 252) : “Something is a mode of presentation if it plays the role defined by Frege’s Constraint and nothing can be a mode of presentation unless it plays that role”. FC is a ‘functional definition’ for modes of presentation. Our names satisfy FC.

Also, if something m play the role defined by the FC (and then, if something is a mode of presentation), m must be “intrinsically identifiable” as something else, that is, it must be possible a non-tautological definition of m (Intrinsic-Description Constraint). Our names satisfy even this constraint: they play the role defined by FC, then they are modes of presentation and they are identifiable in a way that does’t describe them as mode of presentation. Names are linguistic items, cultural artifacts behaving in a ‘viral’ way, and they play the mode-of-presentation role, but it’s a contingent fact about them that they play such a role.

Finally, (a) modes of presentation should allow for de re thoughts and (b) sameness of modes of presentation should entail sameness of functional roles.

Schiffer considers the option according to which modes of presentation are words, and rejects such possibility since it cannot apply to languageless believers and because of cases as that of Paderewski (that seems very ‘easy’ counterexample). The first objection seems to be inconsistent with the Intrinsic-description Constraint: proper names are something defined in their own right, and they *can* play a certain role. Other items, in other circumstances (as in the case of feral humans, chimps and very young children), could play such a role. The second objection is more worrying but we think that its strength depends on what metaphysical view about the words you choose to adopt. If words are merely individuated by their ‘sintactical-lexical form’, the question arises. But our names are, as we’ve seen, something else, and their *are not* individuated by their sintactical-lexical form.

Words, it seems, satisfy all of Schiffer’s criteria. Modes of presentation, perhaps, are just this: words.³⁴

³⁴ We would like to thank Paolo Leonardi, Kevin Mulligan, Serhan Ola, Paolo Bonardi and Achille Varzi for comments and useful advice.

REFERENCES

- Arnauld, Antoine and Nicole, Pierre 1662, *La Logique ou l'Art de Penser*, Paris: Charles Savreux, translated and edited by J.V. Buroker as *Logic and the Art of Thinking*, Cambridge: Cambridge University Press, 1996.
- Butler, Joseph 1736, "Dissertation I", in *The Whole Works of Joseph Butler, LL.D.*, London: Thomas Tegg, 1839.
- Chisholm, R. M. 1976, *Person and Object*, London: Allen and Ulwin.
- Dilworth, John 2003, "A Refutation of Goodman's Type-Token Theory of Notation", *Dialectica* 57(3), pp. 330-336
- Elton, Charles 1927, *Animal Ecology*, London: Methuen, 1971
- Fine, Kit 2000, "A Counterexample to Locke's Thesis", *The Monist* 83, pp. 357-363
- Fine, Kit 2003, "The Role of Variables", *The Journal of Philosophy* 100(12), pp. 605-631
- Føllesdal, Dagfinn 1961, *Referential Opacity and Modal Logic*, PhD Dissertation Harvard
- Føllesdal, Dagfinn 2004, *Referential Opacity and Modal Logic*, New York: Routledge
- Goodman, Nelson 1968, *Languages of Art*, New York: Bobbs-Merrill
- Hugly, Philip and Sayward, Charles 1981, "Expressions and Tokens", *Analysis* 41, pp. 181-187
- Hume, David 1739, *A Treatise of Human Nature*, L. A. Selby-Bidge edition
- Kaplan, David 1989, "Demonstratives - An Essay on the Semantics, Logic, Metaphysics and Epistemology of Demonstratives and Other Indexicals", in: Almog, Perry and Wettstein, eds., *Themes from Kaplan*, Oxford: Oxford University Press
- Kaplan, David 1990, "Words", *Proceedings of the Aristotelian Society, Supplementary Volume* 64, pp. 93-119
- Kripke, Saul 1979, "A Puzzle about Belief", in: Margalit, ed., *Meaning and Use*, Dordrecht: Reidel
- Macía, Josep 2001, "Proper Names: Ideas and Chains", presentation at Analytic Philosophy Summer School, Parma 23-29 July 2001
- Mates, Benson 1972, *Elementary Logic*, 2nd edition, Oxford: Oxford University Press
- Pinker, Steven 1994, *The Language Instinct*, New York: W. Morrow and Co..
- Putnam, Hilary 1981, *Reason; Truth and History*, Cambridge: Cambridge University Press
- Putnam, Hilary 1990, "Is Water Necessarily H₂O?", in: *Realism with a Human Face*, Cambridge: Cambridge University Press
- Reid, Thomas 1785, *Essays on the intellectual powers of man*, Ediburgh/London: J. Bell and G.G.J. Robinson; reprint: Cambridge, Mass.: The MIT Press, 1969
- Russell, B. 1948, *Human Knowledge: Its Scope and Limits*, London: Allen and Unwin
- Schiffer, Stephen 1978, "The Basis of Reference", *Erkenntnis* 13, pp. 171-206
- Schiffer, Stephen 1990, "The Mode-of-Presentation Problem", in: Anderson, Owens, ed., *Propositional Attitudes*, Stanford: CSLI
- Simons, Peter 1982, "Token Resistance", *Analysis* 42, pp. 195-203
- Sørensen, Roy 1996, "The Metaphysics of Words", *Philosophical Studies* 81(1-3), pp. 193--214
- Van Regenmortel, M. H. V. 1990, "Virus species, a much overlooked but essential concept in virus classification", *Intervirology* 31, pp. 241-254.
- Varzi, Achille C. 2003, "Naming the Stages", *Dialectica* 57(4), pp. 387-412
- Wetzel, Linda 1993, "What Are Occurrences of Expressions?", *Journal of Philosophical Logic* 22, pp. 215-220
- Wittgenstein, Ludwig 1969, *Über Gewissheit / On Certainty*, edited by G.E.M. Anscombe and R. Rhees, translation from the German by Denis Paul and G.E.M. Anscombe, Oxford: Basil Blackwell.