

Sense without Language

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ABSTRACT

In this paper two claims are made. The first claim is that a Fregean theory of rational thought cannot take senses (or concepts) to be linguistic entities, as has often been the case. The second claim is that, within such a theory, a distinction must be made between Fregean senses, on the one hand, and what are called *intentional aspects*, on the other. It is not argued that a Fregean account constitutes the best explanation for rational thought — as opposed to, for instance, Russellian or functionalist accounts. Its more limited argument is that, if the Fregean route is taken, then the requirements outlined in this paper must be met.

RESUMEN

En este artículo se defienden dos tesis. La primera tesis es que una teoría fregeana del pensamiento racional no puede considerar los sentidos (o conceptos) como entidades lingüísticas, como ha sido frecuentemente el caso. La segunda tesis es que, dentro de tal teoría, debe establecerse una distinción entre sentidos fregeanos, por un lado, y lo que se denominará *aspectos intencionales*, por el otro. No se argumenta que una teoría fregeana constituya la mejor explicación del pensamiento racional — frente a, por ejemplo, teorías russellianas o funcionalistas. Su argumento, más limitado, es que, si se toma la ruta fregeana, entonces los requisitos esbozados en este artículo deben cumplirse.

I. INTRODUCTION

In this paper, I will be making two claims. My first claim is that a Fregean theory of rational thought cannot take sense to be a linguistic entity, as has often been the case. My second claim is that, within such a theory, a distinction must be made between Fregean senses, on the one hand, and what I will call *intentional aspects*, on the other. I will not be arguing that a Fregean account is the best explanation for rational thought — as opposed to say, Russellian or functionalist accounts (even though I believe it is). My more limited argument is that, if the Fregean route is taken, then the requirements I have just formulated must be met.

I will begin by putting forward two explananda which I think must be taken into account by any self-respecting theory of thought. The first explanandum is the traditional Frege Puzzle: the failure to recognise identity cap-

tured in the literature by what are known as “Frege cases” (where the most famous Frege case is, of course, Frege’s own example of Hesperus and Phosphorus). The second explanandum is a number of very prominent features which set human languages and human thought apart from animal communication systems and cognitive processes, and which I will characterise in greater detail in the second part of this paper.

Frege’s notion of sense was originally introduced to account for the first explanandum, the problem of Frege cases. As I said, I will not argue for Frege’s theory against rival accounts in this respect, but I do think that it gives the best solution to this problem. I also believe that a genuinely Fregean theory of thought also enables us to account for the second explanandum.

What do I mean by a genuinely Fregean theory of thought, though? Basically, a theory which respects Frege’s definition of senses as entities both language- and mind-independent which nonetheless enable the mind to attain knowledge and make it capable of rational thought. This definition, however, contradicts most of the post-Fregean versions of sense which have been offered, usually in order to make Frege’s metaphysics more palatable: I will be focussing here on those theories which take sense to be a linguistic entity (such as Michael Dummett’s, John McDowell’s, and Mark Sainsbury’s). I will first discuss, then, why the notion of sense cannot be seen as linguistic, and then move on to the distinction between Fregean senses and intentional aspects. Before beginning, however, I would like to make a terminological point: namely that, throughout this paper, I will use the terms “concept” and “content” as interchangeable, respectively, with the Fregean terms “sense” and “Thought” (or *Gedanke*).

II. PROPOSITIONAL ATTITUDES WITHOUT LANGUAGE

To begin with, I would like to consider whether it is possible to have propositional attitudes without being a language user, as Donald Davidson notoriously denied in several papers. In this section, I will examine his arguments, and argue against them.

Davidson famously argued against the possibility of languageless beings having propositional attitudes by using the example of Norman Malcolm’s dog, which, on hunting a squirrel, barked up the wrong tree. Saying that the dog believed that the squirrel was hiding in the tree it was barking up, claimed Davidson, would just be an anthropomorphising fallacy, as dogs have no propositional attitudes whatsoever. In Davidson’s view animals cannot be said to have propositional attitudes because (a) belief is the foundation for all other propositional attitudes and (b) animals don’t have beliefs because they don’t have a language. His argument, or at least his formulation of

this argument in several writings, is quite knotty, but his claims are most clearly summed up in “Rational Animals”:

First, I argue that in order to have a belief, it is necessary to have the concept of belief.

Second, I argue that in order to have the concept of belief one must have language [Davidson (1982), p. 102].

Both claims have been disputed. In what follows I will expound the main objections raised against both of these conclusions and the arguments they are derived from.

II.1.

In Davidson (1982), he argues that the ability to have beliefs requires that the creature in question be able to recognise when circumstances do not correspond to what its belief had led it to expect. That is, in order to believe, a creature must be capable of what Davidson calls “surprise”.

Surprise requires that I be aware of a contrast between what I did believe and what I come to believe. Such awareness, however, is a belief about a belief: if I am surprised, then among other things I come to believe that my original belief was false [Davidson (1982), p. 104].

So, according to Davidson, the capacity for surprise in turn would require an awareness on the part of the creature that there is a possibility that it may be mistaken — that is, a second-order kind of thought, which would take the creature’s own thoughts as its object. Put more concisely, according to Davidson, for a creature to have beliefs it must be capable of surprise; and in order to be capable of surprise, it must have second-order thoughts. Animals arguably have no second-order thoughts, and therefore, are not capable of surprise. Ergo, animals are not capable of belief.

The flaw in this argument lies in the link established, through the notion of surprise, between belief and second-order thoughts. Davidson seems to define surprise in terms of consciousness — a creature can only be surprised if it consciously realises that it may be mistaken, and thus if it has conscious thoughts about its own thoughts. So Davidson assumes that revision of beliefs must be a reflective activity, driven by a meta-thought the content of which is that one’s (non-meta-) thoughts must be altered.

But there is, I think, another possibility, by which the creature’s taking into account the possibility of error need not be spelt out in terms of thoughts about thoughts. A creature might be said to be aware of the possibility of error if its beliefs are open to revision in the light of new empirical data. In this minimalist account, surprise would arise out of the creature’s temporarily

holding two contradictory beliefs, and thus would not involve the second-order belief that its own beliefs are being contradicted. Likewise, defeasibility of beliefs — which need not involve the creature's consciousness of the said defeasibility — would suffice for error-awareness: for a creature to be aware of its own possibility of being mistaken, it is enough that its beliefs be open in some way to revision. Davidson's account, by contrast, over-intellectualises the process of belief revision, and needlessly links it to consciousness. It may well be that an animal does not consciously rearrange its thoughts whenever it makes a mistake: but then, neither do I have a conscious meta-thought such as "My belief that the brush is in the drawer needs to be changed" every time I don't find my brush where I expected it to be in the morning, which is often. Hence Davidson's claim that belief requires possession of the concept <belief> does not seem sustainable.

II.2.

Having rejected Davidson's first claim (i.e., that only a creature possessing the concept <belief> can have beliefs), it would seem unnecessary to tackle the second one (i.e., that in order to have the concept <belief> a creature must have language): for in Davidson's argument, the second claim depends on the first. But it is my thesis that concepts are language-independent: so, even though refutation of Davidson's first claim suffices to bring down his general argument, the second claim should also be refutable by itself. Moreover, it might after all also be possible to reject the idea that a creature with beliefs must have the concept <belief> while at the same time accepting the idea that in order for a creature to have second-order thoughts, it must be a language user. If my claim that concepts are language-independent is correct, then this position should be untenable.

Davidson's rationale for linking the concept <belief> to language seems to be that the *attitude* of belief itself is only intelligible within the context of linguistic interpretation:

We have the idea of belief only from the role of belief in the interpretation of language, for as a private attitude, it is not intelligible except as an adjustment to the public norm provided by language. It follows that a creature must be a member of a speech community if it is to have the concept of belief. And given the dependence of other attitudes on belief, we can say more generally that only a creature that can interpret speech can have the concept of a thought [Davidson (1975), p. 170].

Davidson's claim that all other propositional attitudes depend on belief is questionable, to say the least. But even accepting this, the idea that second-order intentionality is the exclusive patrimony of language-users is unfounded, at least given the reasons Davidson seems to put forward. If I read

him rightly, the concept <belief> is acquired only as a result of the “adjustment to the public norm” entailed by becoming a member of a linguistic community. Any given belief, says Davidson, may be a private attitude, but it is not intelligible in others — it is not attributable to others — except through the medium of language, inasmuch as the belief conforms to “the public norm provided by language”. As was recounted above, according to Davidson possessing the concept <belief> entails being aware of the possibility of error, and thus being capable of distinguishing true from false beliefs. This capability presumably relies on the understanding that beliefs are beholden to the objective world — as Davidson puts it, believers must be aware of the “subjective-objective contrast” whereby they are obliged to alter their subjective beliefs should objective evidence contradict them. In Davidson’s view, a subjective belief can be perceived to differ from objective reality only in others, for a thinker is not able to tell his subjective grasp of reality from objective reality. And given that in his view beliefs are attributable to others by means of the interpretation of their linguistic expressions, the norm of correctness is only available to interpreters of the utterances of others. Hence language is required for grasp of the concept <belief>, and second-order intentionality.

As John Bishop pointed out, however [Bishop (1980)], even though the beholdingness of (subjective) belief to (objective) reality is required for an understanding of belief, believers themselves need not be aware of it in order to have beliefs. Very small children, and certain mental patients, seem to lack the notion of beholdingness to an objective world (or rather, the very notion of an objective world); yet they can be said to have beliefs which guide their actions, and moreover to modify their beliefs when they are contradicted by empirical experience.

Davidson’s argument that a thinker can only become aware of the “subjective-objective contrast” by way of others (and more specifically, by way of others’ *utterances*) can also be objected to. A minded creature can arguably come to realise that its own subjective belief misrepresents the objective world without resort to others: Norman Malcolm’s dog believes that the squirrel is up tree A, then sees it climb down tree B, and therefore is moved to alter its belief without intervention of others. Or perhaps Davidson is telling a developmental story here: a child cannot become aware of his own mistakes unless he first notices that others misrepresent reality. It may be so; but if this is a developmental explanation, it doesn’t make much sense to claim that a child first grasps misrepresentation through the *linguistic expressions* of others. This would imply that children are not aware that they, and others, make mistakes until they speak or until they understand speech, which does not seem very plausible. Take a small baby who doesn’t know what fire is and tries to grasp a flame burning in the kitchen: from believing that fire is an attractive thing, it will very suddenly come to adopt — through sheer rude

shock — the modified belief that fire is a nasty thing one should keep away from. If we define awareness of the possibility of error as revisability of beliefs in light of new empirical data, then the burnt baby is (very unpleasantly) surprised, and perfectly aware that he has made a mistake, even if he cannot express so in words.

It seems then that there is in principle no logical reason to link propositional attitudes to natural language, or to deny propositional attitudes to languageless creatures, like animals or babies. Moreover, there seems to be no reason either to link concept possession to language use. But what is the relationship between propositional attitudes and concepts/contents? A propositional attitude is usually defined as a relation between a mind and a Russellian proposition, i.e. a proposition whose constituents are actual objects and properties. Yet perhaps it should be defined as a relation between a mind and a concept or content, in which case it would be possible to formulate Frege cases in terms of propositional attitudes. In the next section I will examine this possibility.

III. CONTENTS WITHOUT LANGUAGE

Within a Fregean framework, concepts and contents are required to account for what are commonly known as “Frege cases”, instances of the failure to recognise identity. Although Frege used linguistic examples, the failure illustrated by Frege cases is ultimately not a linguistic, but an epistemic one, and thus does not rely on the words used to formulate identity statements. It is a question about knowledge of identity, not about the words used to reach or express that knowledge, or even about knowledge pertaining to usage of such words.

But if language is not necessary to recognise identity, what is then? If a mind’s ability to engage in propositional attitudes is both necessary and sufficient for recognition of identity, then we might say that propositional attitudes take senses and Thoughts (i. e., concepts and contents) as their objects. Moreover, this would entail that all minded creatures are capable of Frege cases. But is this so?

Let us first try to reformulate a Frege case without words. In Frege’s famous example, the Babylonians did not know that the heavenly body which they called “Hesperus” was the same one as the heavenly body they called “Phosphorus”. If “Hesperus” designated the same object as “Phosphorus”, then the acquisition of new knowledge on learning that Hesperus is indeed Phosphorus can only be explained by saying that the co-referential terms “Hesperus” and “Phosphorus” have different senses, that is, they express different concepts. But even though Frege’s example involves linguistic terms, I believe that Frege cases can be reformulated without resorting to them. Let us

suppose that the philosophy department in my university is cleaned twice a day, in the morning and in the evening. Members of the department can leave their wastepaper baskets out for the cleaners to empty at either time of the day. Given that non-academic staff in my university tend to work either in the morning or in the evening, I assume, without ever explicitly stating it or even consciously thinking about it, that a cleaner comes in the morning and a different cleaner comes in the evening. I have never seen the cleaners, do not know their respective names, and have never spoken to or even about them. One day, however, I start to notice a pattern in the basket-emptying: some days, my basket is not emptied in the morning. Whenever this happens my basket is not emptied in the evening either, and very often it is also the case that it is not emptied the following day or days. So I eventually come to the conclusion that the morning cleaner and the evening cleaner must be one and the same person, working on a double shift; and so whenever the cleaner takes a day or days off, my basket is emptied neither in the morning nor in the evening.

Is this a Frege case? I daresay it is: for I have first failed to grasp the identity of whom I thought were two distinct individuals; and then I have come to re-arrange by inference my previous knowledge about the world. The whole process has involved no linguistic terms, as the cleaner has remained nameless to me throughout, and I haven't talked about the matter to anyone; yet it has certainly involved attitudes, such as my belief that the morning cleaner would come to empty my basket.¹ It might happen that I gave names of my own to whom I thought were two individuals, but this name-giving would not be necessary for my discovery. Moreover, such names, if any were given, would be part of a purely private language, and so would not fit Davidson's Wittgensteinian conception.

It could also be argued, perhaps, that even if the eventual recognition of identity in the two examples above is reached without use of a public language, the capacity to recognise identity as such is a causal effect of language mastery: that only creatures which are capable of language are also capable of identity judgements, precisely *because they are capable of language*, even if actual language use plays no role in the conception of those judgements. But this is not what supporters of linguistic senses are arguing: they argue rather that language precedes and causes thought through its acquisition, use, and interpretation within a linguistic community — that is, inasmuch as language is an *active* capacity. The argument is that a child becomes capable of judgement only as a result of his previous acquisition of language, as a result of his becoming a member of a community sharing the same public language. The argument thus requires that the linguistic capacity be active in order to generate thought: indeed, the claim that the linguistic capacity give rise to thought under a *latent* form seems very close to arguing for a private language, which goes completely against the grain of Davidson's arguments.

Of course, it might be possible to step out of the Wittgensteinian public-language line altogether and argue that language does indeed cause thought in its capacity as a biological function, which may be active or latent. But this biologicist view of the causal role of language is an entirely different conception from Davidson's. Indeed, I do not know of any theorists who have taken this line: Jerry Fodor's and Ruth Millikan's arguments, which can certainly be described as biologicist, seem to take very different forms from the one outlined here. In any case, in the next section I will offer several arguments against the claim that mastery of a language, either as an active or a latent capacity, is a necessary and sufficient condition for rational thought.

The example given above, however, takes a rational (and speaking) being as its subject. But can this kind of reformulation be extended to non-rational creatures, like animals? A case apparently similar to the cleaning lady example would be that of Dr Jekyll's dog. By day the dog loyally follows its master Dr Jekyll, whom it adores in proper canine fashion. But when the dog comes across Mr Hyde in a dark alley at night, it growls at him in threat, failing to recognise that the disgusting, wicked man before it is in fact its master. Or — somewhat more plausibly — take the case of a dog that fails at first to recognise its master because its master happens to be wearing someone else's clothes. When the dog sniffs in the house the strange smell of the clothes its master is wearing, it immediately forms the belief that there is a stranger in the house, and indeed may start growling at whom it thinks is a stranger. Only later will the auditory and, to a lesser degree, visual input make the dog realise that the stranger is actually its master in disguise. How is the dog's mistake to be explained?

One possibility would be simply to claim that this example is a Frege case. It could be argued that perceptual states either involve or are themselves propositional attitudes. If this is the case, then the content of the dog's perception — the object of its propositional attitude — cannot be a Russellian proposition. For then the content of the dog's perceptions (which a human being would linguistically express as "A stranger is in the house" and "Master is in the house") would be one and the same Russellian proposition, and the dog's mistake would not be explained. There must therefore be something to the content of the dog's propositional attitudes other than their referents — for the dog's perceptions that a stranger is in the house and that its master is in the house would otherwise be attitudes towards one and the same Russellian proposition, making the dog's confusion unintelligible. In order to understand what is going on with the mistaken dog's behaviour, we might introduce concepts so as to account for the aspect under which the dog perceives the same object — in this case, probably something like <Master> and <That man> (an indexical concept). And these concepts obviously could not be linked to language, for a dog has no language.

IV. THE “META” CAPACITIES

However, it seems rather hard to accept that non-rational creatures like animals can have access to the Third Realm, or, to avoid the Fregean terminology, are capable of abstraction, at least to this degree. For one, access to the Third Realm is, according to Fregeans, a defining criterion of rationality; but even if one adheres to an evolutionary theory which posits a gradual continuum ranging from animal to human cognition, the claim that human beings have a much greater capacity for abstraction than the rest of species is quite uncontroversial. Animal behaviour seems to be ruled, to a very high degree, by evolutionary patterns; and evolution arguably operates purely on the level of reference — in Fregean terms, within the First Realm of physical objects. Whereas human behaviour can be ruled by rationality, which requires the ability for abstract thought which other species lack. These fairly uncontroversial facts concerning the differences between human and animal can be captured, I think, in the following set of features, which constitutes the second explanandum for any theory of thought, referred to in the introduction:

- (a) the fact that human beings are capable of second-order thoughts (and, in general, $(n+1)^{\text{th}}$ -order thoughts) and metalinguistic expressions, as in metaphor, puns, and jokes;
- (b) the greater degree of complexity in the information conveyed by human language, which, presumably mirrors a corresponding greater complexity of thought;
- (c) the fact that human thought and language can do without reference, whereas in animal cognition and communication lack of reference arises only from error; and
- (d) the fact that human language can serve as a vehicle for the transmission of knowledge and the acquisition of understanding — where knowledge and understanding, as I will argue, must be understood as knowledge and understanding of *senses*, as opposed to perception or memory of referents.

I will call these, collectively, the “meta” capacities characteristic of the human species. The latter three features arise, I think, from the first one. Firstly, the human capacity for higher-order thoughts and metalinguistic utterances requires a greater degree of structural complexity than is sufficient for simpler cognitive and communication systems. Secondly, the ability to have thoughts which take other thoughts as their object (or to utter expressions referring to other expressions) enables a thinker to avoid reference. And thirdly, given that human thought and language can lack a referent, there must be, as

Frege claimed, a further component to meaning other than reference, namely sense; and thus the understanding and knowledge gained through thought and language must be primarily knowledge of senses, not of reference.

It is, I think, the meta capacities exclusive to human beings that first make language possible, not the other way round: although the continual mutual feedback that usually starts very early on in life makes the causal direction between them hard to distinguish. These capacities appear to be inborn, as they are peculiar to the human species only (that we know of): yet, despite the advantages that it has undoubtedly had for us in terms of survival, it is not adaptive in the way that biologically evolved abilities usually are, for it does not result directly from our interaction with our physical environment.

That possession of language is not a necessary condition for the meta capacities is borne out by the fact that human beings who do not acquire language, such as certain deaf-and-mutes, seem nonetheless capable of second-order thought. An extreme case would be that of Helen Keller, who in her autobiography described in great detail her thought processes as a child, when she lost both sight and hearing at the age of nineteen months, before she had acquired speech.

More persuasive evidence is perhaps given by the converse fact that some users and interpreters of language seem incapable of second-order thought, as in severe cases of autism. Also, certain mechanical devices such as automatic translators can be said to successfully interpret and produce linguistic utterances with at least a minimal degree of competence — yet arguably such devices are not even minded. Use of language would not then be a sufficient condition for thought, either.

Moreover, other complex systems employed by humans and different from natural language — such as art, music, or mathematics — are also capable of a “metalinguistic” encoding by which the system self-referentially takes itself as its own object. Given that such systems are materially and structurally very different from natural language, it would be hard to see how natural language could constitute their basis, and so how it could be a necessary precondition for them. So I would say that human natural languages, with their characteristic features that distinguish them from animal communication systems, are a manifestation of these meta capacities peculiar to our species, rather than their cause.

Taking this into account, what is the difference then between the examples of Dr Jekyll’s dog, on the one hand, and the cleaning lady example, on the other? The difference, as I will argue, is that the dog, thought capable of error, cannot fail to recognise identity because recognition of identity, at least in the sense relevant to Frege cases, is proper to rational creatures only. Thus the example of the basket-emptier would entail rational thought through grasp of concepts and contents and so constitute a Frege case. By contrast, the example of Dr Jekyll’s dog would only involve mental states which are not constrained by rationality, and so would not be a Frege case. In this view,

the objects of mental states generally in non-rational creatures² are not concepts or contents, but what I will call intentional aspects.

V. FREGEAN SENSES VS. INTENTIONAL ASPECTS

Tim Crane has put forward [Crane(2001)] the notion of intentional content, which would be broader than that of the content of a propositional attitude (i.e. a Russellian proposition), as it would cover the contents of intentional states which are assessable as true or false as well as those which are not. Thus the term would comprise both the contents of propositional attitudes (such as belief and desire) and the contents of non-propositional states (such as love and contemplation).

My notion of intentional aspect is similar to Crane's intentional content in two respects: firstly, they both differ from Russellian propositions in that that their components are not things in the world; and secondly, they differ from Fregean Thoughts in that both Crane's intentional contents and the intentional aspects posited here can be the objects of non-propositional mental states as well as of propositional attitudes.

Nonetheless, there are also deep differences between both notions:

- (a) Crane's definition of intentional content is broad enough to comprise the contents of *all* mental states (for Crane, as an intentionalist, equates mindedness with intentionality). By contrast, intentional aspects as defined here constitute the objects only of mental states which cannot enter into rational inference.
- (b) In Crane's definition, an intentional content may well contain as a component what he terms an intentional *object*, an actual object or entity, i.e. what I refer to throughout as a referent. But his intentional contents can also lack intentional objects. In my definition, and crucially, an intentional aspect does not take referents as its components, but rather its components would be the set of empirical data acquired by a minded creature when coming into contact with a referent. In this way, intentional aspects require a *causal chain* linking them to referents which the minded creature has been in direct contact with (as a perceptual memory, for instance, requires an original object of perception).

The introduction of the notion of intentional aspect allows us then to distinguish between two kinds of mental states: attitudes towards intentional aspects (which can be either non-rational propositional attitudes or non-rational non-propositional mental states), on the one hand; and attitudes towards con-

tents, on the other (which are rational mental states taking Fregean Thoughts as their objects).

The error which takes place in such cases as that of the dog mistaking its master for a stranger would then be explained not in terms of the opacity of senses, but in terms of a mismatch between the empirical evidence and the perceptual data stored in the creature's memory. Either the empirical evidence presented is insufficient to enable identification; or (as in the dog's case) it does not correspond to the perceptual memory of the referent. In these cases, the addition of new empirical data to the data already stored in memory does not entail the acquisition of a new piece of knowledge, as knowledge is bound to rationality. For knowledge (as well as rationality) requires the related meta capacities of second-order thought on the one hand, and of referentless thought, on the other

The motivation for establishing this distinction lies in the set of differential features of human language and thought given above, which, as I said, I take to be an explanandum for any theory of thought. Crane's notion of intentional content does not do justice, I feel, to this explanandum, as it places within the same category both those mental states which must take a referent and those mental state which can be referentless. Moreover, it provides no explanation for the greater degree of complexity of human language and thought, nor does it make any distinction between first- and higher- order thoughts and expressions, which I believe constitutes a main desideratum for any theory of thought.

The definition of Fregean sense must then be further clarified as accounting for the failure to recognise identity on the part of *rational* beings: although this is a redundancy, as only rational beings are capable of recognising identity to begin with. Non-rational beings cannot then be properly said to fail to recognise identity as such; and seeming failures on the part of non-rational beings to recognise that an object is one and the same can be accounted for in terms of perceptual error.³

A dog, for instance, can perceive that the same man feeds it every evening, expect him to appear, and even search for him if he does not appear one evening. Yet that does not mean that the dog recognises that the man who feeds it is identical to himself. The dog's recognition is based on perception and perceptual memory: the dog is able to identify its master only because it has perceived him before, and when it perceives him again its new perception matches previous perceptual memories. That is why the dog whose master is wearing a stranger's clothes is unable to identify him until new perceptual data matching previous perceptual memories of its owner become available. The dog's memory of its master would be a mental state taking as its object an intentional aspect, as previously defined; and this intentional aspect would require previous perception of its master. The dog cannot in any way think of a master it has never previously perceived.

By contrast, rational thinkers are able to make identity judgements, which do not involve empirical evidence — that is, *a priori* judgements. Indeed, *a posteriori* judgements arguably only acquire their informativeness by contrast with *a priori* judgements: the informativeness of the judgement that Hesperus is Phosphorus is grounded on the non-informativeness of the judgement that Hesperus is Hesperus. That is, the *a posteriori* judgement that Hesperus is also something (apparently) other than itself depends on the *a priori* judgement that Hesperus is identical to itself. I argue then that a Fregean inquiry into the nature of concepts and contents must investigate its links to the closely related notions of the *a priori*, rationality, and the meta capacities.

VI. CONCLUSIONS

I have argued that a Fregean theory of thought must be properly seen as a theory of *rational* thought; that the central notion in a Fregean theory of rational thought is that of sense; and that the notion of sense must be explained with reference to the related notions of apriority, rationality, and the meta capacities: but not with reference to language. I have also argued that the Fregean notion of sense constitutes a criterion of rationality, and therefore cannot be employed to account for cognitive processes in non-rational creatures: this has motivated my introduction of the notion of intentional aspect, which, as I have argued, must be distinguished from Crane's more general notion of intentional content.

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NOTES

¹ It could be argued that I have not acquired any knowledge regarding the cleaners, but have merely made a hypothesis: it might well be the case, after all, that there actually are two cleaners, and the non-empty basket pattern is only a coincidence. But then, it is also theoretically possible that Hesperus and Phosphorus are actually two different planets, whose behaviour exactly matches that postulated for Venus; and that astronomers have been spectacularly wrong about this matter since Babylonian times.

² Or also, in rational creatures, of propositional attitudes not taking concepts or contents as their objects.

³ This would arguably account also for those cognitive processes in rational creatures which do not involve rational thought, such as perception.

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