

Inostensible Reference and Conceptual Curiosity

ILHAN INAN
*Philosophy Department,
Boğaziçi University, Istanbul*

A lot has been said about how the notion of reference relates to the notion of knowledge; not much has been said, however, on how the notion of reference relates to our ability to become aware of what we do not know that allows us to be curious. In this essay I attempt to spell out a certain type of reference I call 'inostensible' that I claim to be a fundamental linguistic tool which allows us to become curious of what we do not know. In the first part, I try to explicate the notion of inostensible reference, both for singular and for general terms, as well as full declarative sentences, and in the second part, I argue that our capacity to enjoy conceptual curiosity is essentially based upon our aptitude for inostensible reference.

I.

Typically we use language to talk about things with which we have some familiarity, but this is not always the case. Language also enables us to talk about things unfamiliar to us. The compositional structure of our languages allows us to construct terms, mostly in the form of descriptions, whose referents are unknown. Scientists investigating why dinosaurs no longer exist are able to talk about the cause of their extinction without knowing what that cause is. The fact that they are able to construct a description such as 'the cause of dinosaurs becoming extinct', or its synonym in the language they speak, is what allows them to become aware of their ignorance and start their inquiry. In cases like this there is sense in which the referent of the term is unknown to its users. This suggests a distinction between two different ways in which a speaker may be epistemically related to the semantic referent of a term; in the first case one may be said to know a certain object as being the referent of that term, and in the second case one may lack such knowledge. Let us call the first kind of term relative to a speaker an 'ostensible term' (for that speaker), and the latter an 'inostensible term'

(for that speaker). We could then formulate a corresponding distinction between two ways in which a speaker may refer by using a term; in the first case the speaker may know the object to which he is referring by using the term, and in the second case he may not. We could name the first kind of (speaker's) reference 'ostensible' and the latter as 'inostensible'. This is a vague distinction, no doubt, for the key notion of 'knowing the referent of a term', which it is based upon, appeals to objectual rather than propositional knowledge and is therefore bound to give rise to borderline cases. But there are clear cases at the far ends.

The most typical way in which we refer ostensibly is when we wish to talk about an object in our visual presence. The coffee cup in front of me, the desk I am working on, the fly which is flying in my living room etc are all objects I could easily refer to. There is a good sense in which I know what the term 'the coffee cup in front of me' refers to, if I am not an extreme skeptic, assuming that I have knowledge of my immediate environment through sense experience. In such cases there is a sense in which we first experience the object which we wish to talk about, and only afterwards we pick a term from our idiolect, or construct a description to refer to that entity. That, of course, is only a minute portion of reality that changes all the time to which we are able to refer ostensibly. There are various other things we are able to talk about that we have no sense experience of; I could not only refer to my late paternal grandmother by relying on my memory of my past experiences of her, but also to Socrates, or China, or other things of which I have never had any direct sense experience. I take it that my accumulated information of those entities, some of which amounts to knowledge, makes it possible for me to truthfully claim that I know the referents of terms such as 'Socrates', or 'China'. I could talk about certain events in history, or feelings that I or others have experienced, or certain numbers, or concepts, again knowing the object I am talking about. I may refer to the First Gulf War, or to what I felt like when I first got tipsy drinking beer, or to the concept of *bicycle*, or the number three. All reference to such entities are still ostensible for me given that I consider my acquaintance with or my experience of the referents of such terms as being sufficient to know them. To generalize in cases of ostensible reference, we have in our minds a sufficiently rich file of information of the object in question prior to our act of reference to that entity. To use one of Donnellan's phrases, when we refer ostensibly, we have an 'object in mind', and we attempt to pick it out by using a term that we know to refer to it. The notion of *having an object in mind* is no doubt a loose term, but suffice it to say that the visual perception of an object or some accumulated information about it at times is sufficient for us to have that object in mind and truthfully claim that we know that object. This is the first condition for ostensible reference. Secondly the term we pick out from our idiolect by which we refer to that entity, whether it is a proper name, a definite description, an indexical, or even a full declarative sentence, must also be known to refer to that object.

The first condition of inostensible reference appeals to *objectual knowledge*, which, as I have pointed out, is a vague notion giving rise to borderline cases. Suppose, for instance, that as you are organizing a trip to Italy, a friend tells you that you ought to see Taormina; it may be the case that this is a place you are totally unfamiliar with at the time, whose name you have never heard of before. At this point all you may know about Taormina is that it is a town in Italy, one recommended by your friend, and various things you could infer from this by using your background knowledge about Italy, about cities, and your friend. That would be all. Now is 'Taormina' ostensible for you at this stage? Clearly you have a uniquely identifying description at hand of this city; but if the name 'Taormina' arouses in you a bit of curiosity, that is because of your lack of knowledge of this town, and taking that into account, we may infer that there is a sense in which you do not know the city referred to by this name. How much more information about Taormina will make the name ostensible for you does not have a strict answer. There are clearer cases of inostensible reference though; if one is working in his office and hears a knock on the door, without having any expectations as to who it might be, I reckon that the term 'the person knocking at the door' for anyone in that kind of situation would take the term as an inostensible one. That is not to say of course that one has to be curious about its referent. But there are cases of inostensible reference that almost always is accompanied by curiosity. If one hears a big sudden explosion, and has no clue as to what caused it, at this point 'the cause of the explosion' would be an undisputable example of an inostensible term, and the entertainment of the content of such a description typically causes curiosity instantaneously.

Inostensible reference is abundant: 'the seventeenth perfect number', 'the birthday of David Hume', 'the cause of the global economic crisis', 'the best form of government', 'the nature of virtue', are all inostensible terms for me, given that I simply do not know their referents. There are also a host of examples concerning our talk of the future that may be taken to be inostensible; 'the first baby to be born at the turn of the century', 'the next president of Spain', 'the day I will die', etc. Whether such terms in fact refer to future people, or events, and if so, whether we are able to refer to them by using such terms, are issues that would seem to depend on the position we take with respect to the problem of determinism, and related epistemic issues concerning our link to such future entities. Though it is far beyond the scope of this essay to settle such matters, suffice it to say that if such reference is at all possible, it would typically be inostensible.¹

¹ Little work has been done on the issue of reference to the future. Kaplan's famous Newman 1-case (1969) and the discussion in the literature on it brings up the issue, though authors who have written on the topic have not specifically concentrated on future reference, nor inostensible reference.

A speaker in using an ostensible term may wish to refer to the semantic referent of the term.² In such a case not only the term is ostensible for the speaker, but the speaker refers ostensibly by using the term, making both the semantic reference and speaker's reference ostensible. When a speaker uses an inostensible term, however, speaker's reference may be absent in certain cases, for some may hold that our lack of the appropriate epistemic connection to the referent of an inostensible term may prevent us from using it to refer to that entity. To use a worn out example (originally due to Quine in his discussion of the *de re/de dicto* distinction), I would assume that the term 'the shortest spy' is inostensible for all of us, though it may be plausible to hold that we cannot use this definite description to refer to an unknown spy. For such cases, it may well be said that the term inostensibly refers to an entity in the speaker's idiolect, though the speaker may not be able to make an inostensible reference to that entity by using the term. This all depends on what we take to be the conditions for a speaker to refer; if a certain kind of epistemic link to an entity is held to be a necessary condition for a speaker to be able to refer to that entity, then speaker's reference could be absent in such cases of the use of inostensible terms. Having said this, however, we should not be tempted to over-generalize; it seems to me that there are cases in which a term that is inostensible for a speaker may in fact be used to refer to the semantic referent inostensibly by that speaker, if the speaker does have the appropriate kind of epistemic link to that entity. One such case could be the way in which Le Verrier may have used the description, 'the planet causing perturbations in the orbit of Uranus', which was inostensible for him at the time. Assuming that Neptune does in fact perturb Uranus, more or less in the way in which it was thought to at the time, it is *prima facie* reasonable to hold that Le Verrier came to realize this before Neptune was spotted on a telescope. If so, that was because Le Verrier had observed the impacts of this planet on the orbit of Uranus, long before Neptune was discovered. There should be a good sense in which Le Verrier, or anyone else at his time did not know the referent of description, making the name inostensible; nonetheless we may suppose that Le Verrier had the appropriate kind of causal connection to it that enabled him to use the name to refer to it.³ Or consider the famous Unabomber case; before the suspect was caught, the name

² This will not be the case if the speaker uses the term referentially, in Donnellan's sense, for an entity he has in mind which is different from the semantic referent. In such cases, it may well be true that speaker uses an inostensible term ostensibly, as for instance, using Donnellan's own example in his (1966), when a detective uses 'Smith's murderer' to refer to Jones whom he has caught, wrongly believing him to be the murderer. For the distinction between speaker's reference and semantic reference see Kripke (1979)

³ I owe the idea that Le Verrier had the appropriate kind of causal connection to Neptune, enabling him to have *de re* attitudes to it before Neptune was discovered, to Nathan Salmon in conversation. See his (2004) for a detailed discussion.

'Unabomber' was used by the police, the media and the public to refer inostensibly to the person responsible for mailing certain bombs. No one knew who Unabomber was, except for himself, and perhaps later his brother. Though, as various authors have argued, with some plausibility, that our common notion of 'knowing who' is interest relative or context dependent, it was an obvious fact that there was a certain element of mystery involving the use of the name 'Unabomber' at the time. This is a good indicator that the name was inostensible: again not only that the name inostensibly referred to an unknown criminal, but it seems plausible to me to hold that people who used the name referred to this person inostensibly as well. So unlike the shortest spy, for whom we may lack the epistemic resources for speaker's reference, in cases such as the Unabomber and Neptune, it appears to me plausible to hold that speakers using those names did have the epistemic link in the appropriate way which enabled speaker's reference to go through. After all such names were introduced as a result of certain observations that were caused by the entities in question: Le Verrier's observations of the perturbations in the orbit of Uranus is what led him to refer to an unknown planet; and the police referred to an unknown criminal as a result of their observations of his terrorist acts.

Our ability to construct a description that refers to an hitherto unknown object is what allows for inostensible reference. In such cases there is a good sense in which there is no experience of the object, or no sufficiently rich file in one's mind of that entity, prior to the act of referring. The fact that an inostensible term must always come to life by a description, does not imply that such a term always has to have a descriptonal content. Assuming that it is possible to fix the reference of a name by description in the Kripkean way such that the name does not merely abbreviate the description, then we may have at our disposal inostensible names with no descriptive content that enable us to express singular propositions and even singular thoughts. Names such as 'Unabomber' and 'Neptune' may in fact have been just those kinds of terms. So I will assume in what follows that if a proper name is introduced by a definite description, such that the reference fixing description is inostensible for the reference fixer, then the newly introduced name will also become inostensible for the reference fixer as well. Furthermore if a user of the name has the appropriate epistemic link to the entity named, then he can refer to this entity by using that name inostensibly.⁴ So if we agree with Kripke here, as I do, then it fol-

⁴ In his reply to Kripke's argument for the possibility of having contingent truths that could be known *a priori*, Donnellan (1979) agrees with Kripke that names such as 'Neptune' or 'Newman' which are introduced by description may in fact rigidly designate their referents, but argues against him by claiming that a speaker cannot use such names as directly referential devices to express *de re* thoughts. Though Donnellan does not seem to be concerned with inostensible reference per se, his position seems to entail that an inostensible name or even an inostensible definite description does not allow for speaker's reference. So it appears that speaker's

lows that it is possible to construct inostensible names with no descriptive content, which at times may be used as tools of reference.

The ostensible/inostensible distinction could be extended to cover the so-called general terms. This requires some caution though, in that there appears to be no consensus in the literature as to what general terms are, and what they designate within sentential contexts. Though the term ‘water’ is taken to be a general term by all, it is not clear as to whether a term such as ‘the liquid that constitutes the oceans’ is general or singular, though both terms seem to designate the same entity, perhaps a natural kind. In what follows I will use the notion of ‘general term’ to cover such definite descriptions as well that designate the same kind of entity as their single word counterparts. Here we need to appeal to a distinction between what may be called a ‘singular occurrence’ as opposed to a ‘predicative occurrence’ of a general term: a general term may occupy one of the argument places of a predicate, as in the sentence ‘blue is my favorite color’, or it may occur within a predicate, as in the sentence ‘my shirt is blue’. The former is a singular occurrence, and the latter is a predicative occurrence of the general term ‘blue’. By utilizing this distinction, we may distinguish between three different forms of designation: what a general term designates when it has a singular occurrence, what it designates when it has a predicative occurrence, and what a predicate designates that contains that general term within a sentence. The reason we need a threefold distinction is because it may well be the case that the same general term designates an abstract entity such as a kind when it has a singular occurrence, but designates something different, for instance its extension, when it has a predicative occurrence. And even if we assume that a general term designates the same entity independent of its sentential context, it is far from obvious that a predicate containing a general term designates the same thing as the general term itself. One may plausibly hold that the general term ‘blue’ designates a color, though the predicate ‘is blue’ designates a function.⁵ For my purposes I will limit the discussion to singular occurrences of general terms.

Typical one word general terms such as ‘water’, ‘blue’, ‘chair’ we use daily are ostensible, given that our familiarity with the things designated by those terms is sufficiently rich enough to be considered as

reference always has to be ostensible on Donnellan’s account, though he has never explicitly stated this.

⁵ This, I believe, was Frege’s view, for according to Frege a sentence in the simple subject/predicate form, ‘*a is F*’, has two referring expressions, the singular term ‘*a*’ that refers to an object, and the predicate term, ‘*__is F*’, that refers to a concept. To my knowledge, nowhere has Frege made the extra claim that the predicate ‘*__is F*’ refers to a concept in virtue of its contained general term ‘*F*’ referring to a kind, or extension, or something else. He did however countenance the fact that a general term may be used in the subject position just like a proper name as in ‘The Turks besieged Vienna’, and noted that the subject term in such a case refers to a people rather than a concept (which is what I call a ‘singular occurrence’ of a general term). See Frege (1980).

objects of knowledge. If we assume that the term 'blue' designates an abstract kind, a color, then given that we know that color, the term is ostensible for most of us. For a blind person who has never experienced that color, the term may be inostensible. There can also be cases in which, someone who has sufficiently rich experience of colors, may attempt to refer to a color without knowing which color it is. A term such as 'the color of the sky in daylight on Saturn', for ones who do not know what color it designates, will be inostensible. Assuming that there could be general terms that are in the form of definite descriptions, we could easily apply the ostensible/inostensible distinction just as we did for singular terms. This is not to say that the only kind of inostensible general terms are ones with descriptive content: just as in the case of singular terms, we may introduce a general term not by ostension but by description, without knowing its referent, giving rise to a single-word general term that is inostensible for the reference fixer. There are plenty of such cases within the history of science. Consider, for instance, the introduction of the term 'helium': Pierre Jansen first found a bright yellow line in the spectrum of the light emitted by the solar chromosphere, which he thought to be a sodium line. Later the chemist Edward Frankland and the astronomer Joseph Lockyer concluded that the element was not sodium, but some other element that was not discovered on earth, and gave it the name 'helios', the Greek word for sun, which later turned into 'helium'. Only afterwards did William Ramsey discover the existence of helium on earth. If this is historically accurate, then I believe that it should be correct to say that Lockyer and Frankland introduced the general term 'helium' not by ostension, but rather by fixing its reference by a description such as 'the element that is causing the bright yellow light in the spectrum'. At this point there is a good sense in which they did not know what element the term referred to, making not only the description 'the element that is causing the bright yellow light in the spectrum' inostensible for them, but the simple term 'helium' as well. Similarly when Newton used the notion of *ether* to explain away the so-called action-at-a-distance problem, he did not know what substance it designated, if anything, given that its existence was not established. Various illness terms such as *AIDS*, *schizophrenia*, *Attention Deficit Disorder* etc. were initially introduced by description (in the form *the illness that cause such and such symptoms*), with the belief that they referred to some illness, unknown at the time, making them inostensible. It may well be the case that we later discover that such a term is in fact empty, i.e. that there is no single illness that it names, which is a good indicator that the term has been used inostensibly until the discovery. If medical experts were to announce that there in fact is no such illness called 'Attention Deficit Disorder', that would indicate that we have used the name inostensibly all along wrongly believing that it named a certain kind of disorder, when in fact it didn't.

For a term to be inostensible for a speaker, whether it is a general or a singular term, it need not be the case the speaker knows that the referent of the term exists. A term may in fact be inostensible for a speaker, when the speaker does not know that the term has a referent, nor even believe that it has a referent, and even when the term actually does not have a referent. The famous Vulcan-case is one such example. At the time when the name 'Vulcan' was introduced, Le Verrier thought that there was a unique planet perturbing Mercury, which he believed to have named. In fact he had named nothing. At this point, that is before it was discovered that Vulcan does not exist, the name was surely inostensible, for the reference fixer did not know its referent, and he could not have known it, given that it does not exist. Only when it was discovered that there is no such planet, we came to know that the name has no referent, i.e. that it is empty. So is the name 'Vulcan' ostensible for us now? Given that we know that it is empty, we may take this as being sufficient to call it 'ostensible', (by modifying its definition accordingly) though of course we could not use it as a tool of reference. So empty names that are initially introduced by description, usually start off their career as inostensible names, given that we do not know their referents at the time, and then once we discover that there is no such entity, we may assume that the name does become ostensible, given that we acquire the knowledge that they are empty. Another interesting hypothesis that has produced an inostensible name is the case of Nemesis, which to my knowledge, unlike the Vulcan-case, is not something settled yet. With the assumption that our sun may in fact be a part of a binary star system, scientists have given the name 'Nemesis' to the companion star of our sun. If Nemesis exists, then it is thought to be responsible for the excessive iridium found on earth, which is believed to be brought about by a meteorite shower caused by Nemesis coming closer to our sun millions of years ago, destroying a good portion of life on earth. If the Nemesis-hypothesis has not been refuted, then it is an inostensible name for all users. And if Nemesis does in fact exist, the name inostensibly refers to it, and perhaps certain speakers who have some epistemic connection to it are able to refer to this unknown star inostensibly now. Furthermore for someone who believes that Nemesis does not exist, but does not know this, it would still be true to say that the name is inostensible for this person. As will be discussed in the second part, someone who holds that the Nemesis-hypothesis is implausible, could still be curious about this unknown star.

Finally it should also be noted that there are cases of inostensible reference in which we not only know that the entity referred to exists, but also that it is an object of experience, something with which we are acquainted. For instance even though I am perfectly capable of referring ostensibly to each and every student in my seminar, the term 'the youngest student in the seminar' is nonetheless inostensible, given

that I do not which student it picks out. Here there is a sense in which I know the referent of the term 'the youngest student in the seminar', given that I know all my students, but I do not know that person *as being the youngest in the seminar*. So lack of experience, acquaintance or knowledge of the referent of a term by a speaker is not a necessary condition (though it is a sufficient one) for that term being inostensible for that speaker.

Lastly let us also look at indexical terms such as demonstratives and pronouns and more importantly, full declarative sentences and see how they may have inostensible occurrences. Normally when we use a term such as 'he', 'it', 'this' or 'that' we know what we are referring to, but not always. In discourse we occasionally use such phrases anaphorically for an entity that has been introduced earlier in the discussion. In such a case if the previous reference to the entity in question was done inostensibly, then the use of an anaphoric indexical may well be inostensible as well. When, for instance, a scientist says 'Nemesis may be discovered soon, and in fact *it* may well turn out to be one of the stars we see in the night sky', the use of the pronoun is inostensible, given that the speaker does not know its referent, and does not even know that it has a referent. Such uses of indexical terms need not always be 'pronouns of laziness', and they may well be taken as directly referential devices, assuming that the entity in question exists. When the Unabomber investigation was going on not only the name but at times the pronoun 'he' was used frequently to refer to the man behind those acts. Perhaps the first personal pronoun may be an exception, and it may be argued that when 'I' is used literally by a speaker, it is bound to be ostensible for that speaker. (Cases of severe amnesia or attempts to refer to Kant's noumenal self are perhaps considerations for the contrary.) What is more important for our purposes is that a full declarative sentence may be inostensible, just in case the speaker does not know whether it is true or false. Suppose for instance we follow Frege in his infamous claim that declarative sentences refer to their truth value, which would enable us to treat them as singular terms of one of two peculiar objects, namely, the True or the False. If there are such entities, no doubt we are well acquainted with them; but nonetheless, a sentence whose truth value we do not know will be an inostensible one for us, given that we would not know to which of those objects our sentence refers. But we need not subscribe to this Fregean view to extend our distinction to full sentences. One may, for instance, hold that a sentence denotes an actualized state of affairs if true, and a non-actualized one, if false. If so, a sentence such as 'there are an odd number of ants in my living room' will be inostensible for me given that I do not know whether it denotes an actualized or a non-actualized state of affairs.

Let us now turn to curiosity.

II.

Our ability to construct inostensible terms forms the basis of the kinds of beings we are who enjoy what I shall call ‘conceptual curiosity’. As I shall argue it is through the employment of inostensible terms that we are able to make assertions about what we do not know, and be able to express our curiosity in the form of questions, and furthermore in our private mental life it is through the use of inostensible concepts that we are able to enjoy the mental state of conceptual curiosity.⁶

To start off we need to distinguish between what some have called ‘instinctive curiosity’⁷ and what I shall label as ‘conceptual curiosity’. We humans share with other species, especially mammals, what seems to be an inborn instinct (or perhaps a drive) to be attracted to what appears to us as novel, that motivates us to explore our environment, which psychologists have called ‘novelty seeking’ or ‘exploratory’ behavior. Based on such behavior we easily attribute curiosity to not only fellow human beings and infants, but to other animals such as dogs, dolphins, rats or monkeys. This may in fact be a primitive motive that underlies a good portion of our acts, and forms the basis of a more sophisticated intellectual ability to become aware of what we do not know that motivates curiosity that has conceptual content. It is not at all clear that other species enjoy this higher order form of curiosity, though they may, and it is far beyond the scope of this essay to make any bold speculations regarding what other species are capable of doing. So, in what follows, I will cautiously limit the discussion of conceptual curiosity to adult humans who have mastered a language. Having said this, however, just as philosophers should not speculate on empirical matters of which they lack the required empirical data, scientists should be more cautious in applying the notion of *curiosity* to other species and infants simply based on the observation of certain kinds of behavior. I do not take it as an obvious fact that when a dog tries to find a ball, she is in fact curious of where the ball is. Is the dog aware of her ignorance of the location of the ball? Or is she simply acting on certain instincts? Similarly as certain experiments have revealed, when we find out that rats have an inclination to proceed to a door of a maze whose color has changed, could we attribute to them novelty seeking behavior, and conclude that rats are curious animals? I have my own suspicions, and for the purpose of this essay, I will not make any assumptions as to what other animals can or cannot do. So

⁶ Though my main focus is curiosity, I should also note that there are various kinds of other intellectual abilities and achievements we enjoy that are also based on or are intimately related to our capacity to construct inostensible terms and concepts. Among them are discovery, invention and creativity. As the cases of Neptune, Vulcan, Nemesis, or helium suggest many scientific discoveries have been realized as a result of the construction of inostensible concepts. See my (2005). How certain forms of invention and creativity relate to inostensible terms requires a separate discussion.

⁷ See Fowler (1965), Berlyne (1954).

it may well be the case that what has been called ‘instinctive curiosity’ simply names a kind of behavior, that is perhaps wrongly labeled as ‘curiosity’, if it is taken to refer to a mental state. Similarly we do attribute curiosity to young infants frequently, simply based on our observations of their behavior, though it is far from clear that they are able to enjoy curiosity at those ages as a mental state. Again I do not make any assumptions concerning infants either. So in what follows I will simply use the term ‘curiosity’ to talk about a certain mental state that has conceptual content, and set aside the issue of whether there are other kinds of curiosity that other animals and infants enjoy. With this in mind let us now turn our attention to conceptual curiosity, and discuss how it relates to inostensible reference.

A normal adult speaking a language is able to become aware of his or her ignorance concerning a certain matter and express this in language. I take this to be a necessary, but not a sufficient condition for being curious. Only when awareness of ignorance concerning a specific matter is accompanied by a certain kind of interest in that matter, does it result in curiosity. If such an interest causes a desire to know, then it must be of the second order, in that the curious being not only has to be aware of what he or she does not know, but must also desire to come to know the unknown. What exactly is involved in such a desire to come to know the unknown, how it is possible, and whether such a desire is to be taken as identical to that mental state of curiosity are issues to be explored now.

Odd as it may be, there has been very little work done on curiosity within the philosophy literature.⁸ Various authors who have talked about curiosity took it as being unproblematic that it is a certain kind of desire: Aristotle’s famous first line of his *Metaphysics* ‘All men by nature desire to know’⁹, may in fact be taken as his definition of curiosity. Similarly Descartes in his *Passions of the Soul* explicitly defines curiosity as a ‘desire to understand’¹⁰, Hobbes in his *Leviathan* defines it as ‘a desire to know how and why’¹¹ and Hume in his *Treatise* defines it as

⁸ For some recent literature see Whitcomb (forthcoming), Mišćević (2007), Fiengo (2007), Kvanvig(2003), Schmitt and Lahroodi (2008).

⁹ Interestingly Aristotle hardly talks about the issue afterwards, and has a bit more to say on *thauma* which has traditionally been translated into English as ‘wonder’. (See Parts 1 and 2 in Book 1 of his *Metaphysics*.) In Medieval Philosophy, again there is very little on curiosity, and a lot more on the Latin *admiratione*, which too has been traditionally translated into English as ‘wonder’ giving rise to some confusion. Though Aristotle and Plato seem to praise *thauma* to some extent, medieval figures, especially Augustine, perceived the state of *admiratione* as a ‘lust of the mind’ that distracts our attention from God, making it a sinful act.

¹⁰ Among the six primitive passions for Descartes (1989) is *admiration* (this time in French rather than the Medieval Latin, which too has been translated into English as ‘wonder’), though curiosity appears as an instance of another primitive passion, namely desire, and is explicitly defined as a ‘desire to understand’.

¹¹ Unlike his predecessors, Hobbes (1994), perhaps is the first in history to have significantly praised curiosity, as he takes it to be one of the two virtues, together

'love of truth'¹² which is a passion on his view that entails it being a desire. Such definitions have entered standard dictionaries, and it is usually taken for granted that curiosity must be a form of desire that has some epistemic content. For ease of discussion let us take the simplest of them of all, the one that defines curiosity as being a desire to know, and discuss how it may be challenged. If such a definition is true, then we are surely not to conclude that 'being curious' and 'desiring to know' are synonyms. A simple argument is sufficient to show that that cannot be the case, given that we could easily find sentential contexts in which they are not interchangeable *salva veritate*. When we ask, 'Is curiosity a desire to know?', we pose a genuine question that does not have an easy answer. But if the two terms had been synonyms, the question asked by this interrogative sentence, would have been the same as asking 'Is curiosity, curiosity?' that would have been trivial. The fact that we could pose such a genuine question by the former sentence should be sufficient to conclude that the two terms are not synonyms. So I take it that this commonly held definition is not to be taken as one of synonymy, but rather of extension, that is, it is a definition that claims that the two terms make reference to the same mental state, perhaps in different ways. But this would require some argumentation; so let us then turn to this question.

Certain thought experiments challenge this traditional view which unproblematically equates curiosity with a desire to know. Suppose there is a student in your Plato class getting ready for an exam on his theory of justice, but has no interest in the topic, and in fact despises having to study Plato. His whole motivation to prepare for the exam, let us suppose, is to pass the course so that he could graduate. It may well be said that such an uninterested student is not curious about Plato's theory of justice, or whatever part of Plato's work he is studying; he just wishes to learn enough to pass the exam. So despite the fact that it may well be said that he has a desire to know Plato's theory of justice, he is not curious about it, or it may be argued.

On the other hand we may think of cases in which there is curiosity that is not accompanied by a desire to know: a jealous husband who is curious about whether his wife is having an affair, may not wish to find it out with the fear that if he does, it will ruin their relationship, which he is not psychologically prepared to handle. Or imagine a person who has certain medical symptoms of what may be a fatal disease, but refrains from going to the doctor for an examination. It may well

with reason, that distinguish men from other animals, though again there is little discussion of the matter in his *Leviathan*.

¹² Hume (1986) in fact goes further than Hobbes by allocating a whole section on the passion of curiosity (or the love of truth), which starts off with the following line: "But methinks we have been not a little inattentive to run over so many different parts of the human mind, and examine so many passions, without taking once into the consideration that love of truth, which was the first source of all our enquiries." See Book II, Part III, Section X.

be the case that this person is curious about whether he has the illness, though he may not desire to know it. Such thought experiments may not conclusively show that being curious and desiring to know are not one and the same mental state. Perhaps there are ways of explaining them away by utilizing certain theories of desire. A discussion of this goes beyond the scope of this essay. All I wish to point out is that one needs to be cautious in taking such identity theses of curiosity for granted. So in what follows I will not make any assumptions as to whether curiosity is a form of desire; all that I will have to say will be compatible with this assumption, but also equally well with its alternative that takes the mental state of being curious as primitive (or one that cannot be identified with a desire) that at times and perhaps always causes a desire to know, making them intimately related but different mental states.

My central thesis is that curiosity is always intentional, as the term is at times used within the philosophy of mind, namely that it is a mental state that is always directed towards a particular object, in the logical sense of the term. Here we need to be clear on two separate senses of 'intentionality' as a mental state; taken in a strong sense an intentional mental state directed towards an object requires for that object to exist, but taken in a weaker sense it doesn't. It is the latter kind of weak intentionality that I have in mind in making the claim that being curious is an intentional mental state. So when one is curious, it has to be directed towards a particular object, whether it is physical or abstract, though it does not require that such an object in fact exists. This directedness has to be conceptualizable in the sense that the curious being must have a certain conceptual representation of the object of curiosity in his mind. Again this is a weak sense of 'representation' that does not require its object to exist. So it follows that conceptual curiosity can always be expressed in the form of a definite description, though in certain cases, such descriptions could turn out to be empty.

So my second main thesis is that every instance of curiosity involves the conceptualization of an unknown particular that could be expressed by a definite description. Given that the one who is curious, will not know the referent of that term, which is exactly what allows him to be curious, it follows that such a term will have to be inostensible for the curious person. So if curiosity is taken to be a desire, it should be expressible as a desire to know the object of one's own inostensible concept, or at the linguistic level, as the referent of an inostensible term. Only when Le Verrier had constructed a singular concept such as *the planet perturbing the orbit Uranus* and then realizing that he did not know the object falling under it, did he become curious. No doubt he had a strong desire to find out that object, which may well be taken as a necessary condition for his curiosity. For the mere construction of an inostensible concept need not always lead us to curiosity. Given the compositional structure of our languages, we could, in principle, construct infinitely many definite descriptions that are inostensible for

us, though only a small portion of them will arouse our curiosity. If for some odd reason I entertain the concept of *the number of ants in my living room now*, that by itself will not be sufficient to make me curious. I need to have some interest in the topic. It may be argued that such an interest is sufficient to cause curiosity, only when one develops a desire to find the object of his inostensible concept. But as the jealous husband case discussed earlier may suggest, this need not always be true. Though curiosity is normally accompanied by a desire, perhaps this is not always the case. The mental state of being curious is what may be the cause of such a desire, rather than being identical to it. It may be suggested that the jealous husband, by being curious as to whether his wife is having an affair, does have the desire to find out, and this desire may be taken to be identical to his mental state of being curious. If so, then we would have to conclude that he has both a positive desire to find out, and a negative desire not to find out; we could then perhaps explain the fact that he does not act open his curiosity by taking his negative desire to be stronger than his positive one. The alternative would be to take the mental state of being curious as being primitive, or as one which cannot be reduced to or identical with a desire. This is the position I will favor.

I have said that curiosity is an intentional mental state that is expressible in terms of an inostensible term, though this is only a weak sense of intentionality that does not require the object of curiosity to exist. Consider Vulcan once again. It was sufficient for some scientists interested in the topic to construct a certain inostensible definite description with the belief that it has a referent to become curious about this planet, which later turned out not to exist. They no doubt enjoyed a state of curiosity that was intentional in the sense that they knew exactly what they were looking for, though nothing in reality corresponded to it. Similarly before Euclid's time, various mathematicians must have been curious about the last prime number having the belief that there are finitely many of them. The fact that there is no such number did not in any way prevent them from becoming curious, given that they did not know this. In general when we construct an inostensible term, and become curious about its referent, we have an accompanying belief that such a referent in fact exists. But this need not always be the case. Scientists who were searching for Nemesis need not have believed that such a star exists; a working hypothesis was sufficient. It would not be a contradiction in terms to assume that a certain scientist working on the topic was curious, and his curiosity was directed towards the companion star to our sun, without that scientist believing that there in fact is such a star. In fact even if the scientist thought that the hypothesis was not all that plausible, and that the likelihood of our sun having a companion was very slim, he could still have been curious about it. So one may even be curious about something which he does not even believe to exist. As long as he has the sufficient kind of inter-

est in the topic, it is enough that he reflects on the fact that his belief in the non-existence of the object is fallible, and that it may turn out to be false. If I have a lottery ticket, whose chances of winning is one in a billion, it would be natural for me to believe that it will not win, though I may be still be curious as to whether it will.

If every instance of curiosity could be expressible in terms of an inostensible term, then it follows that every question asked out of curiosity would have to involve an inostensible term as well. To demonstrate both of these points, let us consider a simple example. Suppose I can't find a particular book of mine that I thought was in my library. There are various things I may be curious about at this point; I may be curious about where my book is, when it got lost, why it got lost, how it got lost, whether it was stolen, and if it was stolen, who stole it, and why, etc. Each one would be a different instance of curiosity corresponding to a different inostensible term. It is the construction of the inostensible term 'the location of my book now' that allows me to be curious about where the book is, and 'the time when my book got lost' can make me curious about when it got lost, and 'the cause of my book being lost' can make me curious about why it got lost. Curiosity expressed in the form of what has been called 'conditional questions' requires the construction of more complicated inostensible singular terms. When I ask, 'If my book was stolen, who stole it?' I am not simply curious about the person who stole the book. Rather my curiosity is directed towards something more complex than that. In such a case the inostensible term in question would have to be something tantamount to: 'the object which is the fact that my book was not stolen, if my book was not stolen, and the person who stole my book, if my book was stolen'. So there is a sense in which what I am seeking is either a negative fact or a person. But for ones who are not sympathetic to the fact-ontology, there are surely alternative ways of analysis. Since the first part of such a description has to appeal to propositional curiosity, we need to first clarify what it is we are curious about when our curiosity could be expressed in the form of what logicians call a 'direct question', or a 'whether-question', i.e. a question that admits 'yes' or 'no' as an answer.

When I am curious about whether my book was stolen, I need to construct a full sentence, or at least entertain a full proposition whose truth value I am unaware of. The inostensible term in such a case is a full declarative sentence, if we take them as referring expressions. Now depending on what one takes to be the referent of a declarative sentence, the object of curiosity will be cashed out accordingly. If we follow Frege who held that declarative sentences are singular terms that refer to one of the two truth values, either the True or the False, then what is being sought is one of those Fregean objects. Thus the inostensible term that corresponds to our curiosity of the truth value of a proposition p , will be in the form 'the True if p , and the False if not- p ', if we follow Frege. However, if we take the referent of a declarative sentence

as being a state of affairs that is either actualized (making the sentence true) or non-actualized (making the sentence false), then the object of our curiosity is one of those state of affairs. This time our inostensible term will be in the form ‘the state of affairs that makes p true, if p , and that makes p false, if not- p ’. Curiosity that is expressible in the form of a direct question is similar in form to which-interrogatives. If someone brings me two different copies of the same book that look more or less identical and tells me that one of them is the book I lost, I may be curious as to which one it is. It is the inostensible term ‘the copy of the book among the two that is the one I lost’ or something similar to it that allows me to be curious. Similarly when we ask a direct question we are curious to know which of the two possible referents a full declarative sentence refers to. For the purpose of this essay, I will not make any assumptions as to what declarative sentences refer to, though I do presuppose that they are referring expressions, and that they are singular terms. But even that could be given up. We may, for instance, suppose that a declarative sentence is not a referring expression, and that such a sentence has the property of *being true*, if true, and has the property of *being false*, if false. If we take this line, then a declarative sentence, by itself, cannot be considered to be the kind of term that is ostensible or inostensible; rather propositional curiosity expressed in the form ‘Is it the case that p ?’ will correspond to an inostensible term in the form ‘the property F that p has, such that F is *being true*, if p , and is *being false*, if not- p ’. The main point is that the compositional structure of language enables us to construct a full declarative sentence without knowing the referent of that sentence, or without knowing which of the two properties it has. Since I take a declarative sentence to be a referring expression, I take it that such a sentence whose referent is unknown for a speaker will make that sentence inostensible for him.¹³

When we are curious there is a sense in which we represent the object of our curiosity through an inostensible concept and if our desire to satisfy our curiosity is strong enough, which need not always be the case, we are motivated to find that object. When we come across the object in question, we need to be able to recognize it as being the object of our concept in order to satisfy our curiosity. If Sue is the one who took my book, then the object of my curiosity captured by my inostensible concept *the person who took my book*, is Sue herself, in flesh and blood. Only when I am able to re-conceptualize her as being the one who took my book ostensibly, then my curiosity is satisfied. Once I do so, then my original inostensible concept will transform into an ostensible one. The

¹³ Within the logic of questions and answers literature the issue of curiosity has not been tackled in depth by any means. This literature, however, has given rise to various interesting theories concerning the semantic content of interrogative sentences, and how they logically relate to their answers etc. Though it is not my purpose to discuss them here, I should note that my account of curiosity brings me closer to the so-called intensional theories of questions, especially the one pioneered by Tichy (1978).

human mind is under a certain form of intellectual strain in entertaining an inostensible concept that arouses curiosity, and in such cases the mind is normally inclined, perhaps naturally, to convert it into an ostensible one. So when we ask a question out of curiosity, and we get a true answer, we would not be satisfied by that answer even if we understand it, and know that it is a true answer, unless the answer enables us to convert our inostensible concept into an ostensible one. Merely coming to know a true answer to a particular question may not always be sufficient to satisfy our curiosity. If I am curious about my friend's age, and my friend who likes creating mysteries tells me that her age is the same as the house number next door, that would not satisfy me, even if I know she is telling the truth, unless I know what the house number next door is. That is because the identity statement expressed by the sentence 'my friend's age is the house number next door' has inostensible terms in each side for me at this stage. Given that a term being ostensible or inostensible for a speaker is an epistemic issue that normally has no semantic significance, propositional knowledge is unable to distinguish between the two ways of knowing exactly the same proposition.¹⁴ Someone who is also curious about my friend's age may be satisfied by this answer, as long as he knows what the house number next door is. We would both be knowing the same proposition, but in different ways, and there is nothing in the proposition to reveal this. So the general point is that when I have an inostensible term *the F*, and learn that *the F is the G*, my curiosity would be satisfied only if '*the G*' is an ostensible term for me. Even if the latter is a proper name of the object in question, that may still not be sufficient. If I am told that it is Sue who took my book, and I have no clue as to who this person is, though I may have learned something new, it may still not be sufficient to satisfy my curiosity. How much experience or knowledge of the object in question is needed, will differ from context to context and even person to person.

Though in the literature on the logic of questions and answers the issue has not attracted much attention, a relevant discussion of how a true answer may not answer a question is provided by M. Hand who claims that an answer term must be rigid in an epistemically relativized sense to answer a question for the questioner: 'I accept the fastest man alive as an answer to my question as to who the winner is just in case I know who is the fastest man alive, and this is so when the fastest man alive is rigid over the set of worlds compatible with what I know...' Hand (1988), 218. This suggests that an answer term to a question must always be rigid for the asker. Whether we take rigidity in an absolute sense as Kripke does, or in a relative sense as Hand

¹⁴ There may be certain forms of sentences for which the ostensible/inostensible distinction may be said to have a bearing on what proposition such a sentence expresses. Consider the following sentence: "It is discoverable that Neptune does not perturb Uranus". It appears that such a sentence would have expressed a falsity for Le Verrier, but not for us. See my (1997) for a discussion of this.

does, either way it seems to me that this position is not fully accurate. On my account the reason why ‘the fastest man alive’ does not answer our question is not because the term is non-rigid, but because it is inostensible. Whether a term is ostensible or inostensible for a person cannot be cashed out in terms of its rigidity. If I ask someone his age, and he responds by saying ‘the 36th prime number’ I will not be satisfied, nor would I be satisfied if he says ‘the house number next door’, simply because I do not know what the 36th prime number is, nor the house number next door. Clearly the first response is rigid and the second one is not in the Kripkean absolute sense of rigidity. When we relativize the notion of rigidity, it may indeed be correct to say that the term ‘the house number next door’ will become rigid once I found out what number it refers to. If I know that the house number next door is 38, the term ‘the house number next door’ will refer to the same number, namely 38, in all those possible worlds compatible with what I know. Therefore, for contingent descriptions as such it may well be the case that a term is rigid (relatively) if and only if it is ostensible for a person. However, this does not seem to be the case for descriptions such as ‘the 36th prime number’ which are rigid in an absolute sense. In all possible worlds this description refers to the same number, therefore it refers to the same number in all possible worlds which are compatible with my knowledge making the term rigid in the relativized sense as well. Nonetheless it does not answer the question for me given that it is inostensible. So it follows that the notion of *rigidity*, even when it is epistemically relativized, is not sufficient to account for the ostensible/inostensible distinction.

It may also be suggested that curiosity expressed by utilizing an inostensible term *the F*, when put in an interrogative form ‘what is *the F*?’ must always express a *de dicto* question, and the ostensible term *the G* that answers the question in the identity statement the ‘*the F* is *the G*’ must always express something *de re*. If that had been the case, then the *de re/de dicto* distinction would have been sufficient to explain curiosity and its satisfaction. But this is not the case. Though it may be true that an assertion involving the use of an ostensible term must express a *de re* attitude, it need not be the case that asking a question by using an inostensible term must always be expressing something *de dicto*. A discussion of this requires us to distinguish between two different ways in which we find the motivation to construct an inostensible term. When I hear a knock on my door, and form the belief that there is someone out there doing the knocking, I immediately, perhaps unconsciously and involuntarily entertain the concept expressed by the inostensible term ‘the person knocking on the door’. At that point there is a causal connection between the fact that I am entertaining the concept and the object that satisfies it. It is the knocking of the person that causes me to entertain the concept. Similarly the fact that Le Verrier developed the inostensible concept *the planet perturbing the orbit of Uranus* was partially caused by certain observations of Uranus’ orbit that he had

made; given that Neptune was in fact perturbing the orbit of Uranus, the construction of his concept was causally linked to the object that satisfied it. Such a causal link, I believe, is sufficient for having *de re* attitudes towards the entity in question, and if one such attitude is curiosity, then it must also be *de re*. There is a good sense in which in such cases it is the very object that we are curious about that causes our curiosity, or at least has some partial role, though a fundamental one, in the causal process that leads up to our becoming curious. It was the mailing of bombs of a man that caused people to come up with the name ‘Unabomber’; they did not invent the name out of the blue. So curiosity as to who this person was mailing the bombs, was *de re* curiosity.

That is not to say that all curiosity is *de re*; if that had been the case we would never be able to be curious about things with which we have no causal connection. Every term whose referent is unknown has the potential to arouse in us some curiosity. The compositional structure of our languages enables us to come up with many terms whose referents are unknown, but only a small portion of them allows us to form *de re* curiosity. Being curious about the exact location of the center of the solar system does not require us to have a causal link to that point in space. Nor was it true of Le Verrier that he had observed the impacts of an unknown planet that enabled to him to come up with the name ‘Vulcan’, for there was no such planet. Given that *de re* curiosity requires its object to exist, if all instances of curiosity had been *de re*, we would not have been able to be curious about something that turns out not to exist. Before Euclid came up with his famous proof for the infinity of prime numbers, it must have been natural for mathematicians to be curious about the last prime number. This need not have been curiosity concerning whether such a number exists. A mathematician who was firmly convinced that there are finitely many primes, may have been curious about what the last prime number is, without thereby being curious about whether it exists. In that sense curiosity directed towards an object need not be *de re*, for the simple reason that such an entity may turn out not to exist.¹⁵

III.

Let me then sum up some of my basic claims: Curiosity is always an intentional mental state, that is, it is always directed toward an object, and therefore can always be expressed in the form of a definite description that is inostensible for the curious being; but this intentionality is in a weak sense of the term, in that it does not necessitate the existence of such an object. In case the object of curiosity does exist, the curious being’s attitude towards that object could be *de re*, if his curiosity has

¹⁵ The same could be said of inquiry; inquiring into something does not require for the object of inquiry to exist. This shows why the standard solutions offered in the literature for Meno’s Paradox, which all presuppose the existence of the object of inquiry, are not satisfactory.

the appropriate kind of causal link to the object in question. In such cases if we assume that the curious being can in fact name that object by fixing its referent by the inostensible definite description that gives rise to his curiosity, then one may express singular questions. The mere entertainment of an inostensible concept in one's mind is not sufficient for that person to become curious, he also needs to have an interest in the topic. This interest at times may cause that person to desire to know the object that falls under that concept, in which case the curious being may be motivated to satisfy his curiosity if the desire is strong enough. Therefore inquiry that is motivated by curiosity requires the inquirer to entertain an inostensible concept, and have interest in the object in question and then to seek it. Only when the curious being gains some new experience that he believes to be sufficient to come to know a certain object as being the object of his inostensible concept will he stop being curious. So it follows that our epistemic learning process that is based on curiosity is always an effort to transform our inostensible concepts into ostensible ones.

Acknowledgments

This paper was written on my sabbatical year I spent with the *LOGOS* group at the *University of Barcelona* in 2009 where I worked on a book project on the same topic which contains a more elaborate and detailed discussion of these issues. Parts of this paper were presented at the *LOGOS* Colloquium the same year. I would like to thank the *LOGOS* group and *Boğaziçi University* for their support. This work has been partially funded by research grants given by *Boğaziçi University* (Research Project # 07 B 201) and the *Turkish Scientific and Technical Research Institute, TUBITAK* (Post-doctoral Research Grant # 2219).

References

- Aristotle (1924), *Metaphysics, A Revised text with introduction and commentary* by W. D. Ross, Oxford: Clarendon Press.
- Berlyne, D. E. (1954), "A theory of human curiosity", *British Journal of Psychology*, 45, 180–191.
- Descartes, R. (1989), *The Passions of the Soul*, translated and annotated by Stephen Voss, Indianapolis/Cambridge: Hackett Publishing Company.
- Donnellan, K. (1966), 'Reference and Definite Descriptions', *Philosophical Review*, 75, 281–304.
- Donnellan, K. (1979), The contingent a priori and rigid designators. In P.A. French, T.F.Jr Uehling, H.K. Wettstein (eds), *Contemporary Perspectives in the Philosophy of Language*, Minneapolis: University of Minnesota Press, 45–60.
- Fiengo, R. (2007), *Asking Questions: Using Meaningful Structures To Imply Ignorance*, Oxford: Oxford University Press.
- Fowler, H. (1965), *Curiosity and Exploratory Behavior*, New York: The Macmillan Company.

- Frege, G. (1980), "Concept and object", In P. Geach, M. Black (eds), *Translations from the Philosophical Writings of Gottlob Frege*, third edition, Oxford: Blackwell, 42–55.
- Hand, M. (1988), "Game-theoretical semantics, Montague semantics, and questions", *Synthese*, 74, 207–222.
- Hobbes, T. (1994), *Leviathan*, E. Curley (ed), with selected variants from the Latin edition of 1668, Cambridge: Hackett Publishing Company.
- Hume, D. (1986), *Treatise of Human Nature*, Penguin Classics.
- Kaplan, D. (1969), Quantifying in. In *Words and Objection: Essays on the Work of W.V. Quine*, ed. D. Davidson, J. Hintikka (eds), Dordrecht-Holland: D. Reidel Publishing Co., 206–242.
- Kripke, S. (1972), *Naming and Necessity*, Cambridge: Harvard University Press.
- Kripke, S. (1979), Speaker's reference and semantic reference. In *Contemporary Perspectives in the Philosophy of Language*, French, Uehling, and Wettstein (eds), Minneapolis: University of Minnesota Press, 6–27.
- Kvanvig, J. (2003), *The Value Of Knowledge And The Pursuit Of Understanding*, Cambridge: Cambridge University Press.
- Miščević, N. (2007), "Virtue-based epistemology and the centrality of truth (towards a strong virtue-epistemology)", *Acta Analytica*, 22 (3).
- Russell, B. (1910), "Knowledge by acquaintance and knowledge by description", *Proceedings of the Aristotelian Society*, 11, 108–128.
- Salmon, N. (2004), "The good, the bad, and the ugly". In M. Reimer, A. Bezuidenhout (eds), *Descriptions and Beyond*, Oxford: Oxford University Press, 230–260.
- Schmitt, F.F., Lahroodi, R. (2008), "The epistemic value of curiosity", *Educational Theory*, 58, 125–148.
- Tichy, P. (1978), "Questions, answers, and logic", *American Philosophical Quarterly*, 15, 275–84.
- Whitcomb, D. (2009), "Curiosity was framed", *Philosophy and Phenomenological Research* (forthcoming).