# Russell's Epistemic Understanding of Logic

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RESUMEN

En "Sobre la Denotación", Russell elaboró un análisis lógico de las descripciones definidas basado en sus tesis epistemológicas acerca de nuestro conocimiento del mundo. El tipo de conocimiento más fundamental es el conocimiento directo o conocimiento de aquellos objetos a los cuales tenemos acceso cognitivo inmediato. Usamos el lenguaje para pensar y hablar acerca del mundo empleando expresiones (nombres propios en sentido lógico) para denotar objetos conocidos directamente. La teoría russelliana de las descripciones da cuenta de cómo las descripciones que no etiquetan objetos conocidos directamente "desaparecen" al ser analizadas, dejándonos sólo con las expresiones que sí etiquetan tales objetos. En este ensayo se aplaude el proyecto russelliano de explicar cómo usamos el lenguaje para tener acceso a los objetos, pero se critica tanto su teoría epistemológica como su análisis de las descripciones. Se emplea una teoría de los actos de habla, o actos de lenguaje, para esbozar una teoría de la referencia que explica cómo usamos el lenguaje para tener acceso a los objetos del mundo, los objetos a los cuales nos referimos. Los términos singulares tienen usos tanto referenciales como no referenciales o predicativos. El análisis de Russell se acerca a lo adecuado en cuanto al uso no referencial de los términos singulares, pero no es adecuado para el caso del uso referencial. Se esboza un sistema lógico de actos de habla, o lógica ilocucionaria, que deja espacio tanto para el aspecto ontológico como para el epistemológico. La lógica estándar se enfoca en el aspecto ontológico y puede dar cuenta del uso no referencial de los términos singulares. Para poder hacer referencia a algo se requiere tener un conocimiento extralingüístico. La teoría de la referencia pertenece al aspecto epistémico de la lógica.

ABSTRACT

In "On Denoting", Russell provided a logical analysis of definite descriptions that is based on his epistemological views about our knowledge of the world. Knowledge by acquaintance is knowledge of those objects to which we have direct cognitive access; this is our most fundamental knowledge. We use language to think and talk about the world by employing expressions (logically proper names) for objects of acquaintance. Russell's account of descriptions explains how these expressions which don't label objects of acquaintance "disappear" upon analysis, leaving us with expressions which do label such objects. In the present paper, Russell's project of explaining how we use language to access objects is applauded, but his epistemological theory and his analysis of descriptions are criticized. A theory of speech acts, or language acts, is used to sketch an account of referring which explains how we use language to access objects in the world, the very objects we intend. Singular terms have both referring and non referring, or predicative uses. Russell's analysis comes close to being

adequate for the non-referring use of singular terms, but does not accommodate the referring use. A system of speech act logic, or illocutionary logic, is outlined which makes room for both the ontological and the epistemic dimensions of logic. Standard logic focuses on the ontological dimension, and can "handle" the non-referring use of singular terms. Referring requires extra-linguistic knowledge; an account of referring belongs to the epistemic side of logic.

## I. RUSSELL'S PROJECT

Logic has both an epistemic and an ontological aspect, or dimension. The epistemic focus is on arguments, deductions, proofs. In this respect, logic is concerned with the norms for correct reasoning that we can use in extending our knowledge. The ontological focus is on true statements that express "facts" of a highly general and abstract kind. The laws of Excluded Middle and Non-contradiction are like this. The study of semantics and truth conditions belongs to the ontological dimension of logic. Historically, the epistemic dimension received the most attention from Aristotle until the mid-nineteenth century. George Boole may deserve the credit (or blame) for shifting attention from epistemology to ontology. The period following Boole has been marked by a movement in the direction of ontology, away from the epistemic.

However, Bertrand Russell was one pioneer of modern logic who had a keen interest in epistemology, even though he was not particularly concerned to investigate arguments, deductions, and proofs. Russell's interest in episte-mology is evident in what may be his most famous paper, "On Denoting." It is clearly important to him that our use of language for making significant statements that are true or false be grounded in our knowledge of some things by acquaintance. Our use of language depends both on knowledge by de-scription and knowledge by acquaintance, but acquaintance is more funda-mental, since language is essential to our having knowledge by description.

In discussing language and meaning, it is common to talk as if words and other expressions do things for us. Words refer, words denote, words mean this or that. This is surely a misleading way to talk, for expressions can't *do* things. *People* do things. Sometimes they do things by using words. In "On Denoting," Russell speaks of expressions as denoting or not denoting things, but he doesn't regard denoting as an act, or an activity. Denoting isn't something to *do*. It is a relation that sometimes obtains between an word, or even a speech act, and an object in the world. But a person who uses lan-guage to speak, or write, or even to think, *is* doing something, and Russell is concerned to explain what this is. What the language user is "up to" is *not* denoting or trying to denote. Denoting, if it happens to obtain between ex-pressions and things, is incidental to what is actually going on.

While it is clear that the view that Russell presents in "On Denoting" is linked to his views on epistemology, especially to his understanding of acquaintance and knowledge by acquaintance, it is difficult to express precisely how Russell's view, or theory, applies to what a person is doing when that person uses a definite description in speaking, or writing, or thinking. Russell obviously isn't telling us what is running through the language user's mind as she speaks. For Russell believes he is telling us something surprising, and unexpected — who would have thought that so much is involved when we speak of the Queen of England, or the King of France? Even if we are initially inclined to think his view somewhat preposterous, we are asked to consider the alternatives. Once we do, Russell feels that we may come to find his view acceptable, and even plausible.

It might help if we reflect on the fact that when we sense things, and when we carry out actions, a variety of "internal" events take place: there are neural events occurring in different parts of our brains, there are "signals" being transmitted via our nerves, there are muscular motions. We aren't consciously aware of these events when they take place, although we do have ways of coming to know about them. At the same time these events that we aren't aware of occur, there are events taking place of which we are aware. We have experience, and we carry out actions that we know ourselves to be performing. The events that we are aware of depend on the further events of which we are unaware, but they don't depend on our experiencing those further events, or even on our knowing about them.

Russell seems to think that our use of language is like this. When we speak, or write, or think with words, we are aware that we are doing so. But there are features of our language, or features of our use of language, of which we aren't aware, and on which the successful use of language to say what we *are* aware of saying depends. We can successfully use language when we don't understand how our language (our language activity) works, even when we misunderstand how it works. To understand how our language actually works, we don't need physiological or neuro-physiological information, which is what we do need for understanding sensation and action. In the case of language, we make use of philosophical or logical analysis.

On Russell's understanding, what it is for language (or language activity) to "work," is for it to "connect" us to the world via things we directly experience. Acquaintance, or knowledge by acquaintance, is the product of our direct cognitive contact with certain objects: sense data, universals, (possibly) ourselves, the present moment, and others things as well. We can talk and think about things we do experience and have experienced, about things we don't and haven't experienced which are related to objects in our experience by relations we have experienced, and even, by the miracle of quantification, about things that exemplify features which we somehow understand on the basis of our experience. (Quantification enables us to say, and think, that

there are things with such and such features, and also that all things of a certain kind are whatever.)

Someone who uses language in a meaningful way is using expressions for items with which she is acquainted, she is making some kind of mental contact with these items, and she is "arranging" these things in a proposition, or propositional thought. Our ordinary English (or other language) statements are often misleading with respect to the elements involved, and with respect to the structure of the proposition. The languages of modern logic are more suitable than natural languages for providing perspicuous presentations of our propositional thoughts, although we must still know what are the basic elements with which we are acquainted in order to make suitable logical-language sentences.

Logical and philosophical analysis can provide understanding of the way language works. But we probably can't use this knowledge to inform our use of language in the sense that we actually think of everything that is involved when we say things or think things. Even the simplest statements turn out to be immensely complicated. We couldn't keep so much in mind as we say things to other people, or even as we think things by/to ourselves.

Russell understood definite descriptions and the way they work in terms of logical formulas from a language like that of *Principia Mathematica*, but in "On Denoting" he tries to explain them in plain English without the aid of formulas. His paraphrases are strained and awkward, and some knowledge of logic is a big help in understanding the view that he presents. The logical formulas, after all, are much more perspicuous than plain English for showing the "inner workings" of our language, and for understanding how our thinking and talking make contact with experience.

Russell thought of modern logic as epistemically valuable, not because it provides a new or better understanding of arguments, deduction, and proof, but because it brings to the surface important structures buried deep within our language. If logic can actually do this, then logic makes an enormous epistemic contribution, although it may not have been one that Aristotle recognized.

Epistemic considerations apart, Russell's analysis of definite descriptions is ontologically successful, for it tells us what the world is in fact like if the sentence or statement made with the description is true, and explains the different ways in which the world can fail to make the statement true. Ontology *is* important for Russell, since he is happy enough to show the mistake in what he thinks is Meinong's view, but it isn't on a par with epistemology.

## II. Must We Understand What We Are Saying?

Philosophers who adopt a speech act perspective have been quite critical of Russell's treatment of definite descriptions (and of his treatment of ordinary proper names as well, since Russell regards these as concealed

descriptions). Although he didn't put his criticisms [in Strawson (1959)] in terms of speech acts, Strawson was clearly thinking of what people do with descriptions and other singular terms. Later Searle criticized Russell's theory from a more overtly speech act point of view. It is an essential feature of such views that language acts are intentional acts. The person who performs an intentional act knows that she is doing so, and she knows what she is doing.

According to Russell, a person who claims that *the F* is *G* has made two different claims: that there is a unique individual which is *F* and that this unique individual is *G*. Just saying '*the F*' amounts to a claim that there is a unique object which is *F*. Searle insists that this cannot be the case. No one who uses a description thinks of herself as making such an assertion. And someone who uses a description to make a request or ask a question ("Take this book to the Governor of New York", "Is this where the Mayor of New York City lives?") is never understood to have made an assertion in addition to the request, or the question.

A speech act, or as I now prefer to say, a language act, is a meaningful act performed by using an expression. In dealing with language acts, it is necessary to consider the language user's knowledge and beliefs. Both her knowledge of language and her extra-linguistic knowledge are important for such language acts as referring, as well as for making assertions and denials. In addition, an account of language use must accommodate those arguments which are speech acts, and the norms determining which arguments are correct or valid. Speech act philosophers like Austin and Searle have not developed epistemological theories, but they have not ignored the epistemic dimension of speech acts/language acts.

Russell's idea that an account of language must provide an explanation of the way that we use language to "get at" objects in the world isn't unreasonable. We do succeed in using language to talk and think about objects we are experiencing, objects we have experienced, and objects that have never formed part of our experience. How do we do it? When we use language, whether for talking out loud, writing/typing, or just thinking, there are many things going on with us and in us of which we are unaware. Some of these things are necessary for our successful use of language. If we were aware of all the neural events as they occur, this might make it impossible for us to use language. There would be too many things going on for us to keep track of. Our awareness would get in the way of our using language. But it is absurd to think that the language acts of which we are aware are a false front for events of "cognitive access" to objects of acquaintance. The language acts which we are aware of performing are the only language acts that we are performing. We are using words to direct our thought and attention to objects, we are using words to characterize those objects, and the objects in question are ordinary objects, like people, tables, and cities.

To say something, and mean it, a person must know what she is doing. Her knowledge informs her use of language. An intentional act can have features that are not intentionally supplied. And an intentional act of a certain kind can have success conditions that someone tries but fails to satisfy. For example, in order to successfully use an expression to refer to an individual, there must be an individual to refer to. A person might mistakenly think that France is ruled by a king, and attempt to refer to that king. She intends to refer to the king of France, and thinks that she has done so. Hers is a failed attempt to perform a referring act. Although we might still say that she used the expression 'the present king of France' in a referring way, this doesn't mean that she actually referred to anyone. Her attempt to refer is an intentional act, and if she had succeeded, her referring would be intentional. But her failure to refer is unintended, it is a feature of her act that has not been intentionally supplied.

Russell's demand that a theory of language explain how the use of language provides cognitive access to things in the world is a reasonable one. But his efforts to come up with an explanation are not successful. He has accommodated the ontology of definite descriptions, indicating what the world must be like if a statement containing a description is true. A different account is needed to accommodate the epistemic dimension of descriptions.

## III. The Logic of Language Acts

It is possible to develop a logical theory which accommodates both epistemology and ontology. *Illocutionary logic*, or the logic of speech acts or language acts, does this. The subject was first introduced (invented?) by John Searle and Daniel Vanderveken, in Vanderveken (1985), and further developed in Vanderveken (1990). However, Searle and Vanderveken favor a "top-down" approach, looking for principles that characterize all illocutionary acts, and they regard illocutionary logic as a supplement or appendix to standard logic. In contrast, I favor a "bottom up" approach, and develop a number of different systems to explore one or another use of language. Some places where I have done this are listed in the references. I also disagree with Searle and Vanderveken on a number of other issues concerning illocutionary logic. And I regard illocutionary logic as a broader enterprise than standard logic, for illocutionary logic contains standard logic as a proper part.

A language act is a meaningful act performed by using an expression. Language acts are the primary bearers of semantic features, while it is expressions that exemplify syntactic features. A *statement* is a language act performed with a sentence, it is a sentential act which is either true or false. (This is a *stipulated* meaning for 'statement', since the word is often given a different meaning.) Statements are often used (performed) with one or another *illocutionary force*. A statement can be asserted, or accepted, it can be denied, and it

can be supposed to be true or supposed to be false, for example. Illocutionary acts are themselves used to constitute *arguments*, which are also language acts. (There are many different meanings of 'argument', or different sorts of argument, but I shall consider only arguments which are speech acts.)

In a system of illocutionary logic, the sentences of the artificial language are not used for talking or thinking. These sentences *represent* language acts performed with sentences of a natural language. Let *L* be a language of propositional logic which contains atomic sentences and sentences built from them using these connectives: $\sim$ $\vee$, &. (The horseshoe of material implication is a defined symbol.) The atomic sentences and the compound sentences formed with the connectives are *plain sentences* of *L*. There are no other plain sentences. The plain sentences of *L* represent statements considered apart from illocutionary force.

The language *L* also contains four *illocutionary operators* which are prefixed to plain sentences. These are:

|    | – the operator for accepting, or asserting a statement

}    – the operator for denial

⌐    – the operator for supposing-true a statement

5    – the operator for supposing-false a statement

If *A* is a plain sentence, then | *A*, } *A*, ⌐*A*, 5*A* are *completed sentences* of *L*. There are no other completed sentences. Completed sentences represent illocutionary acts. (But I understand an assertion to be an act of accepting a statement, or an act which reflects one's continued acceptance of the statement. Assertions in this sense do not require an audience, and all such assertions are sincere.)

The semantic account for the artificial language in a system of illocutionary logic has two tiers. The first (lower) tier deals with ontology. At this level, functions assign values to expressions apart from illocutionary operators, and determine the truth conditions of plain sentences. For the language *L*, an *interpreting function* assigns either T or F to each atomic sentence, and an interpreting function *f determines* a valuation of the language. This semantic treatment is entirely standard.

The second tier of the semantic account is epistemic. Here functions assign values to completed sentences. These values are based on *rational commitment*. A person who accepts certain statements and denies other statements, is rationally committed by this to accept further statements and to deny further statements. This commitment is conditional; she is rationally committed to ac-

cept a further statement if the matter comes up and she gives it some thought. And the commitment can be canceled if initial assertions or denials are given up.

Rational commitment is always *someone's* commitment. The second tier of the semantic account is developed from the perspective of an idealized person known as the *designated subject*. We imagine the designated subject at a given time to have explicitly considered, and accepted, certain statements, and to have explicitly considered, and rejected, certain other statements. She remembers, and continues to accept or reject, these statements. This commits her to accept further statements and to reject further statements. The symbol '+' is used for those assertions and denials that have been performed, and for those that the designated subject is committed to perform. *Commitment valuations* assign the value + to some completed sentences $|A$ and $\}B$.

Let $f$ be an interpreting function for the language $L$, and let $J$ be a commitment valuation for the language. $J$ is *based on f* iff (i) if $J(|A) = +$, then $f(A) = T$, and (ii) if $J(\}A) = +$, then $f(A) = F$. A commitment valuation is *coherent* iff it is based on an interpreting function.

Let $J_0$ be a coherent commitment valuation of $L$. Then the *commitment valuation determined by $J_0$* is the function $J$ such that (i) $J(|A) = +$ iff $f(A) = T$ for every interpreting function $f$ on which $J_0$ is based, and (ii) $J(\}A) = +$ iff $f(A) = F$ for every interpreting function $f$ on which $J_0$ is based. We think of the function $J_0$ as indicating the designated subject's *explicit* beliefs and disbeliefs (those she has actually thought about, and either accepted or rejected) at a given moment, and $J$ as indicating these and the further statements that she is committed to either accept or reject on the basis of her explicit beliefs and disbeliefs.

A commitment valuation $J$ of $L$ is *acceptable* iff it is the commitment valuation determined by a coherent commitment valuation of $L$. The following matrix shows how acceptable commitment valuations "work". (The '*b*' is for *blank*.)

| $|A$ | $|B$ | $\}A$ | $\}B$ | $|\sim A$ | $\}\sim A$ | $|[A \& B]$ | $\}[A \& B]$ | $|[A \lor B]$ | $\}[A \lor B]$ |
|---|---|---|---|---|---|---|---|---|---|
| + | + | *b* | *b* | *b* | + | + | *b* | + | *b* |
| + | *b* | *b* | + | *b* | + | *b* | + | + | *b* |
| + | *b* | *b* | *b* | *b* | + | *b* | *b* | + | *b* |
| *b* | + | + | *b* | + | *b* | *b* | + | + | *b* |
| *b* | *b* | + | + | + | *b* | *b* | + | *b* | + |
| *b* | *b* | + | *b* | + | *b* | *b* | + | *b* | *b* |
| *b* | + | *b* | *b* | *b* | *b* | *b* | *b* | + | *b* |
| *b* | *b* | *b* | + | *b* | *b* | *b* | + | *b* | *b* |
| *b* | *b* | *b* | *b* | *b* | *b* | *b* | +, *b* | +, *b* | *b* |

For the last row, even if both $|A, |\sim A$ have no value ($= b$), the designated subject must reject '$[A \& \sim A]$' and accept '$[A \lor \sim A]$'.

Let $\mathcal{J}_0$ be a coherent commitment valuation of $L$, let $\mathcal{J}$ be the commitment valuation determined by $\mathcal{J}_0$, and let $|A, \}B$ be completed sentences of $L$. Then $\mathcal{J}_0$ *satisfies $|A$ and satisfies* $\}B$ iff $\mathcal{J}(|A) = +, \mathcal{J}(\}B) = +$.

Let $\mathcal{J}_0$ be a commitment valuation of $L$ that is based on interpreting function $f$. Then $<\!f, \mathcal{J}_0\!>$ is a *coherent pair*.

Let $<\!f, \mathcal{J}_0\!>$ be a coherent pair (for $L$). Let $|A, \}B, \vdash C, 5D$ be completed sentences of $L$. Then the pair $<\!f, \mathcal{J}_0\!>$ *satisfies* each of these sentences iff (i) $\mathcal{J}_0$ satisfies each of $|A, \}B$, (ii) $f(A) = $ T, (iii) $f(B) = $ F.

Let $X$ be a set of completed sentences of $L$, and let $A$ be a completed sentence of $L$. Then *$X$ logically requires (illocutionarily implies) $A$* iff (i) $A$ is an assertion or denial, and every acceptable commitment valuation that satisfies all the assertions and denials in $X$ also satisfies $A$, or (ii) $A$ is a supposition, and every coherent pair that satisfies all the sentences in $X$ also satisfies $A$.

The appropriate sort of deductive system in illocutionary logic is a natural deduction system. In a proof, or deduction, of such a system, each step is a completed sentence. The rules take account of both truth conditions and commitment conditions. For example, the rule *& Elimination* can be illustrated like this:

$$\frac{|{\vdash}A \quad |{\vdash}B}{|{\vdash} [A \& B]}$$

(Each premise is either an assertion or a positive supposition; the conclusion is an assertion only if both premises are assertions.)

The following inference is incorrect:

$$\frac{{\vdash}A \qquad {\vdash}B}{|[A \& B]}$$

because supposed premises don't support (commit a person to) an asserted conclusion. But these inferences are correct:

$$\frac{|A \quad |B}{|[A \ \& \ B]} \qquad \frac{|A \quad \ulcorner B}{\ulcorner [A \ \& \ B]} \qquad \frac{\ulcorner A \quad \ulcorner B}{\ulcorner [A \ \& \ B]}$$

A system, or theory, of illocutionary logic is intended to capture our actual practice. Such a system is an empirical theory of (part of) our use of language. It is not a theory which enables us to predict how people will speak, or behave, for this is a theory of a normative practice. The theory uncovers and articulates norms which "govern" reasoning and arguing. Illocutionary logic accommodates both ontology and epistemology.

## IV. REFERRING

It is clear that we use both names and descriptive singular terms to refer to objects in the world. But what, exactly, are we doing when we refer to some object? To use a word or longer expression to refer to an object is to use that expression to direct one's attention to a particular object, or to express one's attending to that object if it was already the object of attention. We can attend to an object which is present, or we can attend to an absent object, even an object which no longer exists. We can also attempt to attend to an object which does not and which has never existed, if we think there is such an object. We cannot refer to an object unless there is an object to refer to. We cannot refer unless we think there is an object to refer to. In referring or attempting to refer to an object, a language user reveals her commitment to accept a statement that the referent exists.

Different theories of referring hold that in order to refer to an object, a person needs to exploit a "*mode of access*" connecting her to the object. Frege thought that the sense of a name or description provided such access, and Kripke's causal chains (which, if Searle is right, are really intentional chains) seem to be modes of access for names. (Perhaps Kripke would say that senses do provide the access for descriptions.) And even though Russell did not explicitly discuss referring, he clearly understood acquaintance to provide a mode of access to the objects of what he called *logically proper names*. The insight that language users exploit modes of access in referring explains how we use language to "get at" objects in the world.

It is clear that just saying (writing, thinking) a name or descriptive singular term isn't sufficient to direct the language user's attention to the referent. Parrots, we think, don't use any names that they might utter to refer to objects. It is also clear that we can direct our attention to an object without using an expression. Seeing an object in front of you provides a mode of access to that object. Her memory of an object that has been experienced also

connects a person to that object. But what can names and descriptions provide to link a language user to an object? Some descriptions identify, or specify, a link situating the referent with respect to the language user. To a person who can already direct her attention to Arizona, and who understands English, the phrase 'the capital of Arizona' gives her the resources to focus on Arizona's capital. For some names, and some people, Frege's account may explain how they use a name to access an object. A person who associates a description with a name, where the description identifies a link to the object, may exploit that link in attending to the object. But it may be that a person learns about an object from someone else, who himself learned about the object from another person, etc. going back via many people to the object. This is also a link that can be exploited. Different expressions can be associated with different links to one object, where the language user isn't aware that there is a single object. And a single expression can be associated with several links to an object. When there is some mistake, and the links don't all connect a person to a single object, there are various principles we can employ to determine the correct object of reference.

A person might know an expression to be the name of an object without having knowledge of a link she can exploit in referring to the object. A descriptive singular term might also fail to identify a link that a language user can exploit. The description 'the King of France' fails because it doesn't identify a link terminating in an object. In my case, at least, the phrase 'the world's tallest woman' fails because it doesn't locate whoever that person is. I understand what it is to be the world's tallest woman, but she isn't situated in an appropriate structure (one that I know about) with respect to things to which I can attend.

Referring acts exploit modes of access to objects in the world so that we can say and think things about those objects. Russell asked too much of modes of access, for he wanted all attempts at referring to succeed. He thought that only acquaintance, in his strong sense, could provide the guarantee he was looking for. Surprisingly, although he has developed a somewhat Fregean position concerning the senses of singular terms, John Searle asks too little of modes of access. He thinks that only in some cases do referring acts link language users to objects in the world. Such links are unimportant, for in order to refer all that we need to know is some property or properties that uniquely characterize the referent. Searle fails to appreciate the importance of referring for linking our statements to the objects we intend. For while he thinks there is a cluster of descriptions associated with a proper name, and someone will use the name to refer to the object which satisfies most, or a weighted most, of the descriptions, this won't be the case with a single description. The description must be used to refer to the object which satisfies that very description. However, it is only because we often associate

more than one mode of access with a singular term that we can occasionally use a description to refer to an object which doesn't satisfy the description.

In order for someone to use an expression to refer to an object, there must be an object, the language user must exploit one or more modes of access to direct her attention to the object, and she must be committed to acknowledge that the object exists. There is such a thing as fictional referring, or referring to fictional objects, but this is parasitic on ordinary referring, which requires real objects. Fictional objects have a certain status, or standing, and this is what makes fictional referring possible. However, I am now concerned only with real world referring. Someone who refers to an object reveals her antecedent commitment to acknowledge that the object exists, the referring act doesn't generate this commitment. In referring to an object, and characterizing the object as whatever, it is the object attended to which determines if the characterization is true or false. Even when a description is used to refer to an object which doesn't satisfy the description, the truth or falsity of the characterization depends on the object of attention, and not on the description.

## V. The Non-Referring Use of Singular Terms

Not every use of a singular term is a referring use. If a person uses a singular term to make an existence or non-existence claim, it isn't so likely that the singular term is being used to refer. Although it seems more idiomatic to assert:

France doesn't have a king.

it would be acceptable for someone to put it like this:

The king of France doesn't exist.

especially to an addressee who mistakenly thought France to be a monarchy. In this case, the speaker certainly isn't referring, or attempting to refer, to the king of France. (And neither was I in this most recent statement.) A person might also say that Sherlock Holmes doesn't, or didn't, exist.

Both names and descriptions can be used in a non-referring way, but we need an explanation for their non-referring use or uses. To begin with, let us remark that a definite description can be predicated of an object, and not just used to refer to the object. If I assert the following:

George Pataki is the Governor of New York.

I might twice be directing my attention to a single person, exploiting different modes of access each time. While this is possible, it would be an odd and an unlikely way to use the sentence. It is much more natural to use the subject, the proper name, to direct my attention to George Pataki, and then continue by predicating being governor of him. I am claiming that George Pataki satisfies the criteria for being the Governor of New York.

It isn't only descriptive phrases that can be used predicatively. If at a party I point to a man, and tell you:

That is George Pataki.

I may once more be twice attending to a single individual. It is again more natural to understand the demonstrative to be used to refer, and the name to be used predicatively. But what is the predicative significance of a proper name? It doesn't seem to be a property or a cluster of properties. In predicating a name, I am simply saying that the individual in question is called, or named, so-and-so. *Being called George Pataki* is not the meaning of 'George Pataki', if names can even be said to have meanings (in some derivative sense); it is simply the *predicative significance* of the name. Similar remarks apply if I introduce you to him and say:

This is George Pataki.

I am referring to this person, and telling you what he is called. If you already know about George Pataki, and have certain beliefs about him or attitudes toward him, *you* may twice direct your attention to a single individual, exploiting different modes of access.

When a name or a description is predicated of an individual, no analysis making use of quantifiers and conjunction à la Russell is called for. We will characterize this as a *predicative use* of the singular term. Even when a speaker denies that the singular term applies or predicates being not the subject of the singular term:

George Bush is not the Governor of New York.

the speaker might be using the term predicatively. The speaker *could* be separately attending to two individuals, and distinguishing one from another. It seems more likely that she is denying that the singular term can be correctly predicated of George Bush, or asserting that it cannot be predicated of him. The description can also be used predicatively in statements like these:

Someone is the Governor of New York.

No one is the Governor of New York.

Even in the statements "There is a Governor of New York", "There is no King of France", the phrases 'of New York' and 'King of France' are used predicatively.

Now consider a statement of existence or non-existence. It is important to note that standard first-order languages do not bring to light the hidden structure of natural-language sentences or statements. A straightforward English statement like "Every dog is an animal" does not have this structure: $(\Box x)\,[D(x) \supset A(x)]$. The statement is not about every *thing*, it is about every *dog*. In English, quantified phrases contain nouns. Instead of understanding 'Every dog' like this: $(\Box x)\,[D(x) \supset$, we need something more like: $(\Box D)$ or $(\Box Dx)$. And in English, quantified phrases can occupy the same positions as singular terms; to represent the structure of "Every dog is an animal", we might use this: $A\,(\Box D)$.

If we want to say of the King of France that he exists, or doesn't, we aren't attending to an object and characterizing that object in some way. We can make the same sort of statement about Sherlock Holmes, again without either referring or referring-in-fiction. In these cases, we are using the singular terms predicatively, but we aren't providing an expression to serve as subject to the singular-term predicate. We can simply present, or understand, the expression predicatively without having a subject term, and characterize this predicative use as having or not having application. What *doesn't exist* is not some particular object; instead, an object doesn't exist *of which* the expression can be truly predicated. Similarly, what *does* exist is *an* object of which the singular term can be truly predicated.

When a singular term is used as the subject of a predicate, it may be most common to use the singular term to refer to an object. But this isn't necessary. These sentences:

The world's tallest woman must be at least seven feet tall.

Sherlock Holmes never solved any crimes in London,

can be used to make statements in which the singular terms are used predicatively. Instead of exploiting a connection to attend to the world's tallest woman, the speaker presumes or presupposes that there is such a woman, and uses the predicate to indicate that the woman in question is at least seven feet tall. In the second statement, the speaker presents the name alone as a "stand-in" for an arbitrary object of which it might be predicated, to say that no such thing solved crimes in London.

The difference between non-referring and referring uses of singular terms does not come down to a difference between asserting the existence of object which "satisfies" the singular term and presupposing the existence of such an object. A person can't properly be said to (real world) refer to an ob-

ject if she doesn't believe the object exists. But someone can presuppose that a unique object satisfies a given singular term, without asserting there to be a unique object such that..., in order to characterize whatever satisfies the singular term. The real difference concerns modes of access; to refer, the language user must exploit a mode of access connecting her to the referent. If she doesn't use the expression to attend to the referent, or if she is unable to exploit a mode of access connecting her to the referent, then she hasn't referred. This is a distinction between speech acts, and need not be marked grammatically.

Russell was simply mistaken in thinking that we don't use definite descriptions and ordinary proper names to direct our attention to individuals. We aren't limited to accessing the world via things we are acquainted with in his strong sense of 'acquainted.' But referring isn't the only thing we do with names and descriptions. We can also use these expressions predicatively. Russell's analysis doesn't cover all of the predicative uses of singular terms, but it does cover a central use where the singular term serves as the subject for one or another predicate.

## VI. FIRST-ORDER ILLOCUTIONARY LOGIC

In ordinary English, various language-act distinctions, like the distinction between referring and non-referring uses of singular terms, are not marked syntactically. A single sentence can be used to make statements having different *semantic structures*. But a logical system does not reproduce ordinary language; the system is an instrument of analysis. In a system of illocutionary logic, sentences represent the semantic structures of statements and of illocutionary acts performed with sentences of natural languages. Although ordinary English does not mark the distinction between the referring and non-referring uses of singular terms, this *should* be marked in the artificial logical language.

In our systems of illocutionary logic, we distinguish plain sentences, which represent statements in abstraction from illocutionary force, from completed sentences, which represent illocutionary acts. The first level of the semantic account is ontological, and provides the truth conditions of plain sentences. The second level, which is epistemic, treats rational commitment and the commitment conditions of completed sentences. In a system of illocutionary first-order logic, there are both first-level and second-level treatments of singular terms. At the first-level, we consider the non-referring, or predicative, use of singular terms, and adapt Russell's analysis. The referring use of singular terms needs to be treated at the epistemic level. The language user exploits a mode of access in referring to an object. One language user may have the knowledge needed to use a given expression to refer, while another language user (who understands the language) does not. Different lan-

guage users may exploit different modes of access in using a given expression to refer to a particular object. The semantic account for referring acts must take account of the designated subject and her knowledge. Her referring acts have a force analogous to illocutionary force, for the person who uses an expression to refer is committed to acknowledge that the referent exists — even if she denies a statement in which the referring occurs.

The language $L_1$ will contain individual variables and constants, *n*-place predicates for $n \geq 1$, the predicate '=', the connectives '~','∨', '&', the quantifier '□' ('□' is a defined symbol), and the illocutionary operators. A singular term (individual constant) is underlined when it is used by the designated subject to refer.

For the semantics, there must be a non-empty domain $\mathcal{D}$ of individuals, and a non-empty domain $\mathcal{A}$ of modes of access. An interpreting function $f$ will assign an individual in $\mathcal{D}$ to some or all individual constants, and will assign sets of *n*-tuples of individuals in $\mathcal{D}$ to *n*-place predicates, assigning the set of identical ordered pairs to '='.This determines a familiar sort of interpretation for plain sentences not containing underlined constants. The sublanguage of $L_1$ that does not contain underlined constants is one in which all individual constants are used predicatively — this is the sublanguage for which we can adapt Russell's account of definite descriptions.

The interpreting function also assigns individuals in $\mathcal{D}$ to some or all modes of access in $\mathcal{A}$. Commitment valuations will assign non-empty sets of modes of access to some or all individual constants, and assign + to some assertions and denials. When a sentence containing a referring expression is asserted, denied, or supposed, the referring act is "in force". Any such assertion, denial, or supposition will commit the designated subject to assert that the referent exists. The designated subject can't properly use just any constant to refer. There must be a referent, the designated subject must associate one or more modes of access with the constant, and those modes of access must "yield" the referent.

There is no space here to provide the details of first-order illocutionary logic. It should be clear that illocutionary logic accommodates both the ontological and epistemic aspects of logic. It accommodates Russell's insights concerning ontology and the non-referring uses of singular terms, while providing a treatment of referring that incorporates the insights of speech-act philosophers. Russell had legitimate epistemic intentions for logic, and tried to build his own epistemological theory into logic. However, Russell's account failed to go beyond ontology, and did not explain our actual use of language.

In developing his logical theory, Russell didn't provide an account of arguments, deductions, and proofs. Russell wanted our knowledge of the world, our knowledge by acquaintance, to be incorporated in our language, even though language users aren't consciously aware of this knowledge. But our

knowledge of language has two levels. At the ontological level, our knowledge is of what the world must be like if a statement is true. It is at the epistemic level that the language user's non-linguistic knowledge and belief enable her to use expressions to refer to objects in the world. It is by exploiting connections linking us to objects in the world that we direct our attention to those objects. The objects to which we attend are the objects we think we are attending to, not objects which disappear upon philosophical analysis.

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