Chapter One

What is Meaning and Reference?

Abstract: Should the concept of 'meaning' be of primary interest when formulating a philosophy of language? Is a sentence's 'meaningfulness' primarily about its being true or false? An examination of the principles of semantic reference and compositionality is offered. A theory of 'speaker meaning' is proposed. A theory of 'speaker reference' is contrasted to formal theories of 'semantic reference.' The pithy slogan that is adopted here is that 'speakers refer, but linguistic entities don't refer.'

Introduction

In the initial volume it was hypothesized that there is a basic distinction between 'descriptions' and 'prescriptions' whereby sentence meaning is determined by its use (i.e., function, motive) in a given context as intended by a speaker. It has been maintained that speakers are capable of asserting (i.e., declaring, saying, uttering) sentences that are intended as being either a 'description' or 'prescription' in a given context. Thus, there are two kinds of speaker meaning that sentences can have:

> A '**description**' is an assertion that purports to express a correspondence (or a representation) of some state of affairs, where its correctness (or incorrectness) is *independent* of its acceptance (or non-acceptance) by particular persons.
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> A '**prescription**' is an assertion that purports to express a stipulation (or rule) upon a practice, where its correctness (or incorrectness) is *dependent* upon its acceptance (or non-acceptance) by particular persons.

If there are epistemic contexts where prescriptions are used in natural language as well as in artificial languages, then the descriptive-prescriptive distinction is legitimate and worth our notice. The distinction of 'descriptions' and 'prescriptions' is about how *persons* intend their sentences to be used (and understood) in particular situations.

Our methodology has been a social-scientific conceptual analysis where we examine our intuitions/beliefs about speakers and their language in various epistemic situations. We have analyzed various kinds of 'concepts' as they are ordinarily used in domains of discussion using natural language and artificial mathematical languages as an appropriate mode of inquiry. In doing so, we have attempted to understand *speaker meaning*.

More specifically, we have (previously) analyzed speakers' intentions and meaning with respect to empirical assertions, lottery assertions, moral assertions, various mathematical assertions, aesthetic assertions, and assertions of definition. We have distinguished between a 'proposition' and a 'sentence'. The theory of 'speaker meaning' advocated here maintains that *users* and *contexts* are decisive in determining what is meant in a context. Whenever **S** (i.e., a subject, or person) asserts **p** (a proposition) the intentions and background beliefs of **S** are relevant and indispensable for understanding whether **p** is asserted as a description or prescription.[1] The conclusion sought from these analyses is that declarative sentences when asserted in a context by a given speaker, don't always express truth or falsity, nor are they intended to.[2]

In the previous chapters we have just assumed a 'speaker theory' of meaning. In this chapter, this theory will be described in some detail. A speaker theory of meaning attempts to explain the reasoning of speakers and hearers in a context. We can talk about a person's intended meanings, their assumptions, their purposes or goals, and what they are doing (in a broad sense) when they make an assertion. Paul Grice (1957) states that a speaker's meaning is intended to produce some effect in an audience by means of the recognition of an intention. A fruitful study of speaker's meaning, and a complete philosophy of language includes the interpretation of various *linguistic functions* (or uses) *of sentences* in various contexts. Descriptions and prescriptions play a central role.

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[1] The theory of 'speaker meaning' characterized here, is part of a *systematic philosophical analysis*, unlike the accounts offered by ordinary language philosophers such as J.L. Austin and John Searle, who have helped relegate this topic into the discipline of linguistics, under 'pragmatics.' These philosophers believe there are *many dimensions* of ordinary language speaker meanings and that the 'speaker meaning' of a word is identifiable with its 'use' conditions. 'Speech acts' are understood as the contextual activity of saying things. According to ordinary language philosophers, one cannot state 'philosophical theses' or 'hypotheses' as theories about meaning, but only *describe* how terms and expressions are in fact *used.* The task of philosophy is thought to be the description and clarification of the taxonomy of speech acts, and dissolution of philosophical problems by paying close attention to a linguistic entity's ordinary use. The slogan often attributed to ordinary language philosophy is that 'the meaning of a linguistic expression is its use.' Again, the theory of 'speaker meaning' as advocated here, *denies* this ordinary language slogan.

[2] Some philosophers are strongly opposed to 'use' theories of meaning. Jason Stanley (2008) says "meaning and use should never be conflated and that any adequate account of meaning fundamentally employs the conceptions of reference and truth" (p. 428). For Stanley, the study of word and sentence *linguistic meaning* is the primary subject of semantics. The communication-intentions of *speaker meaning* should be studied as a matter of pragmatics. This terminology follows the Charles Morris (1938) distinction where a notion is called "semantic" if it pertains to meaning and relations between *words* and *things*; and "pragmatic" if it pertains to *words*, *things*, and *people* in various social practices.

Formal Semantics: A Summary

Formal semantics is understood as the study of the 'meaning' of words and sentences. Philosophers of language take it for granted that *words, phrases, and sentences* have meaning and that for each meaningful expression, there is a correct answer to the question 'What does it mean?' Among the questions asked: (1) How is it that we confer significance upon inherently meaningless linguistic expressions by employing them in linguistic practice? (2) How do the components found in declarative sentences contribute to the meaning (or content) of the sentences? (3) What is it for a linguistic item to stand for, or represent an object? (4) How do we link a proper name to the named entity to establish its referent? The property of language that needs explanation is how does 'meaning' enable languages to play a primary (and causal) role in communication.[3]

A good summary of the fundamentals of a truth-conditional 'model theoretic' semantics is provided in an *Introduction to Montague Semantics*, edited by David R. Dowty, Robert E. Wall, and Stanley Peters (1981).[4] Montague's approach is (1) model

[3] Textual evidence that 'meaning,' 'reference,' and 'truth' are concepts of interest: Michael Dummett (1978) says "the most urgent task philosophers are now called upon is to devise a systematic theory of meaning" (p. 454). Donald Davidson (1984) says "…a satisfactory theory of meaning must give an account of how the meaning of sentences depend on the meaning of words" (p. 17). Alexander Miller (2007) says that "philosophy of language is motivated in large part by a desire to say something systematic about our intuitive notion of meaning" (p. 1). Alan Cruse (2011) says that "linguists typically take the existence of meaning for granted and accept it as an intuitively accessible natural kind" (p.14). Nick Riemer (2010) says that "any attempt to understand the nature of language must try to describe and explain the ways in which linguistic expressions have meaning. A word's referent is the particular thing, person, place, etc. which an expression stands for on a particular occasion of use, and it changes each time the word is applied to a different object or situation in the world" (p. 18). William G. Lycan (2008) says "…that certain kinds of marks and noises have meanings and that we human beings grasp these meanings without even thinking about it, are very striking facts" (p. 1). Kate Kearns (2011) says that "semantics deals with the literal meaning of words and the meaning of the way that they are combined, which taken together, form the core of meaning, or the starting point from which the whole meaning of a particular utterance is constructed" (p. 1). Gary Kemp (2013) says "Semantics deals with relations between symbols and what they mean, express, or are about" (p. xix). Ruth M. Kempson (1977) says "All languages depend on words and sentences having meaning: every word and every sentence is conventionally associated with at least one meaning. Accordingly, for any one language, our semantic theory must be able to assign to each word and sentence the meaning (or meanings) associated with it in that language" (p. 2). Michael Devitt and Richard Hanley (2006) state that "the most popular idea in philosophy for explaining meaning has been the idea that it is largely, if not entirely, a matter of explaining truth conditions. The idea is that the meaning of a sentence is to be explained by relating it to the circumstances under which it would be true, an explanation that will involve the referential relations of its words. Frege is regarded as the father of the truth-referential relations of its words" (p. 3).

[4] Richard Montague's three technical articles, "English as a Formal Language," "Universal Grammar," and the "Proper Treatment of Quantification in English," presented in 1970, made the claim that there "… is no

theoretic, (2) truth-conditional, and (3) makes use of possible worlds. A model-theoretic theory of semantics maintains that to know the meaning of a (declarative) sentence is to know 'what the world would have to be like' for the sentence to be true (implicitly adopting a correspondence theory of truth). A truth-conditional approach specifies the relationship which sometimes holds between *a sentence* and *the world*. 'The world' is intended to refer to the vast complex of things and situations that the sentences can be 'about.' Dowty, et. al, state that the business of semantics is to specify how language connects with the world-- to explicate the inherent "aboutness" of language (p. 5):

> Sentences (as linguistic entities) and states of affairs (as configurations of objects in the world) are different kinds of things, and… the world contains various sorts of 'entities,' and in a state of affairs these entities have certain properties and stand in certain relations to each other (p. 7).[5]

The 'compositional theory of sentence meaning' is then introduced which maintains that words (or morphemes) are the basic components of sentences, and that the meaning of sentences depends, systematically, on the meaning of the words (or 'basic expressions') combined according to the syntactic rules into larger expressions:

> Each syntactic rule can be regarded as a statement that certain input expressions combine in a certain way to produce an output expression. If we suppose now that each basic expression of the syntax is associated with something in the world-an entity, a property, a relation, or whatever-- then we will have formed a basis for the recursions that are to operate on both the syntactic and semantic sides… The meaning of the whole is a function of the meaning of the parts and their mode of combination (p. 8).

The compositional theory of sentence meaning states that to represent the meaning of a sentence (in a precise logical structure) is to understand how its words contribute in a systematic way to the meaning of the sentence. This idea goes back to Frege (1879),

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important theoretical difference between natural language and the artificial languages of logicians; indeed, I consider it possible to comprehend the syntax and semantics of both kinds of language within a single, natural and mathematically precise theory" (Montague 1974, p. 222).

[5] Kempson in *Semantic Theory* (1977) similarly maintains that "a semantic theory must fulfill at least three conditions: a) it must capture for any language the nature of word meaning and sentence meaning, and explain the nature of the relation between them; b) it must be able to predict the ambiguities in the forms of language, whether in words or sentences; c) it must characterize and explain systematic relations between words and between sentences of a language-- i.e. it must give some explicit account of the relations of synonymy, logical inclusion, entailment, contradiction, etc." (p. 4).

where it is assumed that various *forms* of *linguistic expression* (e.g., proper names, predicates) have 'semantic functions' and may possess 'semantic values' that can *mean* this or *refer* to that.[6] Proper names are represented by singular terms, predicates are represented as unsaturated concepts, and quantifiers range over a specified domain of entities. Frege was concerned to explain how certain linguistic forms contribute to a sentence's meaning, and ultimately its truth value.

In modern times, a truth-theoretic 'model theory' (such as Montague's) involves the construction of abstract mathematical models of those *things in the world* making up the *semantic values of expressions* in the object language. Dowty, et. al. state:

> The leading idea of model theory is that one can learn about the *meaning* of expressions and the correlations between expressions and meanings by investigating in detail how the meaning of complex expressions is related to the meaning of the simpler expressions they are constructed from. Given that the meanings in question are objects or configurations in the world, a sensible strategy is to study the relationships among these objects and configurations in order to gain insight into the relationships between meanings that get associated with expressions by the compositional process. In practice, this often means using the apparatus of set theory to represent semantically relevant aspects of the relationships between objects and configurations, and employing appropriate set-theoretic constructs as objects in a model that are assigned as semantic values of expressions (p. 10, italics added).
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> A *model* begins by specifying what sorts of things there are in the world, and then with respect to this assumed ontology, specifies an interpretation of the object language. Given this notion of a model, we can investigate certain interesting things which remain invariant, under changes in interpretation. For example, it is generally assumed that certain basic expressions of English such as *and*, *or*, *no*t, *every*, etc. have a fixed interpretation, i.e., they remain invariant from model to model. We can then characterize a certain class of sentences of English containing these words as *logically true* and another as *logically false*; specifically, those

[6] Ronnie Cann (1993) states that a semantic theory should provide an account of the relation between linguistic expressions and the things that they can be used to talk about (p. 1). Michael Devitt (2015) shares this viewpoint and says that "reference" picks out "semantically significant relations" between linguistic expressions and the world. Not only do proper names and demonstratives refer, but "nouns, mass nouns, verbs, adjectives and so on, all refer." Devitt states that "languages are representational systems that are parts of the natural spatiotemporal world and are of theoretical interest because of their causal roles in that world, particularly their roles in communicative behavior." Devitt says that "reference along with syntactic properties, are the central notions in an explanation of meanings: they are the core notions in a theory of language." (p. 32). For example, the meaning of 'Jack thinks that Fred loves himself' is largely explained by its syntactic structure and the reference of its expressions.

> sentences which are true or false, respectively, in every model (i.e., under every assumed ontology and under every possible interpretation). (p. 11).[7]

Riemer (2010) concisely describes logical approaches to semantics, where it is assumed that to know the meaning of a sentence, is to know what the world would have to be like, if the sentence were to be true:

> Logical approaches to semantics deal with the question of truth and reference by providing a model for the sets of logical formulae used to represent meaning. The model of a set of logical formulae is a description of a possible world to which that formulae refer, a set of statements showing what each individual constant and predicate refers to in some possible world. The model relates the logical language to this world, by assigning referents to each logical expression. The aim of this is ultimately to produce, for a given set of referents, a statement of the truth values of the logical formulae in which they are included. In other words, the logical formalism will tell us, given a particular world, which sentences describing this world are false and which are true… If the logical formulae are identified with sentences of natural language, we will have obtained a logical characterization of the truth conditions of a subset of natural language (p. 196).

How are Semantic Models Constructed?

Let us examine how semantic models are constructed. Typically, four things are specified: a vocabulary, syntactical formation rules, a set of inference rules, and a semantics. The 'specification' of syntactic and semantic meanings in a formal grammar is described by A.P. Martinich (2001, p. 7) as follows:

> A formal grammar consists of two parts: a syntax and a semantics. The syntax itself also consists of two parts: a vocabulary and formation rules. The vocabulary *specifies* which marks or sounds can appear in sentences. Roughly, the vocabulary consists of words and punctuation marks or whatever would be equivalent to them in the language being treated. The phrase 'marks or sounds' was used rather than 'symbols' because 'symbol' suggests that something that has a meaning, and syntax is not permitted to use any semantic concept. The formation rules either generate sentences out of the items in the vocabulary or they describe them. The semantics consists of two parts: a part that *specifies* the meanings of the simplest elements of the language, and a part that *specifies* the meanings of the complex elements of the language. The simplest elements of the language may either be words or sentences, depending on the specific language being studied and the philosophical views of the author of the grammar (italics added).

[7] Montague's 'index theoretical' approach is scrutinized by Hans Kamp (1971) over its interpretation of modal and temporal operators (e.g., 'now,' 'actual') and by Robert Stalnaker (1999) for its failure to allow representation of the concept of a 'proposition.' See Stanley (2008) for discussion.

Again, whether a sentence is true (or false) is said to depend upon the *specifications* in the model (i.e., a possible world) in which it is asserted. Semantics, as popularly practiced, utilizes formal models and consists of the manipulation of linguistic entities in accordance with the standard rules of deductive logic.

But what is the nature of a *'specification'* within these models? With the descriptive- prescriptive approach to sentence meaning introduced here, a major problem with the model-theoretic approach is that the epistemic role of the introduction of stipulative definitions termed as 'specifications' is ignored. It may be responded that a 'meta-language' is describing an 'object language,' but this reply just obscures the prescriptive nature of stipulative definitions (or specifications) that are found in any natural or artificial language, including meta-languages. A truth-theoretic semantics with its stipulated rules divorces itself from speaker intentions and communication.

The Philosophy of Language & Formal Semantics: A Critique

The following principles are *false* (or at least, should be used with caution):

(#1) The concept of 'linguistic meaning' should be of primary interest in the philosophical investigations of artificial and natural languages.

(#2) The Principle of Linguistic Reference: Linguistic entities found in complete sentences (a) can literally possess meaning, (b) can be about, or refer to things in context, (c) can denote (or refer to) their extensions.

(#3) The Principle of Compositionality: Words are the basic components of sentences, and the meaning of sentences depends (systematically) upon the meanings of the words that they are composed of. To understand the meaning of a sentence is to understand its compositional structure and to know under what conditions the sentence would be true.

(#4) Truth Conditions: A statement gets its meaning by being correlated with a state of affairs: that state-of-affairs is the statement's truth condition. Correlation between statement and truth condition is secured by 1) the referential relations that individual terms bear to objects in the world, and 2) by the way that they are combined into sentence. To know 'the meaning' of a statement is to grasp its truth condition.

(#5) A meaningful declarative sentence S represents the world as being a certain way and is either true or false.

(#1) The concept of 'linguistic meaning' should *not* be the primary concept of interest when doing semantics. It is disputable whether that for every word there is something that may be referred to as 'its meaning,' which is separable from, and makes the word suitable for its ordinary use(s). Frege (1892) made the distinction between a *'sign'* as having *'a meaning'* which is the object that it refers to; and its 'sense' as the mode of representation of that referent. It is asked; what is it for a linguistic entity to have a meaning? The assumption that linguistic entities have 'meaning' continues today. [8]

Most philosophers take the concepts of 'meaning' and 'linguistic reference' as being compatible with our pre-theoretic intuitions that 'words have meaning' and 'words in sentences can refer to things.'[9] These assumptions have an intuitive appeal. In *What is Meaning?* (2010a, p. 1) Scott Soames takes it for granted that words (including proper names, phrases, and sentences) have meaning and that for each meaningful expression there are correct answers to the question of 'What does it mean?' John Lyons (1995, p. 46) states that it is generally agreed that (1) words, phrases, and sentences have meaning, (2) sentences are composed of words (and phrases), and (3) the meaning of a sentence is the product of the words (and phrases) of which it is composed.

But it is argued here that there are clarifications (and objections) to these ordinary intuitions. Let's state the linguistic intuitions defended here. 'Meaning' cannot be identified as a natural kind; it has no theoretic definition. 'Meaning' is a term with multiple senses but no single unified sense or definition (as is well-known). The concept of 'meaning' is best interpreted as a group resemblance concept.[10] Thus, the 'meaning' of a

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[8] The linguistic *meaning* of a word in a language is what fully competent speakers of the language have a grasp of merely in virtue of their semantic competence (e.g., Dummett, 1993, Higginbotham, 1992, Kaplan 1989). Linguistic meaning is what second-language learners aim to grasp. Meanings allow a word to be used to speak the relevant language.

[9] Many theorists believe that the *meaning* of a sentence is what one would have to know in order to understand the sentence, apart from any context of employment. The meaning of a sentence is thought to be separable from its possible uses. Literal meaning and literal truth conditions can be assigned to words and sentences apart from particular contexts of use.

[10] To illustrate the many senses of 'meaning,' it can be said in an ordinary context that (1) 'anger' *means* (or is synonymous with) 'mad,' (2) he *means* that 'TN' shall now stand for Tennessee, (3) by 'bat' I *mean* the animal, not a baseball stick, (4) that the characteristics of a graffiti symbol *means* that the graffiti was left by a certain gang. (5) Paula *means* by a swinging head gesture that no, Peter should not cheat on his math test, (6) because he misinterpreted her remarks, he didn't know what she *meant*, (7) for him, the short poem

linguistic expression, when precisely specified within a model, is a stipulation. Stipulations of linguistic meaning are (to some degree) philosophically unimportant.[11]

(#2) It is false that linguistic entities can possess *meaning* and be *about (or refer to) something*. Linguistic entities when used contextually in an utterance *cannot literally refer* to or be 'about' or 'denote' various entities. Taken out of historical context, the very idea that any kind of linguistic entity (e.g., word, sentence, phrase, proper name) can possess semantic properties (i.e., a meaning) that when used in a context, can somehow 'attach,' 'hook up,' 'point,' or 'lock on' to reality is just *weird*. Words do not 'point beyond' themselves to 'connect' to things. Predicates cannot 'hold of" certain things. All of these metaphors are found in the literature. How did the idea that linguistic entities can somehow *'represent'* or '*denote*' extra-linguistic entities get started? As stated, Frege's "On Sense and Reference" proposed that physical linguistic entities articulated as marks or a string of sounds in a context of utterance can represent (concrete and abstract) 'objects' in the world. Frege's formalism supposes that for a sentence (i.e., well-formed formula) to be meaningful (and possibly true); its words must have a meaning (that can be logically formalized) within a systematic linguistic structure. Words have meaning and the principle of compositionality accounts for how meaningful words (referring to concrete and abstract objects) combine to form meaningful sentences.[12]

In critical opposition, how is it *physically possible* for a linguistic entity (e.g., a word, well-formed sentence, phrase, proper names e.g., 'Hesperus' and 'Phosphorus') to possess semantic properties (i.e., a meaning) so that when used in a context, makes it so that these marks or sounds *refer* to objects? It doesn't seem physically possible for *words*

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had no *meaning*, (8) numerous misspelled words in his note probably *means* that he was in a hurry, (9) that both soccer teams are undefeated, gives their upcoming match more *meaning*, (10) I *mean* to be there tomorrow, (11) A stalling car can *mean* a tune-up. That the term 'meaning' has many variances in ordinary use is similar to term 'game' as illustrated by Wittgenstein (1953). For Wittgenstein, to know the meaning of a word is to be able to use it competently and respond to other people's use or attempted use of it.

[11] Herman Cappelen's (2017) use of the term 'natural language semantics' is a little misleading. All formal specifications (e.g., definitions) in a semantic model are an exercise of an *artificial* language. A journal named *Natural Language Semantics* published by Springer reflects this same mistaken conflation.

[12] Devitt and Sterelny (1999, pp. 4-5) are epistemic naturalists (i.e., just physical entities exist) and hypothesize that *physical linguistic entities* (marks, sounds) must have properties (i.e., meanings) that allow a person to use language to communicate thoughts. Meanings are the properties that linguistic entities must have in order to express a thought. The central role of language is to express thoughts.

to *refer*. It's more plausible that *persons refer* using words. It is *persons* who use linguistic expressions to refer to various objects in a context. A *speaker theory* of meaning (and reference) is advanced here in *opposition* to *linguistic theories* of reference.

A History of Linguistic Meaning & Reference in Logic and Formal Semantics

Before we can say what 'speaker reference' consists of, we must first describe the recent history of the philosophy of language. To this end, we will briefly examine the ideas and works of Gottlob Frege, Bertrand Russell, Alfred Tarski, and Rudolf Carnap.

Gottlob Frege

In "On Sense and Reference" (1892), Frege (1848-1925) was concerned with the relation of 'equality.' The notion of 'equality' or 'numeric identity' has long been understood as a relationship between a thing and itself. It is taken as a fundamental self-evident *a priori* truth that for any object **x**, it is necessarily the case that **x** is identical with **x**. Frege sought to explain why the identity "a=a" is an uninformative tautology, but the identity "a=b" can be an informative piece of empirical information. For example, that "Hesperus = Phosphorous" conveyed information that a heavenly body observed as the morning star was the same heavenly body as what was observed as the evening star.

In his earlier *Begriffsschrift* (1879), Frege thought that this informative *a posteriori* identity about the identity of a planet as "Hesperus = Phosphorous" expressed a relationship between names. The information from this identity was that one-and-the-same-object had been given two names, and that identities of the form "a=b" was information about a relationship between linguistic entities. He held that a linguistic entity 'a' (a proper name) is synonymous with 'b' (another proper name) and that *a posteriori* identity sentences conveyed this information. The identity sentence informs us that one *name* denotes the same thing as *another name*, and not just the (trivial) fact that one object is numerically identical to itself (x=x), which is assumed *a priori* true.

In "On Sense and Reference" Frege took a different view. He now thought that it was wrong to view identity as a relationship between names. He goes back to the concepts of 'equality' or 'identity.' Learning that "Hesperus = Phosphorous" is not just learning a linguistic fact (that two names have the same referent) but it is also learning something significant about extra-linguistic reality. This identity statement is an

empirical fact about a heavenly body and a case of proper knowledge about the world. But how is it to be explained that an identity "a = b" wasn't just expressing a linguistic fact about a relationship of synonymy between the proper names "Hesperus" and "Phosphorous," but also contributing to an extra-linguistic proposition about an object in the world? It is with this question that Frege begins a technical explanation of how *linguistic entities* (as physical marks or sounds) could in a context have a *'sense'* so that they may *refer* to concrete things (e.g., planets) and abstract things (e.g., numbers).

Frege posits that words (or phrases) as linguistic entities have a 'sense' that contains their 'mode of presentation' as an aspect of the object being referred to when asserted in a context. With this explanation, proper names have 'senses' that determine but are distinct from their referents. Different speakers use the same name to refer to the same thing, even though they associate it with different senses. A 'sense' is akin to a single aspect of an object. The sense is understood to 'latch onto' as a partial property of a given object. A sense is not mental or subjective, because a sense (and its mode of presentation) presents a property or relationship of an object; and is thus objectively true or false. For example, in a case of a scientific discovery, the name 'Hesperus' has an objective mode of presentation as being observed as 'the morning star.' When a speaker uses 'Hesperus' this is equivalent to a speaker's using a definite description 'the morning star.' Frege posited that proper names and definite descriptions (in non-fictional and non-errant cases) have a sense and a referent. Persons can grasp the *senses* of both proper names and definite descriptions, and this explains how linguistic entities in a context can 'pick out' or *refer* to a (concrete or abstract) referent.[13]

In summary, it is proposed by Frege that there are different kinds of linguistic entities found within a well-formed sentence, and that when a sentence is used in a context, the sentence *takes on a meaning* with its 'object' being a 'truth value.'[14] For

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[13] For example, '5 x 3' and '20 - 5' are expressions that in an objective mode of presentation *refer* to 15.

[14] Soames (2015, p. 5) says the 'Fregean idea' is "for a (declarative) sentence S to be meaningful is for S to represent the world as being a certain way, … to impose conditions the world must satisfy if S is to be true… that meaning could be studied by using the syntactic structure of sentences plus the representational contents of their parts to specify their truth conditions… Having reached this stage we had both a putative answer to the question of *What is the meaning of a sentence?* and a systematic way of studying it."

Frege, logical axioms and theorems, as well as all thoughts and their constituents are abstract objects, imperceptible to the senses, but graspable by the intellect. Frege's work is the start of modern formal semantics as a systematic explanation of how the meaning of words compositionally determines the meaning of sentences.[15]

Bertrand Russell

Like Frege, Bertrand Russell (1872-1970) was a logician and mathematician.[16] Russell believed that with an improved formal logic, philosophers would be able to exhibit the underlying 'logical form' of natural language sentences.[17] A sentence's logical form would then help resolve various problems of term reference (e.g., of proper names, definite description phrases) associated with ambiguity and vagueness of natural language. In philosophy, just like mathematics, applying the mechanisms of logic would lead to the clarification of the 'linguistic forms' that represent or designate something.

In 'On Denoting' (1905) Russell proposed that despite misleading appearances, the propositions of ordinary language could be rewritten as transparent truth-functional

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[15] With respect to linguistic reference, Frege acknowledges that a single referent may have many senses corresponding to it and many signs corresponding to it. But senses (as aspects of objects) have the same objectivity and mental independence as their referents. A sense of an object (or a concept) must have one specific reference to which it corresponds. The thoughts that are expressed by sentences are public objects available to different thinkers. At the level of extension, singular terms (e.g., proper names, definite descriptions) *refer* to objects; predicates *refer* to functional concepts, and sentences *refer* to truth-values. For Frege, the extension of a concept (e.g., a predicate) is the class of all objects that a concept applies to. Natural languages are imperfect representational systems where some predicates are vague (e.g., 'is bald') with borderline cases in extension. Frege acknowledges that some definite descriptions can be formed (e.g., 'the celestial body most distant from the Earth') that can have a sense, but no definite referent; and that some definite descriptions (and predicates) don't refer to anything (e.g., 'the present King of France.').

[16] But Russell was also greatly engaged with philosophical issues, including questions of metaphysics and knowledge. Russell was motivated by rejecting the idealist doctrine of F.H. Bradley (1893) and responding to the problem of how we can know anything about the external world. His foundationalist empiricism (and later coherentism) led Russell to posit that perceptual 'sense data' allows us to construct the objects of knowledge. Russell thought that there must be a general correspondence between the ways that humans divide up reality in ordinary thought and speech, and the ways reality divides up, in fact. With this background, Russell was particularly concerned about how language *represents* (1) the external (i.e., physical) world and (2) the *a priori* mathematical world, and how these *representations* could be improved.

[17] Russell's (1903) methodology of the use of formal logic allowed a rational reconstruction of mathematics as reducible to logic (called 'logicism') and led him to believe that logic could be applied to philosophical problems quite generally. Logic and deductive reasoning give philosophers a method of research to establish philosophy on a scientific basis, just like mathematics facilitates the method of research in physics (1926, p. 243). Russell's desire of a 'scientific' analytic philosophy with formal logic as its primary methodology has been extremely influential in analytic philosophy.

propositions. These propositions could be 'analyzed' in such a way as to reveal the true *logical form* of the proposition, which is obscured by the *grammatical form*. The question of *how* certain *linguistic terms* have *reference* (in the context of a statement) while other linguistic terms (in context) *don't* have reference, is deemed a *legitimate question*, and Russell's theory is an answer to the paradox of negative existentials.[18]

Alfred Tarski

Alfred Tarski (1901-1983) presents a 'semantic theory' of truth in "The Semantic Conception of Truth and the Foundations of Semantics" (1944). He wanted to make the correspondence theory of truth more precise by defining how 'a *sentence* in a language can be true.' With a semantic conception of truth, 'truth' is a 'property' of sentences (in a given formal model) and sentences are truth bearers. Tarski's interest was to understand how object language sentences can have the extensional property of 'truth' within a system of well-formed sentences using a meta-language. Tarski assumes that the notion of 'true sentences' is relative to a specific object language.[19]

Tarski wanted to understand how object language sentences can have the extensional property of 'truth' within a system of well-formed sentences when using a meta-language. A 'meta-language' is conceived of as a logical language used to study and express claims about the truth or meaning of the linguistic expressions of a subject

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[18] Of particular interest to Russell were 'denoting phrases' such as proper names (e.g., 'Walter Scott') and definite descriptions (e.g., 'the author of *Waverly*,' 'the present King of France'), and the proper logical translation of sentences containing these linguistic items, and the resolving of certain semantic puzzles. For example, with respect to a true negative existential claim like "The golden mountain does not exist," Russell's account of noun phrases in conjunction with logical quantifiers, connectives, assumptions about identity, and the like, allow an account of how a speaker may be committed to the truth of a negative existential without being committed to the belief that the *subject term* has *reference*.

[19] Tarski's interpretation of Aristotle's correspondence theory raises some immediate questions and problems. (1) Can sentences *denote* states of affairs? How do *sentences* (as physical signs, sounds) denote states of affairs? When Tarski states that a 'semantic theory of truth' is concerned with the relations between linguistic objects (e.g., sentences, proper names, predicates) and what is *expressed* by these linguistic objects in the context of the assertion of a declarative sentence; it can be asked, how do *linguistic objects* (as physical items) 'express' states of affairs and refer to non-linguistic objects? (2) How do *sentences* correspond to reality? Is the term 'truth' a *property* of declarative sentences, or is it a *class* of particular declarative sentences that (in being true) correspond to a state of affairs? With a semantic conception of truth-in-a-language, 'truth' is a *property* of sentences (in a formal model) and sentences are truth-bearers. Tarski's semantic conception contrasts with the 'correspondence theory' of truth (advocated here), where 'truth' is understood as a *relation* between a proposition and a state of affairs. A proposition is true depending upon whether its content represents a fact (or state of affairs) in the world.

language (the 'object language').[20] After much labor, Tarski arrives at a definition of 'truth' and 'falsehood' using a meta-language, with the following (partial) definition: a sentence (e.g., snow is white) is true if it is *satisfied* by all objects and false otherwise.[21]

Tarski's 'truth under an interpretation' semantics includes (1) correlating the non-logical symbols of the language with specific objects, properties, relations (as their interpretation) (2) using the notion of satisfaction for defining the truth (at bottom level) for atomic sentences, and the recursive structure of a formal language for developing molecular sentences.[22] Tarski believes that with a meta-language he proves the laws of non-contradiction and law of excluded middle and that he solves the liar's paradox. With a hierarchy of languages, the 'truth' of a sentence can be defined at one level up, but never at the same level.[23]

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[20] Tarski wanted to integrate a conception of 'truth' as part of the formal semantics introduced by Frege (1892). Tarski agrees with Frege's assumption that the grammatical structures of sentences affect their truth value, and that 'true' expresses a property of sentences. Tarski openly assumes that *sentences have meaning*. He supports this belief by arguing that a string of signs or sounds (as true or false sentences) are meaningful in one natural language, but not in another. Grammatically well-formed formulas as linguistic entities in a language, have a meaning in an object language. The 'semantic value' of a sentence is its truth value, and the semantic value of a complex expression is determined by the semantic values of its parts. Tarski designates English as his object language, and develops the logical meta-language using the concepts of declarative sentence, designation, satisfaction, definition, sentential function, objects, variables, constants, names, predicates, and connectives in an attempt to present a precise conception of sentential truth.

[21] Tarski (1969) says that the sentence *"snow is white"* is an example of "a sentence in English whose meaning does not raise any doubts" (p. 103). "What do we mean by saying that sentence S is true, or that it is false? In the spirit of Aristotelian explanation, by saying S is true we mean simply that snow is white, and by saying that S is false we mean that snow is not white." This is similar to Aristotle (*Metaphysics* 1011 b26): A sentence is true if, and only if, what it says is so. Called Schema/Convention T: X is true if, and only if, p; where "p" is a variable for a grammatical sentence and "X" is a name for that sentence. To state a theory using English, the theory entails T-sentence: "Snow is white" is true if and only if, snow is white. A theory that did not entail all sentences of this schema wouldn't be an adequate theory of truth.

[22] The concept of 'satisfaction' is a notion introduced by Tarski in order to give a recursive definition of truth for languages containing quantifiers. Intuitively, the ‘satisfaction relation’ holds between formulas such as 'registered voter in New Jersey (x)' and 'humans (x)' and ‘objects’ (such as *persons* who *may* or *may not* be registered voters). The predicate 'registered voter in New Jersey' is said to 'hold of,' 'apply to,' or 'pick out' only those humans registered to vote in New Jersey. Satisfaction is used to include the objects of a predicate's reference and helps to define 'true sentences in a language.'

[23] There are many short, detailed descriptions of Tarski's semantic conception of 'truth' including Bruce Aune's (1985) explanation of Tarski's use of recursive definitions (pp. 137-143). A concise summary of Tarski's 'semantic theory' and solution to the 'liar paradox' are found in Richard Kirkham's (1992) *Theories of Truth* (pp. 141-210, pp. 278-282). A number of technical essays appear in *New Essays on Tarski and Philosophy* (2008) edited by Douglas Patterson.

Rudolf Carnap

Rudolf Carnap (1891-1970) was a specialist in formal languages and was an adherent of ontological anti-realism. He argued that whether it is useful to employ a given linguistic framework is settled largely on pragmatic grounds. The question 'is there really is a realm of entities corresponding to certain linguistic framework?' is a *pseudo-question* since it assumes that the question is meant to be answerable independently of any internal linguistic framework. There is no way of confirming or disconfirming the reality of objects independent of a given linguistic framework. Carnap believed that questions about whether ordinary physical entities exist, or whether numbers exist, are *neither true nor false*, because they are external claims outside linguistic frameworks. In *Meaning and Necessity* (1956) Carnap argues that the framework best suited for modeling and clarifying substantive issues (in mathematics, physics) is a matter of linguistic explication. 'Explication' is the motivated stipulation of meanings, the setting up of frameworks with a clear semantics and well-defined rules where the internal mathematical and empirical questions could be asked and answered.[24]

Carnap proposed a method for the analysis of linguistic meaning called the method of 'extension and intension.' This contrasts with formal semantic theories where a linguistic expression is deemed to be a *name* of a concrete or abstract entity. Carnap's proposal takes a linguistic expression, *not as naming anything*, but as possessing an *intension* and an *extension*. An intension is thought to be the content, meaning or connotation of an expression. An extension consists of (a set of) those things signified by the expression. The 'intension' of a declarative sentence is taken to be a proposition and the 'intension' of a predicate expression (e.g., common noun, adjective) is a concept. Carnap's idea is that intension, for whatever entities are being considered, can be given a precise mathematical embodiment as functions on states, while extensions are relative to

[24] Carnap (1956) says "By the *explication* of a familiar but vague concept we mean its replacement by a new exact concept; the former is called explicandum, the latter explicatum. The task of making more exact a vague or not quite exact concept used in everyday life or in an earlier stage of scientific or logical development, or rather of replacing it by a newly constructed, more exact concept, belongs among the most important tasks of logical analysis and logical construction" (pp. 7-8). Physical science was understood by Carnap to be a system of statements based on direct experience and controlled by experimental verification. Carnap was (mistakenly) optimistic that the terms representing physical entities could be (fruitfully) translated into physical theories within a logical-deductive form.

a single state. Carnap understood 'possible worlds' models linguistically as the basis of true or false sentences. The concept of 'intension' is similar to Frege's 'sense.'[25]

An Alternative View: The Prescriptive Nature of Formal Semantics

But it can be questioned whether linguistic entities (i.e., physical marks or sounds) truly (1) possess 'intensions' or 'meaning,' (2) refer to extra-linguistic entities, and (3) can be about something. In response to the metaphysics of referential semantics, it is maintained here that any formal semantic theory of representative meanings is a theory of *prescribed* stipulations. The general structure of deductive systems consists of the following elements: 1) the introduction of a *vocabulary* of symbols and definitions about what counts as an individual constant, individual variable, predicate, proper name, sentential connective, punctuation, and quantifier, 2) the introduction of *syntactical formation rules* (or grammar) that defines how 'well-formed formulas' are to be constructed out of symbols (i.e. a procedure that determines whether a sentence, as a finite strings of words or symbols, is 'meaningful' or not) 3) a set of truth-preserving *inference rules*, and 4) a *semantics* (e.g. truth-table definitions of connectives, or interpretations using symbolization keys and extensions). On the view here, formal deductive systems are 'prescriptive' in that they stipulate 'meanings' and rules for the regimented use of linguistic expressions.

An example of the prescriptive nature of formal semantics is illustrated in *The Logic Book* (1980) written by Marie Bergmann, James Moor, and Jack Nelson. In describing predicate logic (PL), the authors state that the basic semantic concept of predicate logic is that of an *interpretation*, under which other semantic concepts are defined (p. 291). Symbolization keys and *universes of discourse* embody interpretations:

> The kinds of things that are in the universe are extremely varied. They include people, plants, and animals (living, dead, and yet to be born); numbers (integers, rationals, reals, and imaginaries); tables, chairs, molecules, and atoms; and dates,

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[25] Herman Cappelen (2007) articulates the standard use of 'extension' and 'intension': "Names refer to things and predicates pick out (or apply to or are true of) things. The things that a predicate picks out (or applies to; or is true of) relative to a particular circumstance of evaluation is its *extension*. I take the *intension* of a predicate to be a function from circumstances of evaluation (worlds, world/time pairs, or whatever: I'll stay neutral) to extensions, i.e., to sets—the set of things that the predicate picks out relative to each circumstance" (pp. 61-62). See Stanley (2008) for a history of key semantic terms.

> places, times and events. The collection of things we are talking about on a given occasion constitutes our *universe of discourse* for that occasion. (p. 249).

The truth-conditions of sentences of PL are dependent upon choice of ontology and the universe of discourse (UD) and upon how each of the predicates and individual constants in the sentences is interpreted:

> Once we specify the UD, we may interpret predicates relative to it. For instance, if we let our UD be the set of living creatures and decide to interpret 'Fx' as 'x is human,' then we may say that, on this interpretation, the predicate 'F' picks out all of the living creatures in the UD that are human. That is, the predicate 'F' holds of those living creatures that are human. We call those things that the predicate picks out the *extension* of the predicate 'F' for the interpretation. (p. 292).

In sum, formal theories typically offer an analysis of 'meaning' in a technical symbolic metalanguage, according to principles which can be expressed in mathematical terms. A formal representation of meaning avoids the ambiguities contained in natural language by enforcing a strict correspondence between *symbols* and *meanings*. A formal language has *stipulated* one-to-one relation with its meanings, so that each symbol of the formalism has one and only one interpretation. Formal models are based on prescriptions.

Introducing a Theory of Speaker Reference

Let us return to the concept of ‘reference.’ The term 'reference' in one ordinary language sense isn't a property of individual linguistic expressions. Reference is a pragmatic notion. People *use* linguistic expressions to *refer* to entities in a context. What a speaker's referent is, on a given occasion of use, depends upon the speaker's intentions. Personal intentions and context allow a speaker (and audience) to identify the referents (and functions) of linguistic entities in an utterance, and the function of a sentence in context. If a listener has doubt about a speaker's reference or intent when uttering a complete sentence, an appropriate question may be asked for clarification. The concept of ‘speaker reference’ isn’t a new idea and it is found in previous contexts in the philosophy of language, but the undertaking of a *systematic account* of ‘speaker reference’ (that is a concern of this book) has been lacking.

A standard dictionary defines these three related terms:

(1) **Refer** is to direct attention, speak of, mention, or allude to.

(2) **Reference** is the act of referring, mentioning, or alluding.

(3) **Referent** is (a) what is referred to, or (b) the thing that a word stands for.

A theory of 'speaker reference' adopts the 3a sense of reference where it is believed that it is fruitful to describe how *persons* can *use* expressions pragmatically (e.g., a proper name, a definite description, a definition) to *refer* to entities (e.g., a planet, a fictional character, a number, a word). This is in contrast to the 3b sense where *linguistic expressions* are believed to *acquire meaning* and have *semantic properties* in a context (to mean this or refer to that). According to a speaker theory of reference, sentences don't have meaning, instead, *persons* assume the cognitive (or non-cognitive) *sentence meaning* when using a sentence to assert an empirical claim, ethical command, definition, mathematical assertion, and the like. A speaker theory asks, 'what does ***S*** *mean* when asserting **p**?'[26]

A Characterization of a Theory of Speaker Reference

(1) According to a theory of speaker reference, sentences *don't* literally possess meaning, instead, it is *persons* who can understand *sentence meaning* (i.e., propositional content) when using a sentence. With a speaker theory of reference, a *well-formed sentence* is understood as the *basic unit of meaning*; not the words that it is built out of. Persons *use* linguistic expressions in well-formed sentences to (intend to) *refer* to particular entities in a context. Personal intentions and context allow a speaker (and audience) to identify the referents (and aboutness) of linguistic entities in an utterance.

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[26] This same viewpoint that *speakers* use linguistic expressions to refer to entities was loosely endorsed by Peter Strawson (1970) who observed that some philosophers favor a formal truth-conditional model-theoretic approach to a philosophy of language and that others theorize about ordinary speech and communication-intention. Strawson recognized that the communication-intention theorists paid attention to an utterer's *meaning something* by an audience-directed utterance on a particular occasion. While Strawson respected the communication-intention philosophers (including Grice, Austin, and later Wittgenstein) and practiced this mode of philosophy, he concluded it was a generally harmless and salutary thing to say that to know the meaning of a sentence is to know under what conditions one who utters it says something true. Donnellan (1966), Kripke (1977, 1980), Ludwig (2007), Deutsch (2009), Heck (2018), and most analytic philosophers have recognized the distinction between 'semantic reference' and 'speaker reference.'

While semantic reference theories attempt to explain (or eliminate) sentential ambiguity by using formal models, a speaker theory asks, 'What does ***S*** *mean* when asserting **p**?' When we ask 'what does **S** mean' when uttering **p**, the way to *answer* this question is obvious. If a listener has sincere doubt about a speaker's reference (or meaning) when a sentence is uttered, *an appropriate question* should be asked for clarity. For example, if I'm using the name 'Aristotle' and the listener didn't understand which 'Aristotle' I was talking about, I would report as appropriate: e.g. (1) the philosopher, or (2) the former husband of the late Jackie Kennedy. Similarly, if I said that 'there is a bat in the garage' and the listener didn't know if I was referring to a baseball bat or animal, I respond with the appropriate definition. By 'bat' I mean *this sense* of the word.

Similarly, when **S** uses the word "that" in a sentence (in context), the word "that" doesn't literally refer to an object. The *word* "that" doesn't refer to anything. Instead, an object **o** is the reference of an utterance of "that" only if **o** is what the speaker intends to refer to in making an utterance of "that." If listener **S1** has sincere doubt about a speaker's reference (or meaning) when **S** asserts a sentence using "that," then *an appropriate question* should be asked for clarification on **S**'s intention, viz, *what is it* that **S** is looking at, pointing to, or thinking of. **S1** may not understand **p** when in doubt, unless a question about **S**'s referent is resolved by questioning **S**. [27]

(2) For successful speaker reference of a *proper name*, there is no single or disjunction of descriptions that must be associated with the entity being referred to. Persons successfully use proper names without having descriptions (or a definiens) that apply uniquely to one's referent. For example, if I'm using 'Richard Feynman' in a situation, and the listener didn't understand who I was talking about I could reply that I was talking about 'a contemporary theoretical physicist.' My listener knowing that I'm using a proper name would gain some understanding of the referent from my report of a definiens (i.e., a definite description). People succeed in referring to the person Feynman easily, even while knowing very little about him. In most situations, the context of an

[27] Christopher Gauker (2019) argues against this kind of 'speaker-intention theory' of demonstrative reference in favor of an analysis in terms of semantic reference. Unfortunately, such semantic reference analyses inform only semanticists.

assertion is enough for a listener to identify the entity being referred to by a speaker. Conversations are rarely impeded by misunderstanding a speaker's use of proper names.

On the speaker theory, a proper name is used to refer to whatever properties the community generally attributes to the entity, even if those properties are sometimes mistaken or non-unique. The descriptive information (in a reported definiens) may be vague, open-ended, and subject to factual error. For example, if a person errantly defined "Bono" as 'the English lead singer of the band U2,' a speaker to listener reference to the correct person would likely be successful, even if Bono was born Irish, and not English. It is *neither* the *truth* of the description(s), *nor* the *uniqueness* of the description(s) in the reported definiens of a proper name, that makes 'speaker reference' successful. With a speaker theory of reference, it is recognized (obviously) that speaker reference is *not* always successful because of different kinds of misunderstanding.

(3) Similar to proper names, a theory of speaker reference *denies* that *definite descriptions*, as linguistic expressions, *literally* refer or denote extralinguistic items. For example, it might be said that the description 'the first man on the moon' refers to Neil Armstrong. But it *isn't true* that this *phrase* literally *refers*. It is *persons* who *use* this definite description to refer to a person. It is more accurately said that 'the first man on the moon' *designates* (or denotes) Neil Armstrong in the English language and in the actual world. The linguistic expression, by itself, cannot 'pick out' its referent.

Also, similar to proper names, there may be descriptive errors associated with a definite description. For example, if someone says, 'I'm thinking of a poisonous red and green plant popular at Christmas,' we infer that the speaker is thinking of a 'poinsettia,' and successful speaker reference is achieved. But poinsettias are not poisonous! Instances of successful speaker reference are understood as (pragmatic) situational events. Keith Donnellan (1966) observed that using definite descriptions is a way to get one's audience to identify whatever is spoken of, even if the description is inaccurate.

(4) The theory of speaker reference is classifiable as a 'descriptivist theory,' but it *isn't a descriptivist semantic theory* of reference. 'Descriptivist theories of *semantic reference*' are *false* because it is (errantly) claimed that the **x** to whom a proper name (as a

linguistic expression) refers (in context) is determined by definite description(s) (as linguistic expressions) associated with that proper name (as a linguistic expression).[28]

In contrast, with a theory of *speaker reference*, it is claimed that the **x** to whom a proper name (as a linguistic expression) refers (in context) is determined by descriptions (i.e., a definiens) associated with the proper name, when stated by a speaker as a reportive (lexical) definition in context. The *use* of a proper name in a context does not function as being *equivalent* (or an abbreviation) to a cluster of *mostly true definite descriptions* about the referent. Nor is the referent of a proper name achieved *solely* through a *historical chain*. Both cluster and causal theories falsely assume that there exists a 'reference relation' between 'words' and 'objects.' Instead of seeking systematic word reference, philosophers *should* seek to analyze the concepts and intentions in context(s) and describe *how sentences are used* by *speakers* to communicate intentions.

A Speaker Reference Account of Proper Names

A prominent problem in the philosophy of language is: How do proper names refer to particular objects? How in the utterance of a proper name does the speaker succeed in referring to an object? The simple answer is this: in contexts where *a question* of proper name reference *occurs as a genuine real-world question*, a speaker responds with a *reportive definition* (or a series of definite descriptions) describing what one is talking about, as a response to a request for clarification. For example, as stated above, if I'm using the name 'Richard Feynman' in a situation, and the listener didn't understand who I was talking about I could reply that I was talking about a contemporary theoretical physicist. My listener knowing that I'm using a proper name in a context would gain some understanding of the referent from my report of a definiens.

Saul Kripke's (1980) critique of a Fregean-Russellian descriptivist account of proper names focuses upon the insufficiency of definite descriptions to pick out a *unique* referent or that a series of descriptions might actually apply to a different entity altogether. But from an ordinary natural language perspective, there are no 'real world'

[28] Kripke (1980, p. 71) describes a 'description theory' of semantic reference, similar to the accounts of Devitt (2011, p. 420) and Nichols, Pinnillos, and Mallon (2016, p. 146).

folk problems about how proper names function. Proper names are normally understood by language users to function differently than definite descriptions. A proper name is understood to denote an entity and doesn't predicate properties to its referent. Most people (as does Kripke, and against Russell) would *deny* that a proper name is *equivalent* (or abbreviation) to a set of definite descriptions. In order for speaker reference to occur, no single description or disjunction of descriptions must be associated. The descriptive information is vague and open-ended. In natural languages, persons use proper names despite not having descriptions (or a definiens) that applies uniquely to one's referent.

Kripke does correctly maintain that the referent of a person's use of a proper name is in large part due to a term's previous historical use. There is a mostly continuous historical connection from an object (or concept) **x**, **x**'s initial naming, and the later uses of a proper name in sentences. The referent of a proper name is tied to an initial naming and its subsequent use. But it can be responded that this historical tie in the use of a proper name *differs little* from the historical etiology of other words. The current use of most terms is based in part on their historical use. If one doesn't understand the reference of a proper name (or any term) for one reason or another, the historical chain of speakers' use won't help gain an understanding of what is being referred to because we don't have epistemic access to that chain. [29]

To repeat, in situations of informing an uncertain listener of the referent of a word, a set of descriptions (i.e., an intended reportive definition) is required from the speaker. It is from speaker intentions that words have meaningful significance and reference.[30] Because syntactically well-formed *sentences* have a speaker-listener *meaning* in a context, the relevant questions should become: How does a speaker give a

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[29] A counterexample to the direct reference theory of proper names: Suppose I start telling you about my favorite childhood pet 'Oscar.' I begin by defining 'Oscar' as 'a small green box turtle once found in my backyard and placed in a fish aquarium.' It seems clear that this reportive definition is required because the historical chain of the active use of this proper name ended shortly after Oscar died more than fifty years ago. I am the only person who remembers this turtle. My *personal* contextual *causal-historical use* of the proper name 'Oscar' wouldn't establish my speaker-to-listener referent when talking about this old pet.

[30] If it is steadfastly maintained by a critic that intuitively *sentences and words do have meaning* in a context, it can be acknowledged that persons attribute (or infer) that meaning, and logicians consequently can assign (or specify, stipulate) meanings in a truth-theoretic model.

sentence meaning (and interpret sentence meanings)? How does a speaker use linguistic entities to refer?[31]

With a theory of 'speaker reference' (or 'speaker meaning') a *sentence* (or *proposition*) can be assumed to be the *primitive linguistic entity* where its *contextual use* is studied. Speakers use sentences to refer to entities and states of affairs, but linguistic entities (e.g., components of sentences, sentences themselves) do not refer. With these assumptions, the proper methodology of the philosopher is to analyze the concepts and intentions involved in certain epistemic situations (including learning situations) and describe *how sentences are used* by speakers to communicate various intentions.

A social-scientific approach should be pursued (using conceptual analysis) where we examine our intuitions/beliefs about speakers and their natural language and their intentions in various contexts and attempt to understand speaker meaning.[32] Speaker's meaning and reference is 'contextual' not only in respect to a speaker's circumstance in the world but also with respect to a speaker's background beliefs and intentions. This book is an extended analysis of how *sentences* (as foundational linguistic entities) are *used* by speakers. We have analyzed assertions about (a) knowledge (and the associated concepts of justification, relevance), (b) normative ethics, (c) definition, (d) mathematical propositions (e.g., axioms, vocabulary, inference rules, entailments) and (e) aesthetic assertions. With extended conceptual analyses, various speaker meanings have been hypothesized. (Of course, these hypotheses about speaker reference are true or false).

Let us review. Is 'reference' a property of linguistic expressions (i.e., where words and phrases have referential properties in a context)? Or instead, can 'reference' be considered a pragmatic process among intentional agents? Both senses of 'reference' are intelligible. In advocating a speaker theory of reference, I'm not implying that the popular 'semantic theory' should be discarded. Aside from a difference in approach and questions

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[31] Searle (1969, p. 16) says that: 'When I take a noise or a mark on a piece of paper to be an instance of linguistic communication, as a message, one of the things I must assume is that the noise or mark was produced by a being or beings more or less like myself and produced with certain kinds of intentions.'

[32] Quine (1992, p. 38) was similarly concerned with speaker meaning. He thought that the meaning of a word or a sentence in a given language is how it is being used by speakers of that language. He says that "Each of us learns his language by observing other people's verbal behavior... and reinforced or corrected by others." There is no more to meaning than what is implicit or explicit in the use of language.

asked, the speaker theory implies nothing contradictory to the semantic theory. I am just claiming that a speaker theory can resolve important philosophical issues better than a semantic theory. It is understood that semantic model theories (about reference and meaning) are valuable for creating structures (i.e., definitions, vocabulary, syntactical formation rules, inference rules, semantics) that allow for understanding meaningful grammatical sentences and perspicuous deductive entailments. But it is doubtful that a semantic theory of reference has relevance to perennial questions of philosophy (e.g., about knowledge, mathematics, meta-ethics, aesthetics, language, and so on).

(#3) The principle of compositionality can be challenged. The compositional truth-functional theory of sentence meaning maintains that words are the basic components of sentences, and that the meaning of sentences depends (systematically) on the meaning of the words that they are composed of. Frege adopted this principle to describe how it is possible that an unlimited number of complete thoughts could be expressed by a natural (or artificial) language. Frege thought that the principle was neither metaphysical nor psychological. It was just a principle needed to explain how thoughts can be expressed using a language. It was a fact about how people could produce an unlimited number of sentences out of a minimal vocabulary and a minimum of syntactic and inference rules.

Soames (2003b) defends the principle of compositionality with virtually the same reasoning. He says that linguistic meaning is systematic. The meaning of a complex expression is determined by the meanings of its parts. If this were not so, we could not explain how language users are routinely able to understand new sentences that they have never previously encountered. "In order to account for this fact, we need a theory of meaning of an individual expression that makes clear how it is able to systematically contribute to the meanings of larger linguistic compounds that contain it" (p. 129). It is taken for granted by semanticists that a theory of meaning must explain how it is that we can use old words to convey new meanings that have never previously been conveyed. [33]

[33] Guillermo Del Pinal (2015) argues that linguistic *compositionality* is an *innate constraint* of the "faculty of language." Again, compositionality is thought to explain how language users are able to understand new sentences not previously encountered. This "productivity" is thought to be best explained by linguistic

But is the principle of compositionality empirically true? Do natural language sentences have meaning because of their formal syntax and semantics? On the contrary, persons normally learn sentence use, grammar, and semantic rules *informally*. Understanding *sentence meaningfulness* comes *prior* to learning the rules of formal compositional syntax and semantics. Children learn a language when engaging with adults, reading stories, and playing interactive games with vocal instructions. The understanding of individual word meanings follows from a familiarity of their ordinary use and self-interpretation, pedagogy, or dictionary. When learning a language by immersion it seems plausible that sentence meaning (a complex structure) is understood without conscious attention to the individual words and syntactic conventions that give a sentence its structure. Sentence use follows from imitation (and interpretation) of other users. With the acquisition of a language, the *meaning* of a complex expression (*for persons*) is not determined by its syntax and the semantic referents of its parts, but instead, by its content, contextual pragmatics, and a person's background beliefs.[34] *Well-formed sentences* are the *basic units of meaning*; not the words that they are built out of.

Even if the principle of linguistic compositionality isn't empirically true, is it still a fruitful assumption for analyzing the functions of natural (and artificial) language sentences? It doesn't seem helpful. It seems more natural (and fruitful) to conceive of this relationship the other way around. To repeat, it seems that a sentence's meaning (i.e., significance or intelligibility) and the intentions of users start first, and sentence meaning (intelligibility) and word meaning follow derivatively. We use sentences to make

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reference to symbols in a recursive computational system within a compositional semantics. Josh Dever (2006) says that compositionality enforces “honesty” in semantic theory construction (p. 663).

[34] Bruce Liles (1975, pp. 268-273) states that around the age of three months or earlier, children are cooing, by six months they have entered a babbling stage, at twelve months they are saying a few words, and around eighteen months they begin forming two-word sentences. At the babbling stage, there is expert agreement that the *noises* begin to *sound* like *sentences* before the child forms words. By the age of five or six years, children have mastered the basic core of their language system. When children reach a critical age, their initial grammars are quite simple, but they are able to revise them to accommodate the new observations they make. Children are not merely mimicking adult sentences as parrot would, but rather using them to draw generalizations and form their own grammars, from which they can construct original sentences. It seems quite plausible that the desire to construct a grammar and the knowledge of how to go about doing it are innate; children derive the exact details of the language they are learning from the exposure they receive to it. A child's process of revision and addition continues until the grammars are essentially like those of an adult.

empirical claims, normative assertions, various mathematical assertions, aesthetic judgments, and kinds of definition. The principle of compositionality is of no help in describing the epistemology and apparent differences in (speaker) meaning when asserting these kinds of sentences.

Perhaps the systematicity of language and our ability to understand novel sentences is better explained by a theory of the *compositionality of concepts*. Having denied that linguistic expressions have 'semantic values' and 'semantic functions' that allow linguistic expressions to refer to things to facilitate communication, how do concepts allow us to do this? The response here is that our mental ability to represent and manipulate concepts in a systematic (and loosely compositional) mode allows linguistic communication. The *meaning* of a word (e.g., proper name, group resemblance term) as well as the meaning of a complex expression (e.g., sentences, definite descriptions) *for persons* is not determined by persons implicit understanding of its semantic referents and the composition of the complex expression's parts; but instead by associated mental concepts, contextual pragmatics, and a person's background beliefs.

Natural language sentences can be analyzed in terms of the concepts and context in which they are uttered. When asserting that "Obama was the 44th President of the United States" a speaker and an audience can possess the concepts of:

(1) 'Obama' and 'U.S.' as proper names (human, geographical place),
(2) 'president' as a group resemblance concept (cf. president of a corporation),
(3) 'President of the United States' as a definite description,
(4) the use of 'was' (as a fixed definiens past tense of 'be'),
(5) the use of 'the' (indicating 'singular,' a fixed definiens concept), and
(6) the numeric '44th' as a fixed definiens concept.

With natural language, we can ask how do definite descriptions, proper names, natural kind terms, and fixed definiens concepts contribute to the (speaker) meaning of a sentence (or proposition)? Persons typically 'think' with concepts in a systematic fashion.

In formal semantics, the meanings of words are ultimately *assigned* (or are generated) by the stipulative definitions in a model. In natural language communication, the meanings of linguistic entities are *interpreted* by speakers. Repeating the example

mentioned above, when a listener hears that 'there is a bat in the garage,' the term 'bat' must be interpreted as a natural kind mammal or a group resemblance artifact.

Another example further illustrates a case of listener interpretation. **S** and **S1** are walking on a sidewalk over a municipal boundary between the bordering cities of Bloomington and Normal in the state of Illinois (USA). **S** verbally states to **S1** that "We have just entered Normal, Illinois." **S1** who is new to the cities and unfamiliar with the territory, asks whether we had just left 'abnormal' Illinois? **S** responds with a *definition* of 'Normal' as a city in Illinois that borders Bloomington. With this, **S1**'s confusion between 'normal' as a group resemblance adjective and 'normal' as a proper name is terminated. This confusion can be understood as 'conceptual' (between proper name and predicate) even if an external formal linguistic explanation is available.[35]

Even in a case where there isn't any conceptual confusion, 'reference' is not determined by a linguistic entity (e.g., a proper name) but is interpreted by a person. Suppose **S** comes strolling upon two men standing on a sidewalk and **S** hears them mention 'Napoleon' several times. As **S** comes closer, **S** wonders what they are talking about (e.g., the French commander defeated at Waterloo, a character in Orwell's *Animal Farm*, or a kid in a movie). As **S** gets closer to their conversation, **S** hears more sentences, and (abductively) infers that the referent of the proper name is a fictional kid in 'Napoleon Dynamite.' It is **S**'s *possession* of the *concept* of a 'proper name' that allows **S** to infer that they *were* talking about some unique entity. The linguistic entity didn't attach itself to anything. Instead, **S** *inferred* the referent of 'Napoleon' in context as a character in a movie, from hearing the contextual conversation of two persons.'[36]

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[35] Most miscommunication is not conceptual but are pragmatic in nature. A speaker's utterance may be vague, ambiguous, ill-formed, or there might be an intervening physical problem (speaking too fast or too softly, or with loud noise in the background). A listener (or reader) might be inattentive, unfamiliar with the terms used, or maybe hindered by some aforementioned kinds of physical problems.

[36] John Locke is often interpreted as hypothesizing that the meanings of words (as linguistic expressions) are the concepts (i.e., ideas and tacit definitions) as found in individual human brains. Locke (1690) states that "The use, then of words is to be sensible marks of ideas; and the ideas they stand for are their proper and immediate signification" (Section 1, Chapter 2, Book III). The words which make up a language get their meaning from our associating them with the ideas and thoughts that we want to express.

Explaining and Resolving our Intuitions about Linguistic Meaning.

To reiterate, philosophers take their use of the concepts of 'meaning' and 'linguistic reference' as reflecting intuitions that (1) 'words have meaning,' (2) 'words in sentences can refer to things,' and that (3) 'well-formed composite linguistic expressions (e.g., sentences) have a literal meaning.' These assumptions have an intuitive appeal. It is intuitive that *words and sentences have meaning* no matter whether they are employed in a context, or outside of a context. It has already been argued that the second intuition is false (i.e., that words 'refer'), so we will now discuss the first and third intuitions.

If it is true that *words have meanings*, then how does this occur? In ordinary life we can talk about the 'meaning' of individual words. Two examples:

(#1) **S1**: 'What does 'kakapo' mean?
S responds: 'It's a kind of parrot.'

(#2) **S**: 'I saw a peloton pass by on our street today.'
S1: What is a 'peloton'?
S responds: 'It is a pack of bicyclists in a race.'

In these cases, when **S** is asked for a word's meaning by **S1**, **S** responds with a definiens about the word's usual or standard use. In these examples, one noun ('kakapo') represents a natural kind concept, and the other noun ('peloton'), represents a group resemblance concept.[37] Thus, it is *true* that *words have meaning*, and those *meanings* are stated *using definitions*.[38]

Assuming that it is true that *sentences have a literal meaning* outside of a context, how does this occur? For example, we know the meaning of the sentence "I am tired," even if it occurs out of a context. The reason for this is that persons infer (or attribute) s*entence meaning* from the *mental lexicon* of their *concepts* and the syntactical

[37] As noted by Kempson (1977, p. 80), what is listed in the dictionary are lexical items for words. For the word 'bank,' one lexical item is 'a kind of financial institution,' another lexical item is 'the side of a river.'

[38] This fully explains the assumptions stated in footnote #8: The linguistic *meaning* of a word in a language is what fully competent speakers of the language have a grasp of merely in virtue of their semantic competence (e.g., Dummett, 1993, Higginbotham, 1992, Kaplan 1989). Linguistic meaning is what second-language learners aim to grasp. Meanings allow a word to be used to speak the relevant language.

grammaticality of the sentence.[39] The literal meaning of the definite description "being tired" and the indexical "I" are understood. Similarly, people recognize that the sentences "There is a red book on the table" and "On the table, there is a red book" have the same literal meaning and that the sentences (in a context) express the same proposition. The literal meaning of a sentence (out of context) is understood by competent speakers of a language by understanding its concepts, syntax, and various senses of vocabulary terms.

Let's consider an example of how persons can *infer* a word's 'literal meaning' *within* a context. Consider examples of the use of the word 'run' and its variants: (1) He ran the race for his high school track team, (2) The ball ran onto the field, (3) The car is running well, (4) She ran the amateur talent show contest, (5) He is running for president. To know the meaning of a word (and its senses) is to be able to read (or hear) the word in a sentence and understand the sentence's meaning. Whether **S** understands a linguistic expression, and knows its meaning, depends on whether **S** can use it, and explain it correctly, and whether **S** responds appropriately to its use by others. It is from speaker intentions, context, and an audience's interpretation of a sentence that 'words' and 'sentences' have meaning. As Frege stated in *The Foundations of Arithmetic* (1884):

> "Only in a proposition have the words really a meaning… It is enough if the proposition taken as whole has a sense; it is this that confers on its parts also their content" (section 60), and "Never ask for the meaning of a word in isolation, but only in the context of a proposition" (p. x).

What a word means is only explicable in terms of what speakers mean by using the word. What is important in communication is what speakers intend and what speakers use

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[39] John Lyons (1995) states that "The lexicon may be thought of as the theoretical counterpart of a dictionary, and it is frequently so described. Looked at from a psychological point of view, the lexicon is the set (or network) of all of the lexemes in a language, stored in the brains of competent speakers, with all of the linguistic information for each lexeme that is required for the production and interpretation of the sentences of a language. Although the so-called mental lexicon has been intensively studied in recent years from a psychological (and neuropsychological) point of view, relatively little is known so far about the way in which it is stored in the brain or about the way that it is accessed in the use of a language. Relatively little is known, similarly, about the mental grammar that all speakers of a language, presumably, also carry around with them in their heads. In particular, it is not known whether there is a clear-cut psychological distinction to be drawn between grammar and lexicon" (p. 73).

words (and sentences) to mean. It is only derivatively from these intentions that we may speak of words or sentences as meaning anything. [40]

(#4, #5) A philosophy of language need *not* be tied to the analysis of descriptive assertions and truth. The idea that language is essentially *descriptive* in informational value is false; and thus, can be challenged. We have observed that with standard formal semantic theories, the selected sentences of analysis are deemed to be either true or false.

In this respect, we briefly critique Scott Soames' *Philosophy of Language* (2010). Soames' explicitly seeks to study what he understands as the foundational concepts of language: truth, reference, meaning, possibility, propositions, assertion, and implicature. He distinguishes "what meaning is" (expressed in natural and artificial languages) in contrast to "aspects of language use" (i.e., its private use in thought, as well as its public use to communicate thoughts). With respect to "what meaning is," Soames says:

> The central fact about language is its representational character. Exceptional cases aside, a meaningful declarative sentence S represents the world as being a certain way. To sincerely accept, or assertively utter, S is to believe, or assert, that the world is the way S represents it to be. Since the representational contents of sentences depend on their grammatical structure and the representational contents of their parts, linguistic meaning is an inter-connected system. In studying it, we exploit the relationship between meaning and truth. For S to be meaningful is for it to represent the world as being a certain way which is to impose conditions the world must satisfy, if it is to be the way S represents it. Since these are the truth conditions of S, being meaningful involves having truth conditions. Thus, the systematic study of meaning requires a framework for specifying the truth conditions of sentences on the basis of their syntactic structure, and the representational contents of their parts (p. 1).[41]

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[40] In opposition, Stanley (2007) believes that a formal account of how context interacts with word meaning and sentence structure to create 'content,' is systematically superior to 'speaker theories' of meaning. He accurately states that 'speaker use' philosophers claim that "it is a *use* of a singular term by a person that refers, and it is an *utterance* of a sentence that expresses a proposition; one cannot speak of a *term* having reference, or a sentence having a truth-value, even derivatively. In short: words do not refer; people do" (p. 2). Against this speaker reference analysis, Stanley argues that an ordinary language explanation of the 'meaning' of an expression as 'a rule of proper use' as recommended by Strawson (1950) is vague and mystical. The increasing sophistication of semantic theories allow it to make "perfect sense to attribute reference and truth to expression types once contextual relativity is factored into the semantic theory" and that semantic notions allow us to give "a considerably more explicit characterization of linguistic meaning than the ordinary language philosophers were capable of providing… meaning is best explicated in terms of reference, rather than rules of use" (pp. 4-5).

[41] This is similar in spirit to the early Wittgenstein (1921) who said that for a sentence to say anything, it had to provide information, where its truth excludes certain possible states.

Soames attributes this theoretical framework to Frege, Russell, Tarski, and Carnap. Natural languages can be translated into expressively powerful artificial languages.

Soames recognizes a blurry distinction between 'semantics' and 'pragmatics.' The subject of 'semantics' is sentence meaning. The subject of 'pragmatics' is what is added to sentence meaning in a context.[42] He acknowledges the challenges of integrating the two. In the first part of his book, he studies semantics, with emphasis upon the concepts of truth, interpretation, meaning, modality, possible worlds, rigid designation, and indexicality. He maintains that with respect to linguistic meaning:

> Despite the once influential Quinean skepticism about meaning, today there are, I think, no serious grounds for doubting that words have meaning, that there are correct answers to the question "What does it mean?"... (but) there are serious questions about what parts of the information carried by uses of sentences are included in its meaning, and what parts are not. The search for principles that will answer these questions by distinguishing aspects of meaning from aspects of use is inseparable from the task of formulating a conception of what meaning is that clarifies the content of the claim we make when we say that a piece of information is part of it (p. 4).

Soames maintains that the systematic study of meaning requires the specification of the truth conditions of the sentences on the basis of their syntactic structure, and the *representational* character of their parts. Sentences represent the world because they are made up of *words and phrases* that *stand for* objects, events, concepts, and properties (p. 8). Soames respects arguments by Kripke that suggest that proper names cannot stand for a series of definite descriptions or have abstract 'senses' as Frege believed.[43]

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[42] Pragmatics is a field of language study. Grice (1957, 1989) studied implicature and conversational communication. The term is defined by George Yule (1996) as 'the study of meaning as communicated by a speaker and interpreted by a listener or reader.' Jacob Mey (2001) defines "pragmatics" as 'the use of language in human communication as determined by the conditions of the society.' Cappelen (2007) and others, deny the semantic-pragmatics distinction.

[43] In the second part of *Philosophy of Language* (2010b) with an embrace of a possible world semantics, Soames studies the metaphysics of speaker meaning with emphasis on the concepts of propositions, possible worlds, a priority, a posteriority, and actuality. Soames' study of 'speaker meaning' acknowledges Kripke, Montague, David Lewis, Robert Stalnaker, and David Kaplan and their work to relativize Tarski-style theories of truth to contexts of utterance and a possible worlds semantics using intensionality and extensionality. These new theories provide truth conditions of a more robust sort, and incorporate modal concepts expressed by 'necessary,' 'possible,' 'could,' and 'would,' temporal concepts expressed by natural language tenses, and indexical notions expressed by words like 'I,' 'he,' and 'now.' Natural languages can be readily translated into formal languages with these methodologies for studying meaning.

Soames seeks to understand "what parts of the information carried by utterances are included in the semantic contents of the sentences uttered and what parts arise pragmatically, from the use of sentences." He says that "the right conception of meaning" should explain and "distinguish information contributed by sentence meaning from that added pragmatically" (p. 171). He continues as follows:

> Semantic and pragmatic theories are rational reconstructions of the ability of speaker-hearers to interpret uses of sentences. In cases of *assertion*, they draw on a pool of contextually shared information to identify certain propositions as asserted, and others as implicated. The cognitive processes by which this occurs is not our concern. We can, however, construct an idealized model, many of the inputs and outputs of which correspond to those of the real cognitive processes. In the model, the sentence uttered is paired with the semantic content assigned to it by our semantic theory. Idealized speaker-hearers extract information from the pair using conversational maxims, plus propositions representing common conversational knowledge. Conclusions about what is asserted, conveyed, and implicated are rationally inferred. The model is validated by showing its conclusions match those of real speakers (2010b, pp. 171-172, italics added).

> The meaning of an expression is the minimal content that must be associated with it by a rational agent— over and above the agent's ability to reason intelligently and efficiently— in order to communicate with other members of the linguistic community. The point is not heuristic, but constitutive. This is what meaning is. No matter what idiosyncratic processes speaker-hearers actually go through in interpreting utterances, the question of what part of that which is asserted is conveyed due to meaning, and what part is due to pragmatics factors, is determined by rational reconstruction… there is a substantial core of information that nearly all of us extract from utterances in various contexts. The meaning of S is an abstraction from this common core. It is that which is both common to what literal uses of S assert or express in all normal contexts, and what an ideally rational agent would have to master— over and above the ability to reason intelligently and engage in cooperative social behavior— in order to communicate using S with other speakers (2010b, pp. 172-173).

The term 'assertion' is italicized in the second sentence of the above initial quote because an 'assertion' for Soames (and many philosophers) is synonymous with 'descriptive assertion' (i.e., a proposition that is either true or false).

The focus of Soames' theories of *'sentence meaning'* and *pragmatic 'speaker meaning'* is that of (solely) understanding descriptive assertions. His emphasis is upon 'possible worlds' as a tool for "regimenting modal reasoning, investigating modal claims,

and formulating systematic theories of the truth conditions of modal sentences and propositions" (p. 130). Soames' interest is to trace 'modal connections' among sentences and propositions, and drawing conclusions from, or about, them. He says that:

> The 'modal connections' are truth guarantees, in which, for various senses of 'must,' one set of sentences or propositions *must be true* if other sets of sentences or propositions are. When such a relation holds between two sets, the former is a *consequence* of the latter. If a set is a consequence of the empty set, its members *must be true*, without qualification. When the bearers are sentences, the relevant modalities are *logical* and *analytic* truth, and consequence. When they are propositions, the relevant modalities are *a priori* and *necessary* truth, and consequence, plus *counterfactual* consequence. We owe the conception of logical truth in all models mainly to Tarski, the conception of analytic truth as one that can be reduced to logical truths by putting synonyms to synonyms mainly to Frege, and the conception of counterfactual consequence as truth in all "closest" world-states in which the initial set is true mainly to Stalnaker and Lewis. We owe the identification of metaphysical necessity, and the clear distinction between necessity and apriority, mainly to Kripke (2010b, p. 131).

In summary, Soames' methodology for explaining a 'philosophy of language' rests upon a set of metaphysical assumptions and a preoccupation for explaining 'descriptive assertions' and their (necessary) consequences among other descriptive propositions. Truth evaluable assertions and their semantic composition is the primary concern for Soames. But Soames' characterization of *sentence meaningfulness* as being *tied to its truth* effectively *excludes* the concept of *'prescriptive'* utterances as being *meaningful*, since prescriptions are intended to be agreed-upon without being literally true or false.[44]

Summary & Conclusion

Since the invention of modern predicate logic by Frege, the concepts of meaning, reference, object, property, relation, semantic value, propositional attitude, extension, intension, truth-conditions, necessity, and possible worlds, have evolved in seeking *how to best represent* linguistic expressions as they are used in natural languages. In formal semantics, a symbolic theory is sought to explain how an infinite number of meaningful

[44] Soames' assumption that most meaningful assertions are to be represented as either true or false doesn't reflect the totality of speaker intentions and meanings. It has been argued here that there are four kinds of 'prescriptions': (1) regress-ending 'sufficient evidence' claims, (2) stipulative definitions, (3) the axioms, vocabulary, syntax, and inference rules of deductive systems, and (4) normative ethical assertions.

sentences can be asserted from a finite set of syntactical categories and rules. The overall goal is to interpret natural languages in an explicit logical form, in the same way that (compositional) mathematical languages map the validity of deductive arguments. Proponents of compositionality emphasize the 'productivity' and 'systematicity' of natural language communication, and that 'linguistic compositionality' is the best explanation. In opposition, I argue that an understanding of six basic kinds of concepts (i.e., natural kind, group resemblance, fixed definiens, fictional entity, definite descriptions, and proper names) provides a better explanation of natural language communication.

With a speaker theory of reference, we have questioned whether linguistic reference is physically possible.[45] We have also challenged whether 'meaningful sentences' are just those that purport to 'describe the world' as being a certain way. In the course of this book, prescriptions have been shown to be 'meaningful sentences' but not represent the truth. In order to have a complete philosophy of language (and not just a systematic formal interpretation of linguistic symbols), the theorist must also understand 'speaker meaning.' In asking "what does **S** mean by **p**?" we sometimes are asking about a speaker's *intentions*, and whether **S** means an assertion **p** to *describe* or whether **S** means assertion **p** to *prescribe*. This book is an extended analysis of how *sentences* are *used* by speakers as descriptions or prescriptions. [46]

[45] Again, how can words have reference? What are the 'truth conditions' for 'interesting' and 'funny' when **S** says that '**x** is interesting' or '**x** is funny.'

[46] To summarize this chapter; it is argued that (1) the concept of 'meaning' should not be the primary concept of interest in a philosophy of language, e.g., the concept of 'definition' should be examined, as well as the natural kind concepts of 'description' and 'prescription,' and the six kinds of concepts. (2) linguistic entities cannot literally possess meaning, and be about, and refer to things, (3) the principle of linguistic compositionality is false (although it may be adopted as a model-theoretic syntactic principle), and again that (4) some declarative sentences (i.e., prescriptions) are *not* intended to *report* the world as being a certain way, and as being either true or false.