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Semantic Holism Revisited

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SEMANTIC HOLISM REVISITED

by

CHUN-PING YEN

A dissertation submitted to the Graduate Faculty in Philosophy in partial fulfillment of the

requirements for the degree of Doctor of Philosophy, The City University of New York

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This manuscript has been read and accepted for the Graduate Faculty in Philosophy in

satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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ABSTRACT

SEMANTIC HOLISM REVISITED

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Chun-Ping Yen

Advisor: Professor Graham Priest

I defend semantic holism, the view that the meaning of an expression is determined by its relations to every other expression in the language of individual competent users. I argue that, once properly understood, most disadvantages attributed to holism can be dissolved and suggest that the core division between the holist and the non-holist is on the question whether invariant meanings shared across all possible occasions where the corresponded expressions are uttered are necessary for the explanation of meaning sharing. I give reason why the answer is negative and demonstrate how to explain our linguistic interaction without such invariant meanings.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

CHAPTER 1: SEMANTIC HOLISM: WHAT IT IS AND IS NOT

Semantic holism has been vigorously debated since the publication of Jerry Fodor and Ernest Lepore's *Holism: A Shopper's Guide* in the 1990s. The view that meaning is holistic is highly controversial and is usually not treated as an independent thesis but rather appears as a vital drawback of a theory of meaning in the literature for its not being able to deliver a notion of shared meaning. Such attitude is so prevalent that oftentimes people simply take semantic holism as a reason for the rejection of a theory without further argument. For example, Michael Devitt (*Coming to Our Senses* vii) considers semantic holism as "clearly false," Michael Dummett ("What is a Theory of Meaning (I)," 21) says it makes "any systematic theory of meaning … impossible," and most notably, Fodor (*Psychosemantics* 60, italic in the original) thinks it "really is a *crazy* doctrine," just to quote a few. As is often the case, however, there is no agreement among those engaged in the debate what semantic holism is. With the varied definitions of the doctrine, commentators disagree on not only its truth but also its content and intelligibility.[1]

This dissertation is a project to examine the debate over semantic holism and to address the following questions which Fodor (*Psychosemantics* 55) finds "remarkably hard" to answer: What is semantic holism and what is it not? What does semantic holism amount to? What are the challenges semantic holism faces and how well can they be answered? The aim of this dissertation is not to defend any specific holistic account, but to give reason why semantic holism, once properly understood, is not worse off than the non-holistic rivals and deserves to be taken seriously on its own right.

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[1] See Eli Dresner, ("Meaning Holism", 611); Peter Pagin ("Meaning Holism" 215); Michael Devitt (*Coming to Our Senses* 16); Christopher Peacocke ("Holism," 227).

Semantic holism is often alleged to face the following problems. It fails the compositionality constraint on natural languages, the explanation of language acquisition, the stability of meaning and thus the explanation of sharing meaning across individuals or time slices. It is also accused of general reference failure and of the loss of the world. These objections will be examined in turn, and I argue that they offer no ground to favor the non-holistic accounts.

I suggest directing our attention when considering the debate over holism to whether we need invariant linguistic meanings or anything of the sort to explain our understanding of each other. For a lot of attraction to the non-holistic accounts comes from the belief that semantic holism is untenable, mostly from the worry about that there is no invariant meaning available for holism. There is no case against semantic holism without good reason to think that such invariant linguistic meanings are necessary for meaning sharing. I argue that there is no good reason to think they are. It follows that the non-holistic accounts cannot ground their explanation of, say, the stability of meaning and meaning sharing, on the notion of invariant linguistic meaning any more, for the notion alone provides no explanatory power for our understanding of meaning and of each other.

We will start constructing a formulation of semantic holism that, I regard, best captures what the holist maintains in this chapter.

1.1 The Doctrine

The definition of semantic holism (holism for short hereafter) that will be adopted here is as follows:

(H) The meaning of an expression *E* is determined by *E*'s "inward" relations (*IR*) to every other expression in the language of individual competent users.[2]

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[2] Some candidates of *IR* include inferential relations, conceptual connections, interdependence, or syntagmatic

Following Peter Pagin's suggestion ("Meaning Holism"), I define (H) in terms of pure semantic reasons, such as "what meaning expressions have or how their meaning is determined" (*ibid.*, 216), rather than in terms of some "necessary conditions for something to have meaning" as Fodor and Lepore hold it (*op. cit.*, 1, x).[3] Resembling Christopher Peacocke ("Holism," 227), Devitt's (*Coming to Our Senses* 10), and Eli Dresner's ("Holism, Language Acquisition, and Algebraic Logic," 419; "Meaning Holism," 611) definitions of holism, (H) is a constitutive (and thus metaphysical) thesis about what it is for an expression to have a certain meaning.

Holism is typically contrasted with its non-holistic rivals, semantic atomism (atomism for short hereafter) and semantic molecularism (molecularism for short hereafter). The former holds that the meaning of E is determined by some "outward" relation (OR) between E and some extra-linguistic entity and has nothing to do with IRs.[4] The latter is an intermediate position between holism and atomism. On the one hand, it maintains that meaning is non-atomistic in nature, and on the other, it urges that meaning cannot be holistic as (H) has it.[5] Molecularists usually hold that not all, but only a few, IRs of E can determine the meaning of E.[6] As a preliminary matter, we will first dissect (H) in order to articulate some of the presuppositions that are latent in it.

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and associative (now usually called "paradigmatic") relations (in Ferdinand de Saussure's structuralism).

[3] (H) also rules out Michael Dummett's ("What is a Meaning (II)," 38) indirect route to defining holism in terms of our semantic competence of understanding the meaning of a sentence for the same reason.

[4] Some candidates of OR include association, causation, reference, correspondence, and so forth. It is a popular statement that it is in terms of these ORs that expressions have their meanings. For some examples in the literature, see Jerry Fodor and Ernest Lepore ("Why Meaning Probably Isn't Conceptual Role," 11).

[5] For example, see Paul Horwich (*Meaning* 59-60).

[6] A principled distinction between those IRs that are meaning determining and those that are not is often thought to be correlated with the notorious analytic-synthetic distinction. But it is not necessary so. For example,

Language and Expression. The best way to characterize the scope of (H) and its rival accounts is to say that it concerns all possible human languages which are semantically structured in the sense that expressions are interrelated in a non-arbitrary way and can be learned by human beings under normal social conditions as first languages.

When we talk about the meaning of an expression in the current project, we are talking about meaning of a word-type or of an occurrence of a word-type, rather than a word-token. Word-tokens are physical particulars, such as inscriptions composed of inks or phonetic sequences composed of sound waves. I take them as accompanying with contexts, involving uses of language. Word-types are kinds of word-tokens. Talking about word-types rather than word-tokens allows us to avoid the possible conflation of issues between language itself and language uses.[7] The distinction between types and occurrences of types allows us to instantiate the interactions between word-types in the linguistic environment (such as, in a sentence-type) without involving uses of words.[8] Consider the following example borrowed from Linda Wetzel ("Types and Tokens"): "Rose is a rose is a rose is a rose." We can say that three word-types and ten occurrences of word-types in this sentence.

Following David Kaplan, I take words as contingently existing abstract objects, created by language users in the course of some event. They make their ways "in the world by being passed from person to person through utterances and inscriptions. . . . [W]hen not being slung around,

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Devitt allows "meanings to be constituted by inferential properties provided those properties are also referential" (*Coming to Our Senses* 128). On this account, *IRs* are meaning-determining only when they are reference-determining.

[7] Devitt (*ibid.*, 10-15) is an example of those who prefer focusing on word-tokens.

[8] See Linda Wetzel ("Types and Tokens") for a useful discussion of the distinction.

[they are] stored away in [mental lexicons], ready and waiting to be uttered or recognized in the utterance of another" (Kaplan, "Words on Words," 510). The identities of words are maintained by their "utterances and inscriptions being nodes on a single, continuous tree of utterances, inscriptions, and quiescent storage" (*ibid*.). On this picture, two utterances utterances are of the same word if "they descend from a common ancestor" (*ibid*., 509).

I take the meaning of a word at a given time as the potential uses of the word at that time (Stephen Neale, "Meaning and Interpretation," 246). The meaning of a word imposes constraints on what it can be used. Holism takes no preference to either word-types or sentence-types. As we will see in section 1.4, holistic theories can take either word-types or sentence-types as primary. I choose to identify expressions in (H) with word-types rather than sentence-types simply for practical reasons. On the one hand, it seems easier to construct the rival doctrines of holism this way.[9] On the other hand, as Devitt (*Coming to Our Senses* 13) remarks, holistic word meanings lead to holistic sentence meanings.[10] Starting from word-types, (H) can still apply to theories which take sentence-types as primary.

Competence. To say someone is a competent user of a language *L* is to ascribe to her the ability to produce and understand verbal utterances and inscriptions in *L* in general.

Meaning. A major development of talks about "meaning" since Paul Grice's work is the recognition of the importance to separate (i) what an expression *E* means, (ii) what a speaker

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[9] Atomism, for example, takes word meaning rather than sentence meaning as primary.

[10] And vice versa. The meaning of a sub-sentential expression can be understood as determined by its contribution to the meaning of the sentences in which it occurs.

uses *E* to say on a particular occasion, and (iii) what a speaker means by uttering *E* on a particular occasion.[11, 12]

While it is widely agreed to divide different notions of meaning nowadays, the relationship of them is still an ongoing debate. The debate over holism is about (i), the semantic notion of meaning, rather than the other two. We must carefully separate not only (i) from (ii) and (iii), but also the semantic issues, such as the role of (i) in (ii) and (iii), from the non-semantic ones.

To say that an expression *E* is meaningful is to say that it has the property of having *M(E)* as its meaning whatever *M(E)* is. It is in virtue of *E*'s having *M(E)* as its meaning that *E* has its role in a language *L*, that is, in virtue of which *E* can contribute to the meaning of complex expressions of which *E* is part.[13] This indicates a way to specify other semantic properties of expressions as well as to compare the behaviors of expressions, based on their linguistic roles. For example, expressions which play the same role in one language or cross languages can be conceived of as synonymous.

While, in the literature, it is common to characterize holism as the view that *M(E)* is its role in *L*, describing *M(E)* in this way is not in itself a holistic view of meaning because our

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[11] See Stephen Neale ("Paul Grice and the philosophy of language," 509).

[12] For example, we can say that the sentence 'I am a daughter of a president' means that whoever utters the sentence is a daughter of a president. Suppose *D* is asked whether she is going to be rich when she gets older, and she responds "I am a daughter of a president." We can say that what *D* says with this sentence is that she is a daughter of a president, but what she means by saying it can go beyond what she says. By saying that she is a daughter of a president, *D* can mean that it is quite likely that she will be rich given the political connections she has. (This example is paraphrased from Jeffrey C. King and Jason Stanley ("Semantics, Pragmatics, and the Role of Semantic Content," 117).)

[13] Meaningless expressions, on the other hand, have no role at all in a language.

formulation of the role *E* plays in *L* is not (and need not be) specified in terms of the meaning of any other expressions in *L* (Pagin, "Meaning Holism," 217).[14] We must not conflate questions of meaningfulness with that of meaning determination of expression. I take Fodor and Lepore's (*op. cit.*) version of semantic holism as a significant example of such conflation. They construe semantic holism as the view that if an expression has meaning (that is, is meaningful) then many other expressions must have meaning as well.[15] Semantic holism is not about the condition of expressions' being meaningful but about how the meaning of an (already meaningful) expression is determined. Pagin (*ibid.*, 218) seems another example when he applies the condition that "which is constituting must in some way or other be prior to that which it constitutes" to (H) and complains that holism, if construed as (H), cannot fulfill this requirement since the meaning-constitutive relations of the expressions cannot be prior to and after their relata's being meaningful at the same time. As we have emphasized above, expressions involved in (H) already have certain meanings for their being part of some language *L*. *E*'s being part of *L* also indicates the existence of some *IR*(s) of it with other expressions of *L*. The condition Pagin posts here simply does not apply.

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[14] For example, one might characterize the role of a name in *L* as its contribution to truth conditions of sentences where it occurs by referring to its referent. Apparently such account is not holistic. (See Pagin, "Meaning Holism," 217.)

[15] It seems that according to Fodor and Lepore's definition, linguistic meanings will be counted as holistic even if expressions are semantically self-standing in the sense that their meanings are exhausted by the extra-linguistic entities they are associated via *ORs*. For it seems the case that in natural languages, whenever an expression is meaningful, there must be many other meaningful expressions in those languages as well. See Pagin ("Meaning Holism," 215-6) and Dresner ("Meaning Holism,"612).

(H), like most definitions of holism found in the literature, states that $M(E)$ is determined by E's *IRs* with every other expression, rather than by the meaning of every other expression, in L.[16] While it is clear that there are *IRs* among expressions of a language,[17] it seems to me not clear what relationship there would be among meanings, except for the one that the meaning of a complex expression is determined by the meaning of the constituents of the expression and the way they are composed.[18]

Interdependence. Holism is often characterized as treating the meanings of all of the expressions in one's language as interdependent in the literature.[19] Meaning interdependence, however, is too loose a notion to properly characterize holism. For, as Pagin (*ibid.*, 217) points out, interdependence is a transitive relation, and because of that, if we number the expressions in L consecutively, and let each odd-numbered expressions E_n be relevantly related to E_{n-1} and E_{n+1}, that is, the three expressions are interdependent of each other, it leads to the result that all the expressions in L are interdependent. In other words, were holism defined in terms of meaning interdependence, the only requirement for meaning to be holistic would be that each expression is relevantly related to just two other expressions. This cannot be right.

We must not conflate holism with meaning interdependence, nonetheless. What we learn from (H) is that whatever determines meanings of expressions must be *IRs* between expressions.

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[16] See, for example, Devitt (*Coming to Our Senses* 10); Dresner ("Meaning Holism," 611); Pagin ("Meaning Holism," 212); Peacocke ("Holism," 227).

[17] It does not mean that all sorts of these *IRs* are meaning determinants.

[18] For example, we can think of that there is some sort of *IR* between 'dog' and 'mammal' that if x is dog, x is a mammal. But it seems hard to make sense of what sort of relationship it would be between the meaning of 'dog' and the meaning of 'mammal'.

[19] See, for example, Henry Jackman ("Meaning Holism"); Eric Lormand ("How to Be a Meaning Holist?").

It does not imply that any *IRs* can do the job. The fact that interdependence is a sort of *IR* thus does not necessarily make interdependence a legitimate determinant of meaning. It does not follow from that "total change" is a problem for meaning interdependence that it is also a problem for (H).[20] I suspect that it is because people so often conflate the relation between holism and meaning interdependence that they so easily take the problem of total change as a burden of holism. Jackman's definition of holism in "Meaning Holism" seems an example of connecting holism with meaning interdependence. He even defines holism in terms of change in meaning as follows, which I think is a mistake (italics in the original).

> The determinants of the meanings of our terms are interconnected in a way that leads a change in the *meaning* of any single term to produce a change in the *meanings* of each of the rest.

Once we separate meaning interdependence from (H), the lineage of the problem from the former to the latter is dissolved.

1.2 Determination

(H) and non-holistic alternatives are to claim such-and-such determines so-and-so. How should we understand such determination claims? I suggest that we understand it the way we understand other determination relations. It is generally held that a determination claim entails that only the cited determinants enter into the determination of the determinable. That is to say, the cited determinants are necessary and jointly sufficient for determining the cited determinable. Accordingly, the truth of (H) depends on the following facts:

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[20] I shall argue that once we understand (H) properly, it becomes clear that (H), by itself, does not imply the problem of instability or total change as such in the next section.

(Ha) that there is no additional determinant other than the cited determinants (IR_1, IR_2, ..., IR_n,

   of E to every other expression in the given language), and

(Hb) that the cited determinable (E's meaning) does depend on each cited determinant (IR_1,

   IR_2, ..., IR_n, of E).[21]

When characterizing the meaning of an expression E in virtue of its *IRs* with every other

expression in one's language, we should think of the *IRs* as a one-to-many relation that the

meaning of E sustains with other expressions rather than a one-to-one relation with the totality of

the meanings of other expressions.[22] The nature of these *IRs* will vary according to different

theories.

   (H) is falsifiable as understood this way. One can demonstrate (H) as flawed with a counter

example of either (Ha) or (Hb). For example, molecularism takes that only some *IRs* of E are

meaning determining, and, if true, it presents a counter example against (Hb) and thus against

(H). Similar remarks can apply to atomism and (some versions of) molecularism. For example,

one may construct a counter example against the referential theory of meaning with 'Phosphorus'

and 'Hesperus' by arguing that while both names have the same *OR* (say, causal relation) with

the planet Venus, their meanings are not the same. This establishes a counter example indicating

that there is something else other than *OR* that takes part in determining meaning.

   We need to carefully note what such determination does and does not imply. The

determination claim only tells us that if the determinants are the same, then the determinable

must remain the same. It does not imply that whenever there is a change in one (or more) of the

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[21] This explication of determination is in debt to Martin L. Jönsson (*On Compositionality* 22-3).

[22] See Pagin ("Is Compositionality Compatible with Holism?"); Jackman ("Moderate Holism and the Instability

Thesis"; "Descriptive Atomism and Foundational Holism: Semantics between the Old Testament and the New").

determinants, the determinable must change accordingly. It does not imply differences on the determinants side must lead to differences on the determinable side, either. These may not be evident when we think of atomism which has only one determinant of the meaning of *E*. But consider other determination claims. Take Newton's second law of motion for example. It states that mass and acceleration jointly determine force—F (Force) = m (mass) * a (acceleration).[23] Or consider the claim that one's final letter grade in a class is determined by the result of one's exams, quizzes and attendance.[24] Suppose we change the values of all the determinants, will the value of the determinable in these examples change as well? Not necessarily. For there can be different combination of the determinants with the same result. We talk about determination like this all the time. The relation between the determinants and the determinable considered here is like that.

1.3 Compositionality and Sentence Priority

We turn now to consider the relation between holism and other linguistic principles, among which compositionality and sentence priority are of most interest in the literature. While it may look like holism is in conflict with the former and in favor of the later at the first sight, holism, construed as (H), is compatible with the former and with no preference for the later.[25]

Compositionality, as typically understood, is simply the claim that the meaning of a complex expression is determined by the meanings of its parts and the syntactic way the constituent expressions are combined. For those who believe in compositionality, it imposes a constraint on the meanings of complex expressions which requires only that there being a

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[23] The example is from Zoltán G. Szabó ("The Determination of Content," 256-7).

[24] The example is adapted from Jackman ("Moderate Holism and The Instability Thesis").

[25] See also Dresner ("Meaning Holism," 612).

systematic and projectable connection between what complete expressions mean and the way they are syntactically constituted. It says nothing about how the meanings of the parts of complex expressions are determined. Compositionality, in this sense, need not conflict with holism.[26, 27]

Sentence priority holds that sentences, not words, are the primary vehicles of meaning. Although some holistic accounts prefer sentence priority,[28] as already discussed in section 1.1 (H) itself takes no stand on whether the relations among expressions that help determine meaning are at the sentential level or at the sub-sentential level.

1.4 Examples of Semantic Holism

Not everyone agrees that (H) best captures what the holist maintains. Pagin, for one, argues against (H) for taking interrelations among expressions to constitute meanings and raises doubt "whether anyone really thinks so" ("Meaning Holism," 218).[29] In response, we will consider two

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[26] See Johannes Brandl ("Semantic Holism Is Here To Stay"); Pagin ("Is Compositionality Compatible with Holism"); Jaroslav Peregrin ("Inferentialism and the Compositionality of Meaning"); Mark McCullagh ("Do inferential Roles Compose?"); Ned Block ("Holism, Hyper-analyticity and Hyper-compositionality"); Francis J. Pelletier ("Holism and Compositionality"); Douglas Patterson ("Learnability and Compositionality").

[27] Still, it seems a common reason people use to reject holism. For a recent example, see Emma Borg (*Pursuing Meaning*). In response, I will give an argument to block such compositionality objection in the next chapter when we talk about the objections of holism.

[28] Robert Brandom, for example, embraces the primacy of sentences and claims that "[s]emantic contents corresponding to sub-sentential expressions are significant only insofar as they contribute to the determination of the sorts of semantic contents expressed by full sentences" (*Making It Explicit* 83).

[29] Instead, Pagin ("Meaning Holism") propounds to include non-semantic relations among expressions into the consideration of meaning determination. Semantic holism, for him, is not about the determination of meaning *per se*, but about the determination of the connections between expressions and their meanings, which determines their

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theories which subscribe to (H). Hopefully, we can clarify some misconceived disadvantages of taking *IR*s to determine meanings as well.

1.4.1 Saussure's internal linguistics

Our first example is Ferdinand de Saussure's internal linguistics. Saussure distinguishes two sorts of *IRs* that words have with one another and hold that these relations are the sole determinants of word meanings. The first one is syntagmatic relations which involve the order in which the words succeed each other in a sentence. For example, 'The man cried'.[30] It is a syntagm, "an orderly combination of interacting words which forms a meaningful whole" in language (Daniel Chandler, *Semiotics: The Basics* 85). In natural language, a syntagm can be a sentence, a paragraph, and so forth. "Such combinations are made within a framework of syntactic rules and conventions (both explicit and inexplicit)" (*ibid*.).

The second sort of *IRs* in this account is paradigmatic relations which held between words which are possible alternative to each other in a meaningful whole. A paradigm is a set of associated words "which are all members of some defining category, but in which each is significantly different" (*ibid*., 84-5). "In natural language there are grammatical paradigms such as verbs or nouns" (*ibid*., 85). Members of the paradigm sets are structurally replaceable with one another. For example, the last word in 'The man cried' can be replaced with 'died' or 'sang'

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semantic values. His version of semantic holism holds that this connection is established highly interdependently, in virtue of non-semantic relations among expressions in one's language. One candidate of the non-semantic properties of a sentence he mentions is its being held true (under certain circumstance) by a competent language user (*ibid*., 219).

[30] The example is from Daniel Chandler (*Semiotics: The Basics* 84).

and the second word in it can be replaced with 'boy' or 'child' because the relation between the original words and their replacements are paradigmatic.

Saussure calls his theory internal linguistics and compares language with chess.

> In chess, what is external can be separated relatively easily from what is internal . . . everything having to do with its system and rules is internal.
> (Saussure, *op. cit*., 22)

On his view, it is such internal rule of chess that determined the "meaning" (being pawns, rooks bishops, and so forth) of, say, the wooden pieces we use to play chess.

> [J]ust as the game of chess is entirely in the combination of the different chesspieces, language is characterized as a system based entirely on the opposition of its concrete units. (*ibid*., 107)

Saussure considers language as no more a set of words than the chess game is merely a set of pieces. A chess piece means nothing to the player "outside its square and the other conditions of the game" (*ibid*., 110). Likewise, a word possesses no meaning in and of itself. Words possess meanings only by being differentially related to one another. According to him, syntagmatic and paradigmatic relations are where such relational differentiation occurs.

1.4.2 Brandom's Inferentialism

Another notable example of (H), among others, is to take *IRs* as inferential relations among complete sentences. The idea is that we can make explicit the meaning of a sentence by expressing the sentences which it is inferable from and which can be inferred from it.[31] On such

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[31] This line of thought belongs to a family called conceptual role semantics which explains meaning in terms of the conceptual role of whatever a theory holds to bear meaning.

accounts, the meaning of a sub-sentential expression is determined by its contribution to the meaning of the sentences in which it occurs.

Even the inferentialist account comes with various brands, depending on how (good) inferential relations are conceived of. Take Robert Brandom's account, one of the most elaborated and widely discussed forms of inferentialism, for example. Human language may not be as self-contained as the game of chess, as Saussure thinks, in the sense that language is an important means for us to interact with the environment around us and thus involves the world.[32] Brandom's account aims to take such involvement into account by grounding linguistic meaning in inferential practices, incorporating the speech act of asserting. He sees language as a way to let us play the game of giving and asking for reasons. According to him, since to give reasons is to make claims which serve as reasons for other claims, and to ask for reason is to make claims that count as a challenge to other claims, our language must be structured by the related relations.

He advances what he calls strong inferentialism which takes material inferences as the primary sort of inferences to cover a broad range of inferences beyond formally or logically valid ones in order to incorporate both "the specifically *empirical* conceptual content that concepts exhibit in virtue of their connection to language entries in *perception* and the specifically *practical* conceptual content that concepts exhibit in virtue of their connection to language exits in *action*" into the picture (Brandom, *Making It Explicit* 131, italic in the original). For, according to Brandom, what happens when we use expressions in science and everyday life is that we undertake commitments to the correctness of the inferences "from the *circumstances* in which it is correctly applied to the correct *consequences* of such application" (Brandom,

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[32] See Devitt and Kim Sterelny (*Language and Reality* 264-8); Peregrin ("An Inferentialist Approach to Semantics: Time for a New Kind of Structuralism?" 1217); Brandom (*Making It Explicit* 332).

"Inferentialism and Some of Its Challenges," 658, italic in the original). We do that "even where some of those circumstances or consequences of application are *non*inferential [in the formal sense]" (*ibid.*, italic in the original). On his view, formal or logical inferences are too narrow to characterize our ordinary notion of inferences as such. For Brandom, any practice with a structure including the speech act of asserting is a linguistic practice. Those inferential involvements in these practices need not be in the form of some sort of universally quantified conditionals, says Brandom, because our "material inferential competence is intelligible in advance of mastery of any distinctively *logical* vocabulary" (Brandom, "Reply to Commentators," 208, italic in the original).[33]

As a broad conception of inferential articulation, material inferences, in Brandom's sense, are "nonlogical, content-based reasoning" (Brandom, *Making It Explicit* 101) whose acceptability is determined by the content of the particular premises and conclusions involved. They include cases underwritten by both law-like facts and contingent ones. For example, according to Brandom, the inference from "Pittsburgh is to the west of Princeton" to "Princeton is to the east of Pittsburgh" is good due to the contents of the concepts 'west' and 'east'. The inference from "Lightning is seen now" to "Thunder will be heard soon" is good because of the contents of the concepts 'lightning' and 'thunder'.[34] Brandom's strong inferentialism even allows us to infer from something's being a new John Deere tractor to its being green for the reason that it is a contingent fact that new John Deere tractors are green.[35]

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[33] See also Brandom (*Making It Explicit* 103-4).

[34] These two examples are from Brandom (*Articulating Reasons* 52).

[35] This example is from Brandom ("Reply to Commentators," 208).

Because material inferences can be good without being formally valid, they can be good "even when the items connected are not themselves sentential" (Brandom, "Inferentialism and Some of Its Challenges," 658). For example, consider a response like "the light turns red" when one is confronted with a red traffic light on the road and one's possible follow-up actions such as pressing the brakes sharply. While the visible presence of the red light and the responded action are themselves non-linguistic and thus non-inferential, on Brandom's view, they can still be materially inferential with the claim "the light turns red."

Materially bad inferences, on this account, are those that presuppose substantive empirical falsehoods. For example, consider the Dummett's case of 'Boche'. According to Dummett, "[t]he conditions for applying the term to someone is that he is of German nationality; the consequences of its application are that he is barbarous and more prone to cruelty than other Europeans" (Dummett, *Frege: Philosophy of Language* 454; quoted from Brandom, *Articulating Reasons* 69). But because Germans are not in fact barbarous and more prone to cruelty than other Europeans, the inference from German nationality to cruelty is inappropriate. The inferences involved with 'Boche' aforementioned are thus materially bad. According to Brandom, one should not use the term 'Boche' if one "does not believe that the inference from German nationality to cruelty is a good one" (Brandom, *ibid*.).

There are three types of materially inferential relations among sentences on Brandom's strong inferentialist account, that is, three sorts of *IRs* that a sentence could participate in. A sentence *S* could deductively entail, inductively entail, or incompatible with other sentences. These sentences can be conceived of as corresponding to *S*'s appropriate circumstances and consequences of application. We can make explicit the meaning of *S* by expressing the sentences that *S* is inferred from and those that can be inferred by *S*. For example, we can say that 'The

cloth is green' deductively entails 'The cloth is colored', 'This is a new John Deere tractor' inductively entails 'This is green',[36] and 'The cloth is green all over' is incompatible with 'The cloth is red'. Since these are all good inferences, on Brandom's account, we can say they partly determine the meaning of 'green'.[37]

1.5 Making Sense of Semantic Holism

Brandom's strong inferentialism conforms to our characterization of holism in that, on the one hand, it gives an account of what significant *IR*s (that is, in this case, Brandom's notion of material inferences) that an expression *E* has with other expressions are, and on the other hand, it maintains that the meaning of *E* is determined by all the *IR*s it has with other expressions in the language. As we can see, on this account, what inferences are materially good is a matter of how the world is. It shows that holistic meaning can be properly sensitive to the way the world is, too.[38]

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[36] As mentioned earlier, it is a contingent fact that new John Deere tractors are green. On Brandom's view, one's endorsing the inference from something's being a new John Deere tractor to its being green reflects one's recognition of this contingent fact. Accordingly, "my use of 'green' and 'new John Deere tractor' may commit me to endorse the inference from something's being a new John Deere tractor to its being green, reflecting . . . my recognition of a contingent fact" that new John Deere tractors are green (Brandom, "Reply to Commentators," 208).

[37] While incompatibility relations may not look like real inferential relations at the first sight, Brandom argues that because they underwrite a sort of particular inferential relation (what he calls "incompatibility entailments")—A sentence S_1 incompatibility entails another sentence S_2 in case everything incompatible with S_2 is incompatible with S_1 (Brandom, *Making It Explicit* 132)—they should be thought of as inferential in a broad sense.

[38] I think this is an advantageous feature of Brandom's account over other holistic ones, such as Saussure's internal linguistics that it emphasizes the worldly aspect of *IRs*. But I do not think that the difference makes a holistic account more or less qualified one, at least according to how holism is characterized here.

Even so, oftentimes people consider that holism too "liberal" a theory insofar as it includes *IR*s, however defined, as the only determinants of meaning. One common puzzle that the commentators embrace of a holistic project, such as Brandom's, seems to be how to make sense of the claim that all the *IR*s of *E* are the meaning determinants of *E*. There are two sorts of complaints with respect of this concern that I would like to note before we close this chapter.

The first complaint goes as follows:

> It cannot be the case that all *IR*s of *E* are meaning determinants of *E*. There must
>
> be just a few crucial *IRs*, but not all, play the role. For the more the *IR*s (that *E* is
>
> involved in) are supposed to be the determinants of the meaning of *E*, the less
>
> grasping the meaning of *E* can be identified with mastery of *E*'s *IR*s. If it is
>
> supposed that grasping the meaning of *E* requires mastery of all the corresponding
>
> *IR*s, then none of us will ever be able to grasp *E*'s meaning, except, maybe, God.[39]

The idea behind this paragraph is that grasping the meaning of *E*, *M(E)*, is to master all the meaning determinants of *E*. Whether the determinants are *OR*s or *IR*s, they have to be of a manageable amount in order to make understanding possible. Holism takes all the *IR*s of *E* to be meaning determinants, and that is beyond manageable and thus unintelligible.

Despite the appearance, the underlying reasoning for this worry is problematic. It presupposes that understanding *E* is a matter of grasping *M(E)*, and in turn, a matter of knowing the determinants of *M(E)*. I think both presuppositions are false. Understanding *E* is not a matter of grasping *M(E)*, and knowing *M(E)* does not guarantee knowing the determinants of *M(E)*. We will leave the argument against the presumption that understanding *E* is a matter of grasping *M(E)*

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[39] See Fodor and Lepore ("Brandom's Burdens: Compositionality and Inferentialism," 142); Dummett ("What is a Theory of Meaning? (II)," 44).

for the next chapter when talking about the relationship between meaning and understanding.[40]

For the current purpose, it is sufficient to point out that knowing *M(E)* does not guarantee

knowing all the determinants of *M(E)*, and here is the argument.

Recall our discussion of determination in section 1.2. While once one knows all the

determinants of the determinable, one knows the determinable, the implication does not go the

other way. Knowing *M(E)* does not give all the information one needs to know about the

determinants of *M(E)*. We are thus short of reasons to think that grasping *M(E)* requires mastery

of all the corresponding *IR*s.[41]

The other common complaint I want to note goes as follows:

> It cannot be the case that all *IR*s of *E* are meaning determining for *E*. There must
>
> be just a few crucial *IRs*, but not all, play the role. For it seems obvious that only a
>
> relatively small subset of the *IR*s of *E* is to really affect the meaning of *E*.
>
> Suppose we follow holism and take, say, the relation between 'blackberry' and
>
> 'red' to be a determinant of the meaning of 'red' since it is a law-like fact that
>
> blackberries are red when unripe.[42] Suppose due to some reason (say, extreme
>
> weather change), we find blackberries are not red any more even when unripe. We
>
> then drop the *IR* between 'blackberry' and 'red' out of the meaning determinants
>
> of 'red'. Would the change effect the meaning of 'red'? It hardly would. At least,

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[40] I argue that understanding a fragment of a language is not the same as grasping the meaning of that fragment in section 2.1.3.

[41] Take Newton's second law of motion as an example. When we know the value of force, we do not thereby know the value of mass and the value of acceleration respectively.

[42] The example of blackberry is from Brandom ("Reply to Commentators," 208).

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the effect seems not something we can tell. How can we make sense of that *IR*s as such do play a role in meaning determination?

Despite the appearance, this line of thought is problematic, too. The 'blackberry' case is not a counter example against (H) because, as we mentioned in the section 1.2, it is not the case that the determination relation implies that whenever there is a change on the determinants side, a change on the determinable side must follow. When we drop the *IR* between 'blackberry' and 'red' out of the meaning determinants of 'red', it is not supposed that the change of the meaning of 'red' will follow.

Moreover, that we do not easily catch the effect of holism's *IR*s does not mean that we cannot make sense of it. Consider the case of gravity.[43] According to Newton's law of universal gravitation, all objects with mass have gravity which pulls objects together. Gravitational pull is affected by the size and proximity of objects. The larger the mass and the closer the objects the stronger the gravitational pull. Then it is not difficult to imagine that, given the mass of the earth, the gravity of the earth would be much stronger than the gravity between us and other objects. The latter is insignificant compared to the former. The moon's gravity, though it causes tides, does not affect my movement directly, nor does the gravity of smaller objects around me, such as my computer. But they do occur, according to Newton's law of universal gravitation. The *IR* between 'blackberry' and 'red' in the aforementioned example can be thought of similarly. It may be insignificant compared to the *IR* between, say, 'color' and 'red', but it does not imply that it is not there. Further arguments are needed to make it the case against (H).

1.6 Closing Remarks

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[43] The example of gravity is in debt to Graham Priest (personal communication, December 16, 2014).

Holism is highly controversial. Yet a large part of the controversy comes from the lack of a clear definition of the doctrine. In this chapter, we go through a number of considerations which arise with the question how holism should properly be understood and propound a formulation (H) which, on my view, best captures the features that the holist maintains. With the proper definition in place, we move on to inspect what (H) does and does not imply. In contrast to most commentators in the literature, I defend the intelligibility of holism and argue that holism is neither "crazy" nor "clearly false." It is a doctrine which deserves serious considerations.

Given that *IRs* are the only determinants of meaning in holism, four separate but related concerns are often put forward as reasons to resist (H), regarding compositionality, first language acquisition, the stability of meaning, and the relationship of language and the world, respectively. Being dubious about how holism can satisfactorily respond to these critical issues, many theorists thus protest that *IRs* cannot be the only determinants of meaning. I argue that most disadvantages attributed to holism regarding these issues, once appropriately understood, can be dissolved. This chapter covers compositionality and language acquisition, and the next chapter the rest.

2.1 The Compositionality Objection

The compositionality objection claims that non-atomistic accounts, holism included, fail the compositionality constraint on natural languages and thus should be rejected. In order to understand this charge, we first need to know what the compositionality constraint is supposed to do with natural languages. According to Fodor and Lepore, the two strong supporters of the compositionality objection, "compositionality tells us what concepts and word meanings are" (*The Compositionality Papers* 4). That is, compositionality, by itself, eliminates certain conceptions of meaning. Compositionality does it by playing the following role:

> (Com) Compositionality provides the best (and for some, even the only)
>
> explanation for the fact that we seem able to produce and understand an

open-ended set of complex expressions despite the severe limitation of our

cognitive capacities and of the linguistic data we encounter.[44]

To sum up, the compositionality objection against holism states that compositionality, by

itself, provides a good reason to reject holism and that compositionality can do the job

because it plays the role (Com).

By scrutinizing the role of compositionality plays in (Com), I shall be arguing that

whatever notion of compositionality fulfills the role (Com), it is not, by itself, sufficient

for the rejection of holism. Pace Fodor and Lepore, and the minds alike, compositionality,

if construed appropriately, poses no restriction on what word meanings could be.[45]

2.1.1 Compositionality

In order to understand their charge that holism violates compositionality, we need first to

clarify what Fodor and Lepore mean by "compositionality." It is unfortunate that, as

many have pointed out, Fodor and Lepore equivocate on the notion without discreet

clarification.[46] There are three distinct readings of the principle of compositionality

related to our discussion in their uses of the term:

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[44] Note that the question whether the number of expressions we can produce and understand is infinite

or not is not crucial here. Any large finite number suffices for the phenomenon that everyone can come up

with sentences she has never heard before. See Pagin and Dag Westerståhl ("Compositionality II:

Arguments and Problems," 279 n. 2).

[45] See Zoltán G. Szabó ("The Case for Compositionality"; "Review of J. Fodor and E. Lopre *The

Compositionality Papers*").

[46] For example, see Johannes Brandl ("Semantic Holism Is Here To Stay"); Block ("Holism, Hyper-

analyticity and Hyper-compositionality"); Mark McCullagh ("Do Inferential Roles Compose?"); Douglas

Patterson ("Learnability and Compositionality"); Szabó ("The Case for Compositionality"; "Review of J.

The function principle (F): The meaning of a complex expression is *a function of* the meaning of its constituents and the syntactic way these constituents are combined.[47]

The determination principle (D): The meaning of a complex expression is *determined by* the meanings of its constituents and the syntactic way these constituents are combined.[48]

The building principle (B): The meaning of a complex expression is *built up* from the meanings of its constituents.[49]

Among the three, (F) is the weakest, (D) the second, and (B) the strongest. We will elaborate in turn.

A function, in a mathematical sense, is a many-to-one relation between a set of inputs and a set of permissible outputs. Zoltán G. Szabó ("The Case for Compositionality,"

Fodor and Lopre *The Compositionality Papers*").

[47] Fodor and Lepore (*Holism: A Shopper's Guide* 175).

[48] See Fodor and Lepore ("The Pet Fish and the Red Herring," 29; "Why Compositionality Won't Go Away," 59; "The Emptiness of the Lexicon," 112; "Brandom's Burdens," 143; "All at Sea in Semantic Space," 176, 179).

[49] See Szabó ("Compositionality as Supervenience," 488). Fodor and Lepore sometimes state the principle as saying that the meaning of a complex expression is inherited from ("Why Meaning (Probably) Isn't Conceptual Role," 14; *Holism: A Shopper's Guide* 178), or constructed from ("Why Compositionality Won't Go Away," 43) the meaning of its constituents, not vice versa (Fodor, *Hume Variations* 96). They are not alone to think compositionality as (B). For example, Theo M. V. Janssen states, "compositionality requires that words in isolation have a meaning and that from these meanings, the meaning of a compound can be built" ("Compositionality," 420).

67-8) considers two possibilities where a sentence *S* has different meanings in two almost identical languages, *L* and *L'*, and time slices, *t* and *t'*, to show the difference between (F) and (D). (D) implies (F), but (F) does not imply (D).

In the first case, consider the possibility that *L* and *L'* have the same expressions, the same syntax, and the same meanings for all expressions except for one arbitrary sentence *S*. While the meanings of *S*'s constituents and the syntactic way these constituents are combined are the same in *L* and *L'*, the meaning of *S* in both languages are different. Szabó points out that (F) does not rule out such possibility, but (D) does. Determination requires that the same determinable follows from the same determinants.

In the similar spirit we can also imagine the possibility that a sentence *S* in *L* changes its meaning without any evidence of change in the syntactic way its constituents are combined. Given the situation, Szabó claims that we will assume that "some constituent or other within *S* also changed its meaning" (*ibid*., 68) if we subscribe to (D). Things are different with (F) for it allows *S* to change meaning even when the meanings of its constituents and the syntactic way these constituents are combined remain the same.

That (F) is so weak raises doubt whether it conforms to what people think compositionality should demand. What is important for our concern here is that if (F) and (D) do impose a constraint, it is a constraint on the meanings of complex expressions. Both readings of compositionality say that once we fix the meanings of the constituents of an expression and its syntactic structure, we get the meaning of the complex expression. They say nothing about how the meanings of the constituents are determined. Compositionality, in either sense, cannot serve to eliminate certain conceptions of

meaning, as Fodor and Lepore expect.[50] It leaves us (B) with the compositionality objection.

The difference between (B) and (D) is sometimes hard to discern. Compare (B'), a paraphrase of (B), with (D).

> The determination principle (B'): The meaning of a complex expression is *determined by* the meanings of its constituents and the syntactic way *these meanings* are combined.

The difference between 'these constituents' in (D) and 'these meanings' in (B'), as Szabó points out, is "subtle but significant" ("The Case for Compositionality," 70).[51] While (B) implies (D), it is not the other way around. If the meaning of a complex expression is build up from the meanings of its constituents, as (B) states, (D) would follow because the meanings of the constituents and the way these constituents are combined would determine the meaning of the complex.

On the other hand (D) does not imply (B), since determination can be symmetric in the following sense.[52] (D) says that, given the syntax, the meaning of complex

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[50] See Brandl ("Semantic Holism Is Here To Stay"); Pagin ("Is Compositionality Compatible with Holism"); Peregrin ("Inferentialism and the Compositionality of Meaning"); McCullagh ("Do inferential Roles Compose?"); Block ("Holism, Hyper-analyticity and Hyper-compositionality"); Pelletier ("Holism and Compositionality"); Patterson ("Learnability and Compositionality"); Szabó ("Review of J. Fodor and E. Lopre *The Compositionality Papers*").

[51] See also Szabó ("Compositionality as Supervenience," 490; *The Problems of Compositionality* 11-2).

[52] See section 1.2 for some other examples. Similarly, another example from Szabó (*The Problems of Compositionality* 11) says that the valence of a molecule is determined by the valences of its constituent

expressions and the meaning of their constituents mutually determine each other. It implies nothing about the primacy of words or the explanatory priority between complex expressions and their constituents. On the contrary, (B) presupposes the explanatory priority of the constituents and excludes the possibility of such mutual determination between the meanings of complex expressions and the meanings of their constituents.

Szabó calls (B) "the strong principle of parallelism" (*Problems of Compositionality* 10), which, as Fodor and Lepore's aforementioned claim indicates, says that the *meaning* of a complex expression has to be complex themselves and thus indeed favors atomism.[53] To see the difference between (D) and (B) clearer, consider an example of a simple possible worlds semantics from Szabó (*Problems of Compositionality* 10-1). Suppose the meaning of 'Peter' is a function f which assigns Peter to each possible world where he exists, the meaning of 'is asleep' is another function g which assigns to each possible world the set of things that are asleep there, and the meaning of 'Peter is asleep' is the set of possible worlds where this sentence is true. In this example, the structure of the sentence corresponds in the semantics to the relation R such that fRg is true in a world w if and only if $f(w)$ is a member of $g(w)$. Then we can say that the meaning of 'Peter' and 'is asleep' together with the structure of the sentence 'Peter is asleep' determine the meaning of the sentence. In this case, there is nothing in the set of possible worlds where Peter is asleep could directly correspond to the meanings of the constituents of the

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atoms and its structure. Yet it is not the case that the valence of a molecule is built up from the valences of its constituents.

[53] Take one of Fodor and Lepore's own examples, the *meaning* of 'loves' is part of the *meaning* of 'John loves Mary' ("Why Compositionality Won't Go Away," 57).

sentence. This semantics is compatible with (D) but not (B). The same applies to other non-atomistic semantics.

Take 'rattling snake' for example.[54] Fodor and Lepore claim that while the meaning of 'rattling' is part of the meaning of 'rattling snake', the meaning of 'dangerous' is not because the meaning of 'dangerous' is not (part of) the meaning of either 'rattling' or 'snake'. In a compositional semantics, as they understand it in the reading of (B), we are not given the relation between the target complex expression and every other expression in the language; we are only given the syntax of the target complex expression and the relation between this complex expression and its lexical constituents. Any theory which allows 'dangerous' to play a part in determining the meaning of 'rattling snake' would be rejected accordingly.

However, the non-atomist, the holist included, if she holds 'dangerous' as part of meaning determination of 'rattling snake', can respond to the objection by claiming that we can take something like 'if x is a rattling such that, if x is a snake, then x is dangerous' as part of the meaning of 'rattling'. Given the syntax of 'rattling snake' and its relation to its lexical constituents, there is no problem thinking that 'dangerous' plays a part in determining the meaning of 'rattling snake'.[55] This way of understanding meaning does not violate compositionality in the sense of (F) or (D).

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[54] This example is borrowed from Block ("Holism, Hyper-analyticity and Hyper-compositionality," 2).

[55] This way to preserve compositionality has been suggested by Block ("Holism, Hyper-analyticity and Hyper-compositionality"; "Holism, Mental and Semantic"), McCullagh ("Do Inferential roles Compose?), and Peregrin ("Inferentialism and the Compositionality of Meaning").

How about (B)? (B) entails that the meanings of all complex expressions are complex themselves. According to (B), we can only build up the meanings of complex expressions from the parts, which are fixed independently of the complex expressions of which they are constituents. On the above non-atomistic construal, the contributions of "rattling" and "snake" to "rattling snake" are not fixed independently of the complex expressions of which they are constituents. It thus is not compatible with (B).

These examples shows that (B), if true, clearly imposes a condition which Fodor and Lepore believe that "only very few—perhaps only one—[conceptions of meaning] can meet" (*The Compositionality Papers* 4). The question is: Do we have independent justification in favor of (B)?

2.1.2 Productivity and systematicity

Let us, following Mark McCullagh ("Do Inferential Role Compose?"), call the notion that Fodor and colleagues have in mind "atomistic compositionality" (compositionality$_A$ for short hereafter), to avoid unnecessary confusion. Fodor holds the following theses with regard to compositionality$_A$:

(C1) Compositionality$_A$ is required to explain productivity.

(C2) Compositionality$_A$ is required to explain systematicity.

(C3) Thought is compositional$_A$.

(C4) Natural languages are not compositional$_A$.

(C5) Thought is prior to natural languages in order of the explanation of content.

(C6) The compositionality$_A$ of natural languages is parasitic on the thoughts that

languages are used to express.[56]

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[56] According to Fodor, to say that "natural languages are parasitic on thought" is just a way to say that

First off, let's talk about productivity. It is often cited together with learnability, one of the most important features of natural languages.[57] It is observed that, on the one hand, the number of non-synonymous sentences in natural languages seems without clear limit, and on the other hand, finite beings like us seem to have no problem learning these languages. Given the empirical assumption that each new item of vocabulary or new grammatical rule takes some minimum time and cognitive resources of ours to be learned, it is obvious that acquiring a language with such an enormous amount of expressions one by one would take more time than one can commit to. Since we are mortal beings, and "we do not at some point suddenly acquire an ability to intuit the meanings of sentences on no rule at all," it rules out the possibility for us to learn the meaning of each sentence in a natural language one by one (Donald Davidson, "Theories of Meaning and Learnable Languages," 9), and, the argument goes, natural languages must be learnable.[58, 59]

language is a vehicle to express thought. In "Language, Thought and Compositionality" (14), he argues that

> As between thought and language, whichever is [compositional$_A$] is the one that has content in the first instance.
> The evidence suggests strongly that language is not [compositional$_A$].
> So, unless the evidence is misleading, it's thought, rather than language, that has content in the first instance.

On his view, "all language has to have is a way to express [thought]" in order to acquire content (Martin L. Jönsson and Ingar Brinck ("Compositionality and Other Issues in the Philosophy of Mind and Language," 301).

[57] See Donald Davidson ("Theories of Meaning and Learnable Languages").

[58] "For suppose that a language lacks this feature; [*sic*] then no matter how many sentences a would-be speaker learns to produce and understand, there will remain others whose meanings are not given by the rules already mastered. It is natural to say such a language is unlearnable" (Davidson, *ibid*., 8).

What properties must a language have to be learnable as such? The criterion for a language *L* to be learnable, suggests Davidson, is for it to have "a finite number of semantical primitives"—that is, unstructured expressions—and rules (*ibid.*).[60] Natural languages cannot be learned or understood otherwise. An adequate semantics of *L* needs to explain its combinatorial structure. That is, it must introduce some sort of recursive procedure to reveal the semantic structure that generates the meaning of *L*-expressions "on the basis of the patterned exhibition of a finite number of features" (Davidson, "Semantics for Natural Languages," 55). Productivity is, roughly, the very fact that every natural language can express an open-ended set of complex expressions.[61]

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[59] Note that the learnability also provides the irreducible social factor of natural languages so that what a language user means by her words must be able to be correctly deciphered in some way by others (Davidson, "Knowing One's Own Mind," 28).

[60] It is reported that that similar concerns had been elaborated in the ancient Sanskrit linguistic tradition. It is thought that grammatical expressions cannot be taught, learned, or understood one by one, and there must be a certain relationship that holds amongst the properties of constituents of natural languages. "Some work containing general and particular rules has to be composed," said Patañjali (Frits Staal, "Sanskrit Philosophy of Language," 502). I became aware of Staal's discussion through Pagin and Westerståhl ("Compositionality II: Arguments and Problems").

[61] Productivity is often cited with so-called creativity of languages (or the ability of language users) which enables competent language users to generate and understand sentences that they have never encountered. I intend to treat learnability and productivity as to pertain to the same phenomena and separate both from creativity for the following reason. While we might think of learnability or productivity as about speakers' understanding innumerable novel expressions, the ability to understand and produce novel expressions does not imply the ability to produce and understand innumerable expressions. (See Jönsson (*On Compositionality* 63-4 n. 3).)

Nonetheless, productivity does not deliver compositionality$_A$. Learnability of natural languages shows that natural languages are computable. This is different from saying that they are compositional$_A$. That is to say, for a language to be learnable or productive, it is necessary and sufficient that it has a computable meaning function which "gives a procedure, . . . by which meanings of complex expressions can be determined" (Josh Dever, "Compositionality," 658). Without such a computable meaning function, any procedure for determining meanings of complex expressions in *L* will not be able to determine the meanings of at least some *L*-expressions. Natural languages are unlearnable if uncomputable.

A language can be computable in the aforementioned sense without being compositional$_A$, for the computation can proceed in a noncompositional$_A$ way. Here's a simple example adopted from Dever (*ibid.*, 659).

> Suppose that *L* has concatenation '^' as its only syntactic operation and that expressions of *L* take natural numbers as meanings. Suppose the meaning of α^β when it appears in the context γ is [[α]] + [[β]] + [[γ]]. [[]] is then computable, but not compositional$_A$.

Actually computability and compositionality$_A$ are independent of each other.[62] But, for our purpose to reject (C1) that compositionality$_A$ is required to explain productivity, it is enough to say that computability is not sufficient for compositionality$_A$. Compositionality$_A$ is not required to explain productivity.

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[62] For compositionality$_A$ to make for computability, the mode of composition has to be computable as well. See Josh Dever ("Compositionality"); Pagin and Westerståhl ("Compositionality I: Definitions and Variants"; "Compositionality II: Arguments and Problems").

Let us move on to systematicity. I agree with Fodor with regard to (C4) that natural languages are not compositional$_A$. But it seems that if (C6) is true, natural languages can still be compositional$_A$ in terms of thoughts. The truth of (C6), in turn, relies on (C3) and (C5). We will not argue for the truth of (C2). For the sake of argument, we will treat (C2) as given. Given (C2), if thoughts are systematic, then (C3) will follow. Our goal is to ask whether there is independent justification to favor (B), i.e. compositionality$_A$. Given the falsity of (C1), these are the possibilities left in Fodor's account for the justification of (B).

Fodor has long advocated the doctrine that both thought and language are compositionality$_A$.[63] On his account, compositionality$_A$ of thought is something he appeals to explain the combinatorial structure of natural languages. According to his Language of Thought Hypothesis (LOTH for short hereafter),[64] our thoughts are occurrences (or tokenings) in a universal language of mental representations, which he calls "Mentalese," the medium that we think in. Fodor maintains that Mentalese, like natural languages, is syntactically structured. That is, the system employs two sorts of symbols, atomic symbols and compound ones, and, like natural languages, it employs a combinatorial syntax and semantics which together determine how complex symbols are to be formed in order to give them semantic contents. While this representational medium is language-like, Fodor insists that, it is distinct from all natural languages. Fodor (*The Language of Thought* 65) has it that Mentalese is innate in the sense that it is not learned.

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[63] For example, see Fodor and Lepore (*The Compositionality Papers*).

[64] See Fodor (*The Language of Thought*; *Psychosemantics* 135-54; *LOT 2*) and Fodor and Zenon W. Pylyshyn ("Connectionism and Cognitive Architecture: A Critical Analysis").

With the combinatorial syntax and semantics of Mentalese, Fodorian atomism,

unlike the traditional atomistic accounts, seems viable to explain the combinatorial

structure of the target natural language.[65] In his more recent writings, he admits that

natural languages are not systematic, because "the content of a sentence may be inexplicit

with respect to the content of the thought it expresses" (*ibid*., 14; *LOT 2*). He now thinks

that "only thought is [compositional_A] in the first instance and the apparent productivity,

systematicity, etc. of languages is parasitic on the thoughts they are used to express"

(*LOT 2* 55 n. 8). With the theoretical resources of LOTH, it is not difficult, on this view,

to make sense of how compositionality_A of natural languages can be parasitic on the

thoughts that languages are used to express. For according to LOTH, "the structure of a

sentence would . . . be explicit about the structure of the thought it expresses; in particular,

the constituents of the sentence would . . . correspond in a straightforward way to the

thought's constituents" (Fodor, "Language, Thought and Compositionality," 12). On this

account, as long as thoughts are compositional_A, compositional_A can be passed down to

natural languages even natural languages are not compositional_A by themselves.

According to Fodor and Lepore, systematicity refers to "the fact that any natural

language that can express the proposition *P* will also be able to express many

propositions that are semantically close to *P*" (Fodor and Lepore, "Why Meaning

(Probably) Isn't Conceptual Role," 15).

> If, for example, a language can express the proposition that *aRb*, then it
>
> can express the proposition that *bRa*; if it can express the proposition that

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[65] However, I think that if the appeals to productivity and systematicity turn out failing to establish

compositionality_A for Fodor, such appeals will fail to establish LOTH as well.

35

$P \rightarrow Q$, then it can express the proposition that $Q \rightarrow P$; and so forth.

(Fodor and Lepore, "Why Meaning (Probably) Isn't Conceptual Role," 15)

For example, assuming a language L is systematic and the proposition that John loves Mary is expressible in L, then so are the propositions that John loves John, Mary loves John, and Mary loves Mary.

One immediate problem with the phenomenon of such systematic correlation in natural languages, as Markus Werning puts it, is that it "is relatively unstable" ("Right and Wrong Reasons for Compositionality," 301). It is "not entirely clear whether the phenomenon . . . is real" (Szabó, "The Case for Compositionality," 77). On the one hand, there are examples where systematicity seems to apply.[66] On the other hand, there are other examples where systematicity obvious does not apply.[67]

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[66] For example, "John snores" and "flounders swim" are grammatical, so are "flounders snore" and "John swims" (Fodor and Lepore, "Why Compositionality Won't Go Away," 58).

[67] For example, while "John calculated the answer" is grammatical, *"the answer calculated John" is questionable (Fodor and Lepore, "Why Meaning (Probably) Isn't Conceptual Role," 15 n. 2). See more counter examples of systematicity of language in Kent Johnson ("On the Systematicity of Language and Thought," 115-20) and Markus Werning ("Right and Wrong Reasons for Compositionality," 302-3). While Fodor and Lepore admit that there are such questionable examples which may be used "to show that English is less than entirely systematic, hence that the argument from systematicity to [compositionality_A] is unsound," they insist that there are many unquestionable cases which cannot be explained without [compositionality_A] (Fodor and Lepore, "Why Meaning (Probably) Isn't Conceptual Role," *ibid*.). I do not find their insistence on the argument from systematicity to [compositionality_A] here convincing. But they eventually give up the thought that natural languages are entirely or perfectly systematic.

One possible explanation is that the so-called systematic correlation we observe actually depends on something else which does not display systematicity.[68] Despite some alleged examples, the counter examples show that natural languages are not systematic in any theoretically interesting sense. Or, to use Fodor and Lepore's own words, "English is less than entirely systematic" (Fodor and Lepore, "Why Meaning (Probably) Isn't Conceptual Role," 15 n. 2).

Given (C2), for (C3) to be true, systematicity has to be a property of thought, independent of language. The focus with regards to Fodor's treatment of systematicity now lies in the worry of how Fodor's "mixed" position of compositionality$_A$ can be carried through—if language is not systematic, why should thought be?[69] Can thought be systematic? The reason Fodor gives why cognition must be systematic is that systematicity is not something "an initially unsystematic mind" could learn through learning a systematic language (Fodor, *Concepts* 26). Since it cannot be learned, he urges that thought must be systematic.

According to Fodor, if language is systematic but thought is not, there will be propositions expressed by language that mind is unable to entertain. But that would be in conflict with (C5), the priority of thought, for (C5) has it that whatever can be expressed by language has to be able to be entertained by mind. That is to say, for (C3) to be true, we have to presuppose (C5), that is, to deny the priority of language as well as the systematicity of natural languages.

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[68] See discussion in Johnson (*op. cit.*); Werning (*op. cit.*, 300-3).

[69] See also Lenny Clapp ("Is Even Thought Compositional?") for a critical discussion of this question.

There is reason to be skeptical of (C5), however. There are some uncontroversial priorities that thought enjoys over language, such as the historical and ontogenetic ones. After all, it seems that there cannot be language without thought, but there can be thought without language. The explanatory priority like the one specified in (C5) requires more nonetheless. More and more evidence suggests that the interplay between thought and language is more dynamic than we used to think.[70] It is at least arguable that language not only works as an instrument or vehicle for us to express our thoughts in communication but also in turn affects the characters of our thoughts and extends our cognitive abilities. If that is the case, it follows that the truth of (C3) is dubious. An independent justification for (B) is still wanting.

2.1.3 The argument from understanding

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[70] See Lera Boroditsky and Jesse Prinz ("What Thoughts Are Made of"). In a series of papers, Boroditsky and colleagues try to show that language might help shape thought. For example, in one experiment, the researchers compare Russian and English speakers' ability to discriminate shades of blue. It is said that Russian makes an obligatory distinction between light blue (goluboy) and dark blue (siniy) and there is no single Russian word which covers all the colors that English speakers call "blue." They test English and Russian speakers in a speeded color discrimination task and reported that Russian speakers are quicker than English speakers to discriminate two shades of blue that are called by the different names in Russian. Such category advantage is eliminated when Russian speakers are asked to recite a string of digits while making color judgments. On the other hand, the category advantage of Russian speakers is not eliminated when asked to perform a spatial dual task while making color judgment. The researchers claim that this result shows that it is categories in language which create the difference in perception between Russian and English speakers. (See Johathan Winawer, et. al., "Russian Blues Reveal Effects of Language on Color Discrimination.")

Is there any other good argument in favor of compositionality$_A$? Szabó spots one which he thinks most people would consider persuasive. It says that compositionality$_A$ is doing the job described in (Com) (in the beginning of this chapter) because we understand complex expressions by understanding their constituents and the way the constituents are combined. He calls it "the argument from understanding." To make the argument work, however, argues Szabó, we must grant a problematic assumption (2) in the following reconstruction of the argument:

(1) We understand a complex expression by understanding its constituents and the way the constituents are combined.

(2) To understand an expression is to grasp its meaning.

(3) What we grasp in understanding the constituents of a complex expression and the way the constituents are combined thus determines what we grasp in understanding the complex expression. [(1), (2)]

(4) Therefore, compositionality$_A$: The meaning of the constituents of a complex expression and the way the constituents are combined determine the meaning of the complex expression. [(2), (3)]

The intuitive appeal of (2) is illusory if we look closer (Szabó, *The Problems of Compositionality* chapter 3).[71] Understanding a fragment of a language cannot be the same as grasping the meaning of that fragment. We do not so understand other things, be it a problem, an idea, or a proof, etc. Why, asks Szabó, should we understand language this way? Even if we grant linguistic understanding as a special case of understanding and want to give it a correspondingly special treatment, it still cannot do. The idea to

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[71] See also Szabó ("The Case for Compositionality," 74-5).

think linguistic understanding as a matter of grasping the meaning of the target expression has immediate problematic consequences when we try to apply it to various semantic theories with different conceptions of meaning.

Take for example the simple possible worlds semantics mentioned earlier in section 2.1.1. It says that the meaning of 'Peter' is a function f which assigns Peter to each possible world where he exists, the meaning of 'is asleep' is another function g which assigns to each possible world the set of things that are asleep there, and the meaning of 'Peter is asleep' is the set of possible worlds where this sentence is true. Should we embrace the idea that our understanding of 'Peter is asleep' is grasping the set of possible worlds where this sentence is true since that is the meaning of the sentence according to this theory? What does that sort of grasping amount to? Or take the view according to which the meaning of a proper name is its bearer. Is it the case that understanding the name is grasping the name-bearer? What does it mean to grasp a name-bearer? It is very implausible that we should reject these semantics for the reason that they are bad fits with the idea that what we grasp in understanding E is $M(E)$. The argument from understanding thus fails to bring us compositionality$_A$, and the compositionality objection to holism is blocked.

It seems that we do grasp something in linguistic understanding. But what is this 'something' that we grasp if not the meaning of that which is understood? Szabó's suggestion (*The Problems of Compositionality* 62-3) of a weaker position seems a plausible bet to me. It claims that to understand an expression E is to grasp certain relevant features of E and to grasp those features belong to E. Call it "the weak principle of understanding." Applying it to understanding complex expression, Szabó proposes that

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we "understand a complex expression by grasping certain familiar features of the expression and a certain familiar pattern into which these features fit" (Szabó, *The Problems of Compositionality* 84). It has nothing to do with the meaning of the target complex expression and thus nothing regards to the meanings of the constituents.[72]

2.2 The Language Acquisition Objection

We will move on to the language acquisition objection against holism now. It is also understanding related. It has been argued that (H), with *IRs* as the only determinants of meaning, cannot explain language acquisition because it cannot explain gradual language learning.[73] The argument goes as follows. Language must be learned gradually, that is, language learning proceeds by stages of learning one fragment and then another, and so on and so forth. If (H) is true, then it seems that in order to know the meaning of any expression one needs to know its *IR*s to all others, and that is to know all *IR*s in the whole language. If (H) is true, the only way for one to learn a part of language is to learn the whole language. (H) thus renders language learning impossible.

There are at least two points to note about this argument. Firstly, as emphasized in section 1.5 earlier, I do not think that the claim that (H) implies that one must know all the related *IR*s in order to know the meaning of a fragment of it is true. Recall our construal of (H) in section 1.2: (H) tells us that if one knows all the determinants of the

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[72] The weak principle of understanding, since it takes no position with regard to meaning, can go along with various conceptions of meaning. It allows us to say, for example, that to understand the name 'Peter' is to be able to use it to talk about the name-bearer, Peter, if we think that that use is a relevance feature of 'Peter'.

[73] See Dummett ("Original Sinn," 598; "What is A Theory of Meaning (II)," 44); Fodor and Lepore, (*Holism: A Shopper's Guide* 9); Devitt and Sterelny (*op. cit.*, 266).

determinable, one will also know the determinable. It does not imply the converse. It seems to me that there is no reason to think that if one knows the determinable, one will or must know all the determinants.

Secondly, there is a disagreement on the notion of gradual language learning between the holist and the critics.[74] Without clarifying the difference, people from both sides will easily talk past each other. For example, without noting that they hold a different understanding of gradual development from the holist, Fodor and Lepore (*Holism: A Shopper's Guide*, 210 n. 6) protest the holist's idea that "it is possible for a child to *partially learn a language* without learning *part* of the language" based on their own account (italics in the original). This is partly due to the fact that Fodor and Lepore define holism as the view that one expression could be meaningful only if many others are. As we mentioned in the first chapter, this is not a proper definition of holism, for a preferable definition of the doctrine should be at least given directly in terms of pure semantic reasons, such as, "what meaning expressions have or how their meaning is determined" (Pagin, *"*Meaning Holism," 216), rather than in terms of some "necessary conditions for something to have meaning" as Fodor and Lepore hold here.

If one agrees with Fodor and Lepore's definition of holism, naturally one seems to share the following thought with Dummett which squeezes the room for the possibility of stages of partial grasp of meaning: "[O]n a holistic view, it is impossible fully to understand any sentence without knowing the entire language. . . . [T]here can be nothing between not knowing the language at all and knowing it completely" (Dummett, "What is

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[74] See Akeel Bilgrami ("Meaning, Holism and Use," 116-8); Dresner ("Holism, Language Acquisition, and Algebraic Logic," 423); Jönsson ("Semantic Holism and Language Learning").

A Theory of Meaning (II)," 44). And that seems exactly what happens to Fodor and Lepore. But the holist would approve neither Fodor and Lepore's own construal of holism nor Dummett's criticism against holism mentioned here.[75]

For the critics, such as Fodor and Lepore as well as Dummett, to learn a fragment of a language is to fully master the fragment learned. The holist, by contrast, holds that one can learn and thus understand a fragment of the language without fully mastering it.[76] If one of the pictures is true, the other is false. But which one is true and which one is false? It needs an argument. Simply denying either position is no argument. Thus Akeel Bilgrami is right to comment that

> [in response to the language acquisition objection, the holist] only needs to say that though one learns a language by learning one fragment and then another, in learning an initial fragment one has not *fully* mastered it, and one will only learn it fully if one learns others. In learning the others one may not only add to but even revise one's understanding of the initial fragment. ("Meaning, Holism and Use," 117, italics in the original)

With the notion of partial understanding at hand, holism does not have difficulty explaining gradual language learning; it merely explains the process differently. On the holistic picture of gradual learning, understanding is not an all-or-nothing matter. We can

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[75] See Pagin ("Meaning Holism," 226).

[76] For example, Davidson maintains that our first steps towards the conquest of a language are a matter not of learning part of the language, as it is commonly held by the critics, but a matter of partly learning ("Theories of Meaning and Learnable Language," 7). Dresner thinks that the gradual process of learning need not be composed of steps consisting each one in our learning the full-fledged meaning of one (or more) expression(s) ("Holism, Language Acquisition, and Algebraic Logic," 423-5.).

have stages of partial understanding of meaning of a fragment of the language which allows us to "learn *some* of the meaning of *some* expressions, move on to learning some of the meaning of others, learn some more of the meaning of already partly understood expressions, and so forth" (Dresner, *"Holism, Language Acquisition, and Algebraic Logic,"* 423, italics in the original). By allowing partial understanding in the learning process, we have an additional reason to think that the problem that (H) implies that one must know the whole language in order to know the meaning of a fragment of it does not emerge. We thus conclude that unless there is independent evidence for the argument from language acquisition, it does not favor the non-holistic accounts.

2.3 Meaning and Understanding

The language acquisition objection as presented here shares the aforementioned groundless assumption (2), that to understand an expression is to grasp its meaning, with the argument from understanding for compositionality$_A$. It holds that since understanding *E* is a matter of grasping *M(E)*, either you grasp *M(E)* and thus understand *E* or you don't. There is no room for partial understanding suggested by the holist. On this view, partial understanding or partial grasp of meaning does not count as understanding at all because it fails the condition of grasping the meaning of that which is understood. But if we take understanding as the weak principle advanced in section 2.1.3 states, we can be open to the idea of partial understanding or partial grasp of meaning.

Suppose that one learned 'It is raining' first and knows later that the English sentence 'Rain is falling' can be used in the circumstances when 'It is raining' can by observing others use the two sentences interchangeably all the time.[77] If we believe that

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[77] The example is from Szabó (*The Problems of Compositionality* 68-9) where he uses to argue against

understanding is an all-or-nothing matter, how are we going to judge, in this case,

whether one understands the sentence 'Rain is falling' or not? I think such cases post

challenges to the idea that either we must understand a linguistic fragment or we don't.

Partial understanding occurs not only in the stage of learning an initial fragment of a

language but almost all the time in our use of languages. The acknowledgement of

something like partial understanding is hard to neglect when we try to explain

understanding.

In the 'Rain is falling' example, we may tend to think that one understands pretty

much the sentence 'Rain is falling' given that one understands 'It is raining' and knows

that the former sentence can be used interchangeably with the latter. But we may also

tend to think that one's understanding of the former sentence is not quite the same as that

of the latter. Surely one knows something, maybe even a very important thing, about

'Rain is falling', but does one "fully" or "really" understand the sentence? Even those

who disfavor partial understanding need to come up with something in their explanation

of this example, acknowledging that here one does have some significant understanding

about the sentence 'Rain is falling' which makes one far from being ignorant. "It's just

that it is not enough," they may say, "for full understanding." It is the notion of partial

understanding, rather than that of full understanding, which does the explanatory work.[78]

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systematicity. He seems to think that one should be granted as understanding the sentence "Rain is falling"

without question in this case. I am less positive on this point. As I say in the discussion, I think this is

arguable.

[78] This is not to say that we have to abandon the notion of full understanding. The point is rather that

whatever this notion of full understanding could be, it does not help to explain the similar situations like

The only reason, it seems to me, behind the insistence that understanding must be all or nothing is the thinking that we must grasp the meaning of a fragment of a language in order to understand the fragment. Following Szabó, I have argued that linguistic understanding has nothing regards to the meanings of that which is understood.

2.4 Closing Remarks

In this chapter I questioned two arguments against holism, based on compositionality and language acquisition, respectively. In section 2.1, I identified and clarified three notions of compositionality and noted that (H) is only incompatible with what I call compositionality$_A$ which already presupposes atomism. I examined two arguments which attempt to grant independent justification for compositionality$_A$ and argued they both fail the task. In section 2.2, I noted that the opponents and the proponents of holism hold different notions of understanding, and it needs an argument to decide which one to favor. In section 2.3, I argued in favor of the notion of partial understanding. By rejecting the idea that we must grasp meaning in order to understand an expression, I argued that the resistance against partial understanding is groundless. The conclusion of the chapter is that both objections of compositionality and linguistic acquisition against holism are not convincing. Holism remains intact.

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this where the notion of partial understanding is doing substantial work.

We continue the discussion of some critical challenges holism faces. Given that *IRs* are the only

determinants of meaning, how can (H) handles questions regarding the stability of meaning and

the language-world relation?

3.1 Holism and the Stability of Linguistic Meaning

The so-called problem of "instability" or "total change" of holism is a mixture of issues allegedly

derived from (H→).

   (H→) There is no invariant meaning shared across systems or across time slices of the same

        system available for (H) to identify linguistic items.

(H→) is a direct result of (H) and is not to be taken lightly by the foes as well as most of the

friends of holism.[79] It has been argued that given (H→), our vocabulary "does not remain constant

across changes in the system" (Devitt and Sterelny, *op. cit.*, 266), and our words keep changing

meanings all the time for any change in the meaning of any part of one's language *L* will lead to

changes in meaning of every expression in *L*. Let us call it intrapersonal problem of instability.

In the similar spirit, one can argue that (H→) leads to the consequence that people do not mean

the same thing as one another does even when both use the same word. Call it interpersonal

problem of instability. (H) is thus accused of violating the requirement of the stability of

linguistic meaning and thus fails to explain some of the most important linguistic phenomena,

such as translation, communication, disagreements, change of opinions, psychological

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[79] But see Bilgrami (*Belief and Meaning*) and Dresner ("A Measurement Theoretic Account of Propositions")

for the opposite opinion that (H→) is harmless. See also Kelly M. Becker ("On the Perfectly General Nature of

Instability in Meaning Holism") who advises the holist not to trouble to resist something like (H→).

generalizations, and so forth. These phenomena are not only possible but take place all the time. It is argued that were (H) true, these phenomena would all become miracles, since there is nothing to ensure that people will converge on the same meaning with their words. Let's call this result "the dire consequence" of holism:

- Translation: Holism seems to make literal translation from one person's language to another's impossible since no two people will mean the same thing by any of their words.

- Communication: Since there is no way to fully grasp what other people mean by their words, communication is also impossible.

- Disagreements: The same goes to the case of disagreement. Since whatever two people disagree about would mean different things by their words, their "disagreement" would not be real. No two people ever agree or disagree with each other about anything. They would be simply talking past each other.

- Change of opinions: The case of disagreement applies to the case of change of opinion if we change the circumstance to one's being "disagreed" with one's past self—one is simply talking past one's past self. It threatens the intelligibility of one's changing one's mind.

- Psychological generalizations: It is commonly held that we can explain others' behaviors by attributing them intentional states, such as, someone did A because she wanted W and believed that A is a means to get W. Furthermore, it seems that such intentional explanation can subsume many different people—different people can do A for the aforementioned same reason. If holism were true, it is argued, no two people would share the meanings of their beliefs. No intentional laws or psychological generalizations would

48

be possible since no shared content across people is possible, not even with reference to one person at different times.

3.1.1 Two-factor theories

One type of reactions of those who feel sympathetic to the holistic accounts is to reject (H→). People who take this line endeavor themselves to argue that holism can, and should, live up to the requirement of assuring the stability of meaning in order to avoid "the dire consequence." This strategy is adopted by many theorists who advocate a two-factor approach to meaning which, in contrast to holism, holds that *IRs* are not the only determinants of meaning and some other factors are involved as well. They typically suggest to separate two independent components or aspects of meaning, the narrow one and the wide one, and to restrict the effects of (H) to the former.[80] In such two-factor theories, reference takes part as the wide aspect of meaning of an expression, and it not only connects expressions to the world but also provides a route to identify linguistic items across systems so (H→) does not follow.

It is central to the two-factor theories that the distinct factors are independent in order to sufficiently isolate the effects of (H) to the narrow aspect. The exact point raises a grave difficulty for such theories nevertheless. There is a structural challenge for two-factor theories to keep the two alleged factors stuck together, as demonstrated in the following example from Fodor and Lepore (*Holism: A Shopper's Guide* 170). Two-factor theories cannot prohibit a bizarre expression that has a narrow semantic dimension of '4 is a prime' with a wide semantic dimension of 'water is wet' since the two factors involved must be independent of each other

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[80] For examples, see Block ("Advertisement for a Semantics for Psychology"); Hartry Field ("Logic, Meaning and Conceptual Role"); Thomas D. Senor ("Two-Factor Theories, Meaning Holism, and Intentionalistic Psychology"). But see Fodor and Lepore (*Holism: A Shopper's Guide* 170-1) for criticism.

accordingly. With this challenge unanswered, there is no way for two-factor theories to block the possibility of misalignment of the two distinct factors. Such alignment problem disqualifies two-factor theories as adequate semantics.

3.1.2 Multiple meanings

Eric Lormand ("How to Be a Meaning Holist?") propounds a "multiple meanings" solution, according to which, expressions have multiple meanings and the effects of holism is restricted to these individual meanings rather than the collection of them of an expression. The idea is to consider all the potential relations, outwards and inwards, an expression E might be associated with in one's language.[81] Lormand maintains that whenever there is a "separable rough test for the acceptable use of [E]," it counts a discrete unit, and each of these units counts as one of the different meanings of E on this account (*ibid*., 57). There may be as many meanings of E as it has units, and "the" meaning of E is loosely defined as the set of these multiple meanings.[82] Accordingly, while it allows an individual meaning yielded by a unit of E to be determined by its *IR*s with every other expression in the language, two expressions "may have different total sets of units but still share meanings, if the sets overlap, or share at least one unit" (*ibid*., 59).

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[81] Lormand (*op. cit.*, 57, n. 10) seems to allow units, and thus the meanings they yield, to be atomistic in the sense that they are independent of any other parts of one's language. It is not obvious to me that the stability he tends to defend for his account relies on the atomistic units nonetheless. We will focus only on the "holistic" aspects of his account in the following discussion because here we are interested in how the holist handles the problem of stability and "the dire consequence" which follows. If Lormand's strategy, regardless of the possibility of atomistic units, works for the holist, it works. If it does not, it will not help the holist to appeal to the atomistic units either since a theory which relies solely on the atomistic units to respond to the problem of stability does not count as a holistic account according to our definition of holism.

[82] Lormand (*ibid*., 57).

Moreover, "[e]ven after a change in one unit, [an expression] still has many of the same meanings it did before [the change]" (*ibid.*). Thus, while this account allows an individual meaning yielded by a unit of E to be determined by its *IR*s with every other expression in the language, Lormand holds it that there could still be enough stability saved within or across languages.

The problem with Lormand's strategy to secure stability based on shared units is that it cannot deliver what it promises.[83] On his view, expressions can share units and thus share meanings once they share some units. But, what is the criterion of shared units for expressions? Consider Lormand's own example 'bird'. Suppose, in my language, its units include [feathered flying animal], [thing similar enough to B_1, . . . , B_n] (where the [B_i] represent things taken to be birds), and [thing called "a bird" by mommy], among others. On the multiple meanings view, in my language, that something is a bird means that something is a feathered flying animal, a thing similar enough to B_1, . . . , B_n, a thing called "a bird" by mommy, and so forth, and some meanings can be more important than others. According to Lormand, someone who shares any of these units of the expression 'bird' in her language shares meaning with my expression 'bird'. What is missing in his account, however, is how to decide whether the two of us share the "same test" for our shared units. To say, for example, that we share the unit [feathered flying animal], we need to say that there exists some shared criterion for our expressions 'feathered', 'flying', 'animal' and the like.[84] It does not help to push the issue back to the units or individual meanings of the expressions as Lormand suggests without such criterion.

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[83] See also Becker (*op. cit.*); Eric Margolis and Stephen Laurence ("Multiple Meanings and the Stability of Content").

[84] See Becker (*ibid.*, 638).

Suppose I learn a new word which changes the meaning of 'animal' in my language and thus changes the meaning of the unit [feathered flying animal] of 'bird'. Since the meaning of 'animal' changes, the changes of the meaning of 'human' as well as the meaning of 'mommy' may follow, say, through units [humans are animals] and [mommy is human]. If the meaning of 'mommy' changes, then the change of the meaning of [thing called "a bird" by mommy] may follow. If (H) cannot insolate chains of changes like these, it is not clear how the multiple meanings account can, for it seems that units are themselves connected to each other just as the expressions in (H) are. Lormand's account is as holistic as (H) and no better off than (H) with respect to meaning stability and the threat of "the dire consequence."

3.1.3 Similarity

Another common strategy to respond to the problem of instability is to accept (H→) but argue for a workable notion of meaning similarity to replace the notion of meaning identity which (H) obviously cannot afford. It is argued that while the resultant "changes in meaning of every expression" is global, the influence upon the whole system should be reasonably minor, for the meaning of an expression after change will be only slightly different from, and thus highly similar to, that before change. It is argued that even without meaning identity, with meaning similarity, we can identify linguistic items across systems and avoid "the dire consequence."[85]

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[85] For examples, see Block ("Advertisement for a Semantics for Psychology"); Gilbert Harman (*Thought* chapter 6; "Meaning Holism Defended"; "Analyticity Regained?"); Jackman ("Moderate Holism and the Instability Thesis"); Senor (*op. cit.*); Arnold Silverberg ("Holism and Intentional Content"); Ted A. Warfield ("On a Semantic Argument against Conceptual Role Semantics"). Lormand's multiple meanings account mentioned in the last subsection is also similar to this line of thinking.

To say that two objects are similar is to say that they are so because they share certain features or have things in common. For example, on this view, while the expression 'bird' does not have the precisely same meaning for two people, it can still have similar meanings for both parties because, despite the differences, the meaning of A's 'bird', $M(bird)_A$, and the meaning of B's 'bird', $M(bird)_B$, may share things like 'birds are feathered flying animals', 'birds are mammals' and so forth, and the similarity of meaning allows meaning to be across individuals and times. However, to say that $M(bird)_A$ and $M(bird)_B$ share 'birds are feathered flying animals' is to assume things like that the two people mean the same thing by their 'feather', 'flying', and 'animal', and those are things (H) cannot guarantee, according to (H$_\rightarrow$). This option hardly makes the problem of instability go away.[86]

3.1.4 The problem of instability

I think it is unfortunate that the problem which the critics attribute to (H$_\rightarrow$) is called the problem of "instability" or "total change" because it does not indicate to what extent the "instability" or "total change" of meaning becomes an intolerable problem. No one would deny that meaning changes all the time, even for the non-holist. How would such change cause a problem? To call what at stake an "instability" problem seems to indicate that there is a quality issue involved. On the other hand, to call it a "total change" problem seems to indicate that what involves here is a quantity issue instead. What exactly is the problem?

The problem alleged here should be understood, it seems to me, as that the change of meaning becomes so global and overwhelming that it is impossible for the meaning of an expression E in one's language to be the same at different times and for the meaning of E to be

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[86] See Fodor and Lepore (*Holism: A Shopper's Guide* 17-22); Robert Brandom ("Inferentialism and Some of Its Challenges," 665).

the same in different individuals' languages. In other words, it is necessarily not the case that the meaning of *E* in one's language is the same at different times and that the meaning of *E* is the same in different individuals' languages. But then, this is not a problem that (H) is committed to.

While it follows from (H→) that (H) has no invariant meaning to guarantee meaning sharing, (H) does not imply that it is necessarily not the case meaning can be shared. As noted in section 1.2, (H) does not imply that whenever there is a change in one (or more) of the *IRs* of *E*, the change of the meaning of *E* must follow. It implies only that it is possibly the case that the meaning of *E* will change when there is a change in one (or more) of its *IRs*. (H) does not dismiss the possibility that the meaning of *E* stays the same under such circumstance.

So it is possible for the meaning of *E* to be the same across time slices or individuals in (H). And that is exactly the guarantee that the non-holistic accounts aim at invariant linguistic meanings—the guarantee that meanings are sharable. We do not want that it is necessarily the case that the meaning of *E* stays the same because meanings do change across times and across individuals. (H) has all we need for meanings to be "stable" in the sense that it is possible for them to be shared because all that is required is for it to be possible that the meaning of *E* stays the same across time slices or individuals.

3.2 Holistic Meanings are Sharable

Sharing meaning across systems is no miracle to (H), for it is possible for holistic meanings, so understood, to be shared, and "the dire consequence" does not follow. The argument from the stability of meaning does not favor the non-holistic accounts at all. It has force only for someone who antecedently embraces the idea that only with (at least some) invariant meanings shared across all systems can we assure the stability of meaning.

3.2.1 The role of linguistic meaning in meaning sharing

Let us say what a speaker *A* means by uttering an expression *E* on a given occasion is *SM(E)*$_A$

and what a speaker *B* means by uttering *E* is *SM(E)*$_B$, and there is something shared by *SM(E)*$_A$

and *SM(E)*$_B$. According to those who believe that we need invariant meanings shared across all

possible occasions where the corresponded expressions are uttered in order to explain meaning

sharing, what a speaker means by uttering *E* must be in some way "controlled" by the linguistic

meaning of *E*. That is to say, the latter plays an essential role in the determination of the former.

It is alleged, on this view, there must be some shared linguistic meaning, *ILM(E)*, which is

invariant across all occasions as the intersection of *SM(E)*$_A$ and *SM(E)*$_B$,[87] and it is in terms of

such *ILM(E)* that *A* and *B*'s utterances of *E* can be identified.[88] It is only because we can grasp

ILM(E), we can understand these utterances.[89] In what follows, we shall be considering three

options of this line of thought.

3.2.1.1 Literalism

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[87] I use *ILM* to stand for invariant linguistic meanings and *ILM(E)* for the invariant linguistic meaning of *E*.

[88] Or consider another example that *A* utters (an English word) 'dog'. It is said that because *SM(dog)*$_A$ share an *ILM* with *SM(chien)*$_B$, we can identify (the French word) 'chien' with (the English word) 'dog'.

[89] For example, Cappelen and Lepore seem to embrace this line of thinking as they talk about the motivation of their Semantic Minimalism:

> The semantic content of a sentence *S* is the content that all utterances of *S* share. It is the content
>
> that all utterances of *S* express no matter how different their contexts of utterance are. It is also the
>
> content that can be grasped and reported by someone who is ignorant about the relevant
>
> characteristics of the context in which an utterance of *S* took place. (Cappelen and Lepore,
>
> *Insensitive Semantics* 143)

One may think that the linguistic meaning of a sentence is its speaker meaning.[90] Call it literalism. Indexicality, however, raise difficulties to this position immediately. For example, the sentence (5) means that whoever utters the sentence is a daughter of a president.

(5) I am a daughter of a president.

But what (5) means when uttered on a given occasion varies. If I am uttering it now, it means "Chun-Ping Yen is a daughter of a president" and it is false since my father is not a president. But if it is uttered by Malia Obama, it means "Malia Obama is a daughter of a president" which is true since her father, Barack Obama, is the 44th and 45th president of the United States. Literalism cannot be true.

3.2.1.2 Minimalism

While it is not the case that speaker meaning is the same as linguistic meaning, one may want the former to depart as little as possible from the latter by revising and weakening one's account to the extent that it acknowledges the contribution of context to the semantic content of a sentence in only a very constrained way. It is suggested that we allow indexicals, free variables and other context-sensitive elements to be assigned contextual values, but only when the process is linguistically mandated.[91] This way, it is alleged to preserve the "minimal proposition," that is,

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[90] By 'speaker meaning', I mean what a speaker means by uttering an expression on a given occasion.

[91] For example, Cappelen and Lepore's (*Insensitive Semantics*, 1) list of context-sensitive expressions includes (i) David Kaplan's list of indexicals (the personal pronouns 'I', 'you', 'he', 'she', 'it' in their various cases and number, the demonstrative pronouns 'that' and this' in their various cases and number, the adverbs 'here', 'there', 'now', 'today', 'yesterday', 'tomorrow', 'ago', 'henceforth', and the adjectives 'actual' and 'present') (Kaplan, "Demonstratives," 489), (ii) words and aspects of words that indicate tense, and (iii) the contextuals, which include common nouns like 'enemy', 'outsider', 'foreigner', 'alien', 'immigrant', 'friend', and 'native' as well as common adjectives like 'foreign', 'local', 'domestic', 'national', 'imported', and 'exported'.

the semantic content, of a sentence. Call this doctrine minimalism. On the minimalist account, for context-sensitive expressions, such as 'I', it is said that while their semantic values vary on the occasion where they are uttered, such change is triggered by their syntax and thus is still under the control of their linguistic meanings. For sentences without any expressions from the minimalist's very limited list of context-sensitive expressions, their minimal propositions would be as the same as the sentences themselves.

According to minimalism, the minimal proposition of a sentence is "exhausted by the contributions made by the syntactic constituents of [the] sentence together with their mode of composition" (Emma Borg, "Semantic Minimalism," 423). Anything beyond that in what a speaker means by uttering the very sentence is not the job of semantic content to capture but belongs to the content of the speech act performed by the speaker. It is argued that such minimal propositions play in an explanation role in meaning sharing activities, such as communication. According to Cappelen and Lepore, such minimal propositions are "the sort of content that is largely immune to contextual variations," and thus they are the content that "enables audiences who find themselves in radically different contexts to understand each other, to agree or disagree, to question and debate with each other" (*Insensitive Semantics* 152). On this account, minimal propositions are what we can expect people to grasp, even under the circumstances where there is not enough information about the context to allow them to recover the speaker's full message.[92]

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[92] Similarly, Scott Soames says,

> The semantic content of a sentence relative to a context is information that a competent speaker/hearer can confidently take to be asserted and conveyed by an utterance of the sentence in the context, no matter what else may be asserted, conveyed, or imparted. It is a sort of minimal

So we are told that, on the one hand, there is a common minimal content of all utterances of a certain sentence *S*, but on the other, the common minimal content is not the content of the speech act when *S* is uttered by some speaker. The weakness of this account, however, is that it is unclear whether the "minimal proposition" of a sentence so defined really accomplishes the job it is promised.[93] In order to play the role as the "common denominator" of utterances, to use François Recanati's words (*Literal Meaning* 58), the minimal proposition is thought as the input to the pragmatic processes which take us from what the speaker literally says to what she actually conveys. On the minimalist view, as mentioned earlier, those pragmatic processes "operate globally on the output of the grammar" (Recanati, "Literalism and Contextualism: Some Varieties," 178). That is to say, the pragmatic processes take place only after the composition rules producing the semantic content of the sentences. However, there are examples to show otherwise.

Consider the following examples where the bracketed content indicates possible constituents of the speaker meaning which linguistically determined content cannot provide.[94]

(6)   John is tall (for a fifth grader).

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common denominator determined by the linguistic knowledge shared by all competent speakers, together with contextually relevant facts such as the time, place, and agent of the context; they identity of individuals demonstrated by the speaker; and the referents of the names, as used in the context. As such, the semantic content of a sentence functions as a sort of minimal core around which speaker/hearers can structure the totality of information the sentence is used to communicate in a given context. (*Beyond Rigidity* 109)

[93] As Jason Stanley ("Review of François Recanati's *Literal Meaning*") notes, "the notion of semantic content appealed to in [minimalism] threatens to be an idle wheel in an explanation of linguistic practice."

[94] These examples are compiled by Stanley ("Semantics in Context," 223-4).

(7) John is finished (with grading).

(8) Every boy is seated (in the class) is seated.

(9) John and Mary went to Paris (together or separately).

(10) If Lincoln hadn't gone to the theater, he wouldn't have been assassinated (fixing certain background assumptions).

(11) John ate breakfast (this morning).

(12) John had breakfast this morning (in the normal way, through his mouth).

(13) John ate (mushrooms).

(14) The ham sandwich (person who ordered the ham sandwich) is getting annoyed.

(15) The apple is green (on the inside).

They are examples where the non-linguistic mandated pragmatic processes operate before the composition rules taking place and thus go beyond the range which semantics can explain. To determine a suitable sense for these sentences, we need to go beyond the linguistic meaning of individual words and enrich or adjust what we are given in virtue of linguistic meaning.[95]

If the speaker meaning is determined by such a different pragmatic process from that the minimal proposition goes through, it is hard to see how minimal proposition can help explain the determination of the speaker meaning. For example, an utterance of (14) appears to be about a person rather than a ham sandwich. It is not clear, however, that such representational transfer from ham sandwiches to persons belongs to semantics. The linguistically determined content allowed by minimalism, in this case, is simply (14').

(14') The ham sandwich is getting annoyed.

It is hard to see how such minimal proposition can be the shared content of all utterances of (14)

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[95] See Recanati ("Literalism and Contextualism: Some Varieties," 184).

and still help explain the determination of the speaker meanings of it in various contexts, including (14").

(14") The person who ordered the ham sandwich is getting annoyed.

But if the minimal proposition does not play an essential role in the determination of the speaker meaning, then the invariant linguistic meaning does not, either.

3.2.1.3 Indexicalism

One may admit that pragmatic processes operate locally, but holds that to each possible dimension of contextual elaboration of an expression, there corresponds a slot in its logical form which must be assigned a particular value for the utterance to say something definite.[96] Thus this account can construe the semantic value of an expression E in a sentence S uttered as something "determined by speaker intentions together with features of the context, in accord with the standing meaning [of E]" (Stanley, "Semantics in Context," 226). The semantic content of a sentence S relative to a context, on this account, "is derived by taking the semantic contents of the parts of [S], relative to that context, and composing them in accord with the composition rules governing the syntactic structure of [S]" (*ibid*.). Call it indexicalism.

In this way, the indexicalist hopes to be able to answer the challenge posed by semantic underdeterminacy illustrated in (6)-(15) on the one hand, and to preserve the idea that all the pragmatic processes are triggered by the semantic elements, and thus semantically mandated, on the other. The success of the indexicalist idea relies on whether it is proper to treat context-sensitive expressions as the indexical ones, and the answer is negative. For, as Recanati remarks, while "[i]ndexical variables must be contextually assigned values for the expression to acquire a definite semantic content . . . [t]he contextual assignment process [for context-sensitive

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[96] See Recanati (*ibid*., 186).

expressions] is optional, depending on what is contextually relevant" (Recanati, "Literalism and Contextualism: Some Varieties," 187). And that is an important difference between the ways to assign contextual values to the two sorts of expressions.

For example, when we ask someone to open the door, the content of the request goes beyond what is linguistically encoded, for the verb 'to open' is context-sensitive. As Recanati points out, to treat 'open' as an indexical is to treat it as involving a certain number of argument roles, such as "a location playing the role of INSIDE; another location operating as OUTSIDE; a BOUNDARY separating the two; a MOVING OBJECT liable to pass from inside to outside (or the other way round)," and much more, in so far as they can be contextually foregrounded (*ibid*., 186). 'Open', treated as an indexical, acquires a definite content in the context only when each of the variables on the list is assigned a particular value. This is obviously too strong for context sensitivity where what is important for the contextual assignment process is merely those of contextual relevance.

We have scrutinized three accounts—literalism, minimalism, and indexicalism— in favor of the idea that linguistic meaning plays an essential role in the determination of the speaker meaning but find the crucial connection between the two sorts of meaning wanting. It indicates that the thought that invariant linguistic meaning shared across systems is necessary for the explanation of meaning sharing is ungrounded. There is no good reason to think that whatever $SM(E)_A$ and $SM(E)_B$ shared has to be an invariant linguistic meaning shared across all occasions but not something simply shared by $SM(E)_A$ and $SM(E)_B$, something sharable to A's uttering E and B's uttering E. It may be time to explore alternative explanations of the role of linguistic meaning in linguistic activities like communication and mutual understanding.

3.2.2 Sharing without shared meaning

If I am right, with all the flexibility and dynamicity of holism, we can still preserve the stability of meaning to the extent of being able to share meaning. But whereelse can the stability of meaning be from if it is not, as the opponents of holism may respond, from some fixed meanings shared across all systems? One possibility, I think, is the easily-overlooked fact that holism requires compensatory adjustments in the linguistic system when a change in the meaning of any part of it needs to be made. All the moves, including those follow-up adjustments, are guided by the external constraints from our interactions with others and with the surrounding environment as well as the structural constraints from the learnability of natural languages. While it is true that, on the holistic account, given one change in the meaning of any part of one's language would force changes in other parts of one's language, it is not the case that there is no external constraint at all on how the assignment of meaning should be arranged. In addition to the interrelationship of expressions, holism also emphasizes that the language as a whole needs to respond to these external constraints. When there is a change of meaning needed to be made, the constraints derived from our interactions with others and with the environment would be put into consideration how we are going to adjust the changes of other parts within the language.

Holism does not give up on sharing meaning. The history of how we learned the language, including the interpersonal communication we have with others, necessarily makes a difference to what we mean by our words. The non-holist likes to think that since it is very likely that different individuals will have had different experiences of language-learning and interactions with other people, it is very likely that different individuals have different liaisons among their lexical items. But then, it follows that it is very likely that people do not mean the same thing as one another even when they use the same word. For the holist, however, the aforementioned process of learning and using language demonstrates that even people might not mean the same

thing with the same word, there can still be lots in common in their languages through the interactions with one another starting from the very beginning of their acquiring languages. And that seems a reasonable ground for the possibility of sharing meaning. The only factor (H) does not deliver is a notion of shared meaning, and I have tried to point out that such a notion plays no explanatory role in our linguistic interaction.

Consider the following analogy from Davidson:

> [C]onsider adjustments in the center of gravity of an airplane. If some person changes his seat in an airplane, the relation of every object in the plane and every part of the plane to the center of gravity changes. But a single compensatory move will restore the center of gravity, and hence the relations of all objects to that center. ("The Problem of Objectivity," 14)

There may be more than one way to make the adjustments following one's changing the seat, but at the same time, there are also constraints, such as it is all happening in an airplane in the air and it must be kept that way. Likewise, there are external as well as internal constraints on the change in the meaning of our words that we must follow. It is with these constraints in place that meanings are public and potentially sharable, and holism has nothing to against such constraints as facts.

3.3 Holism and the Language-world Relation

We will move on to the language-world relation now. One of the core uses of language, among many things we do with it, is the exchange of information about the world. Not only that, we act on this information conveyed through our use of language all the time. It seems commonly thought that we can do so because (at least) some expressions are able to be used in such a way that they 'hook on to' things in the world or 'attach to' bits of reality (Marga Reimer,

"Reference") in virtue of their being given certain meanings. The relations between meaningful units and things out in the world ascribed here are usually called "reference."[97] It is a specific case of *ORs* where the objects on the extra-linguistic side are located in the world.

Since it is our uses of language, talking about the world, that are of primary interest in the reference relation here, it will help if we consider the language-world relation in terms of the triad of language, language user, and the world.[98] People refer to things in virtue of their words being about those things. In this picture, our uses of language to refer are acts of referring, part of our acts of communication. We are not only interested in how we can use words to talk about what they are used to talk about, but also how our words can be understood. After all, we are not interested in what Humpty Dumpty says. He can say whatever he likes, but there is probably no one who can understands his words.

The notion of reference, the specific case of *ORs* we are concerned with here, can be characterized by the following schemas adopted from Arvid Båve's deflationary account of reference ("A Deflationary Theory of Reference," 62-8).[99] First, the schema of "aboutness":

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[97] For our purpose, we can disregard the possible diversity of the relations between different linguistic units and what they are used to talk about. "Reference" here can be thought of as an umbrella term for all sorts of "the relations to the world" which different sorts of expressions are claimed to obtain.

[98] While our aim is to better understand the language-world relation, this move must not affect the non-holistic accounts. If one holds that it is in terms of *ORs* that expressions reach out to the objects and situations in the world (without language users mentioned), one can still hold that it is in terms of *ORs* that language users use expressions to mean what they mean (in the triad model suggested here).

[99] As a deflationary account, these schemas are taken to be exhaustive of the notion of reference in the sense that it covers all the facts of reference. Since our focus here is to understand the specific case of *ORs*, reference, I reckon it provides an uncontroversial and opportune starting point for our exploration. We will not get into the

(A) That *S(t)* is about *t*,

where (A) is a that-clause and *S( )* is a sentence context with a slot for the expressions a theory allows to be used to talk things in the world. The notion of our acts of referring can then be explained in terms of "aboutness":

(R) *A* refers to *b* iff *a* says something (which is) about *b*,

where '*A*' stands for a speaker. To apply (A) as the "something" about *b* in (R), we get:

(R') *A* refers to *b* iff there is an *S( )* that *A* say that *S(b)*,

where *S( )*, as in (A), is a sentence context with a slot for the expressions a theory allows to be used to talk about things in the world. For example, suppose "Yao Ming" is a referring expression, we can use "Yao Ming is Chinese" or "Yao Ming is tall" to refer to Yao Ming. Reference as the relation connecting language with the world, understood this way, posts no problem for (H). (H) does not deny the existence of *ORs*, reference included. What (H) denies is that *ORs* play a role in the determination of meanings of expressions.

3.3.1 Argument of general failure of reference

So what is the problem for holism? Devitt presents an argument which notes that if *IRs* are the only determinants of meaning, as (H) holds, reference is determined by a large proportion of an expression's *IRs*. As a result, "any significant error in a person's theory would be likely to lead to the reference failure of all her words" (Devitt, *Coming to Our Senses* 130). That is, it threatens

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debate over the question whether there is more to the nature of reference beyond the deflationary story. But I suggest keeping Horwich's useful advice in mind as we proceed: Of any proposed considerations about reference, the relevance of the subject matter is always important. See Horwich (*Meaning* 116-30) for his criticism to the description theory and the causal theory based on the question of relevance.

to get the wrong referents for all the expressions in her language, a threat of "general reference failure" (*ibid*., 21). Devitt further remarks that once we get all the referents wrong, we get the world wrong; "with loss of reference would go loss of the world" (*ibid*., 130). Thus, he concludes that (H) leads to the loss of the world.

Devitt seems to rely his argument on what he calls the "Fregean assumption" which holds that "a word's property of referring to something in a certain way—its mode of reference—exhausts its meaning" (Devitt and Sterelny, *op. cit.*, 263; Devitt, "A Shocking Idea about Meaning," 461).[100] It seems to me a controversial assumption. For it is not obvious that all meaningful expressions refer. For example, words like 'but', 'although', and 'after all' are meaningful but do not seem to refer or affect the truth conditions of sentences containing them.[101] But for the sake of argument, let us set the questions aside for the moment. The argument does not need to rely on the Fregean assumption anyway. It can operate under a less controversial assumption that the meaning of an expression *E* determines its reference as follows.

Suppose that the meaning of *E* determines its reference, and there is a linguistic error in one's language, say the word 'dog' mistakenly refers to cats while the correct reference of it is dogs and nothing else. For an extremely localistic account like atomism, whenever there is an error like this, it does not affect other parts of the language since the only determinant of the meaning of 'dog' is some sort of *OR* of 'dog' with some extra-linguistic object(s). For a moderate localistic account like Devitt's molecualrism, the same error may affect at best a limited part of the language since it allows only a few *IRs* of an expression to be the determinants

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[100] See also Devitt (*Coming to Our Sense* 18-21).

[101] Corinne Iten (*Linguistic Meaning, Truth Conditions and Relevance* 16). See also Hilary Putnam ("Reply to Michael Devitt," 496).

of its meaning. The worry raised by the argument is that an error like this will bring about prevalent errors in the language, given holism, for (H) takes all the *IRs* of an expression to determine its meaning and thus its reference.[102]

What do we make of Devitt's argument of general failure of reference? Recall the problem of instability regarding meaning discussed earlier. What we have here is a parallel problem of instability regarding reference. Of meaning, we have the worry about "total change"; of reference, we face a similar worry about "general failure," in Devitt's word. Our response to the problem of reference determination will also be parallel to that of the problem of meaning determination. In the current case where an expression *E*'s *IRs* determine its reference, it does not imply differences on the determinants side must lead to differences on the determinable side. Given that (H) does not imply "total change" of meaning, (H) does not imply "general failure" of reference, either. *IRs*, the determinants of meaning in (H), are not as Devitt supposes, out of contact with the outside world because languages are not. Holism does not hold the absurd idea that "the external relations of language have nothing to do with meaning" as the critics often mistakenly attribute to it (Devitt, *Coming to Our Senses* 14). While holism holds that reference is determined by a large proportion of an expression's *IRs*, these *IRs* themselves must also follow some sort of the external constraints from our interactions with others and with the environment. Although (H) allows for one-off mistakes, pervasive errors will not follow, for (H) takes that language as a whole must respond to these external constraints. Given the assumption that meaning determines reference, it does not follow that (H) leads to the loss of the world.

3.3.2 The Fregean assumption

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[102] See Devitt (*Coming to Our Senses* 21).

At some point during the argument of general failure of reference, Devitt claims that the Fregean assumption is "not an assumption that the holist should accept" due to the consequence of losing the world, unless the holist is willing to accept "a bizarre metaphysics" which states something like this: "The theory is not really in error, and reference does not really fail because the theory is true 'for its world', a world of its own construction" (Devitt, *ibid.,* 130). On the other hand, he warns that "without [the Fregean assumption] the meaning-determining link would be quite compatible with the sentence's falsity" (*ibid.*, 19). The holist either accepts the Fregean assumption or she does not. Either way, Devitt argues, the Fregean assumption is not for the holist.

I doubt that there is room for the holist to accept the Fregean assumption, regardless of the outcome of the argument of general failure of reference, since *ORs* play no role in meaning determination in holism. But what should we make of the claim that theories which deny the Fregean assumption is in conflict with our feeling that the meaning of an expression determines what it may correctly be applied to? For example, the expression 'Chinese' is true of Yao Ming but not true of Michael Jordan because of its meaning.

Paul Horwich (*Meaning* 7, 109) neatly characterizes the relation between meaning and truth in what he calls "meaning-to-*truth* conditionals" which can be paraphrased as follows:

E means $M(E) \rightarrow (x)$ (E is *true* of x iff x is what E means)[103]

For example, suppose 'dog' means DOG (the name of the meaning of 'dog'),[104] then 'dog' is *true* of Fido if and only if Fido is a dog. Or, suppose 'green' means GREEN, then 'green' is *true* of the new John Deere tractors if and only if the new John Deere tractors are green. According to

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[103] Horwich (*Meaning* 28) uses italicized "*truth*" or '*true* of' for the relation between expressions and objects.

[104] Following Horwich (*ibid.*, 15), I use capital letters as the name the meaning of an expression.

Horwich, such examples of the "meaning-to-*truth* conditionals" are the trivial facts that any competent English user who masters the usage of 'dog' and 'green' would accept. If we apply it to the case of 'fish' in seventeenth-century English when the word means fish and whales at the time, we get: 'fish' means FISH (the name of the meaning of 'fish' in seventeenth-century), then 'fish' is *true* of whales if and only if whales are fish.[105]

The phenomena of aboutness (or representation) captured by the meaning-to-*truth* conditionals are thought to place a constraint on how meaning is constituted. It is the very constraint Devitt has in mind that holism will fail to meet without the Fregean assumption. The reasoning seems straightforward: There must be something in whatever constitutes meaning responsible for the referential (or truth-theoretic) import of meaning. That is what Devitt's Fregean assumption aims to accommodate. To observe the constraint, Devitt holds that an expression's meaning must be determined "only by its link to the world" (Devitt, *Coming to Our Sense* 14). There are some basic terms or primitives in the language which "get their meanings from referential relations explained by some sort of direct causal link to reality, an informational, teleological, or historical-causal link, or some combination of these" (Devitt, "Meaning and Use," 114).[106] Other words, on this view, "are inferentially associated with others that determine their reference" (*ibid*.).

How can we accommodate our acceptance of the meaning-to-*truth* conditionals without something like the Fregean assumption? We can agree with Devitt that there is something in whatever constitutes the meaning of an expression *E* responsible for the referential (or truth-

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[105] This example is from Timothy Sundell ("Disagreement, Error, and an Alternative to Reference Magnetism").

[106] Proper names and natural kind words are likely primitives on his mind. See also Devitt (*Coming to Our Senses* 19, n.18, 129).

theoretic) import of the meaning of *E*. But it imposes no constraint on how meaning is

constituted. What is responsible for the referential (or truth-theoretic) import of the meaning of *E*

is the fact that *E* means what it means, that is, *M(E)*. What constitutes the fact that 'dog' being

true of Fido is that 'dog' means DOG (the name of the meaning of 'dog') and Fido is a dog.[107]

The truth-theoretic characteristics of expressions flow trivially from their meanings and do not

constrain how those meanings are constituted. Thus, pace Devitt, there is nothing for the Fregean

assumption to accommodate.

3.4 Closing Remarks

In section 3.1, I scrutinized the objection from the stability of linguistic meaning and reviewed

three responses. I noted that while it is true that (H) cannot have invariant meaning shared across

systems or across time slices of the same system, it is a harmless consequence. In section 3.2, I

examined three proposals in favor of the idea that linguistic meaning plays an essential role in

the determination of speaker meaning and noted that there is no good reason to think that

invariant linguistic meaning shared across systems is necessary for the explanation of meaning

sharing. It follows not only that (H→) is a harmless consequence of (H) but also that the non-

holist, like the holist, needs an alternative explanation of meaning sharing other than the notion

of invariant linguistic meaning. I suggest the non-holist consider the explanation addressed in

section 3.2.2. Linguistic meanings are public and potentially sharable not because of the

existence of some invariant linguistic meanings but because of the fact that we acquire languages

through interactions with others from the very beginning.

In section 3.3, I examined the role of reference, a specific case of *ORs*, in meaning and

noted that the referential (or truth-theoretic) import of meaning imposes no constraint on how

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[107] See Horwich (*Meaning* 71).

meaning is constituted. Thus (H) has no problem accommodating the relationship of language

and the world. The conclusion of the chapter is that neither meaning stability nor the language-

world relation imposes a problem to (H).

CHAPTER 4: ALTERNATIVES AND THEIR PROBLEMS

I have suggested that the core division between the holist and the non-holist is on the question whether we need (at least some) invariant meanings shared across all possible occasions where the corresponded expressions are uttered. It is the explanatory power of such invariant meanings that should be our focus when considering the debate about holism.

On the one hand, the non-holist argues that it is a disastrous drawback of holism that it cannot assure guaranteed meaning sharing. There is a general assumption that whatever meanings are, they can be shared across systems or across time slices of the same system in the sense that linguistic items across systems can be identified in terms of meaning, and a theory of meaning needs to account for such sharability of meaning.[108] It is argued that since holism appeals to nothing external to languages to be part of the identity conditions for meanings, there is no invariant meaning available for it to identify linguistic items across systems. Holism has nothing to ensure that people will converge on the same meaning with their words and thus is incompetent to explain the alleged sharability of meaning.

On the other hand, the holist holds that our language works satisfactorily without invariant linguistic meanings. The thought that invariant linguistic meaning shared across systems is necessary for the explanation of meaning sharing is ungrounded.[109] It has force only for someone

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[108] The most common reason to support such assumption is to appeal to the behavioral evidence, such as translation, communication, disagreement, change of opinion, intentional explanation, and so forth, which suggests meaning sharing.

[109] As we shall see shortly, the thought that invariant linguistic meaning shared across systems is necessary for the explanation of meaning sharing is usually taken as nonnegotiable in the literature. It plays a crucial part in the debate over holism but is rarely questioned or examined.

who antecedently embraces the idea that only with (at least some) invariant meanings shared across all systems can we assure the stability of meaning.

We have argued that holism can handle the challenges of the stability of linguistic meaning (section 3.2). It is time to canvass the explanatory power of invariant meanings that the non-holistic alternatives claim to provide. Can the non-holist deliver what she promises in terms of non-holistic meaning? As we shall soon discover, the prospect of the non-holist is pessimistic.

4.1 Atomism and the Explanatorily Vacuous ORs

While holism is often thought as a radical doctrine, atomism which takes *ORs* as the only determinants of meaning is no less radical. For example, Fodor thinks that holism "really is a crazy doctrine" (*Psychosemantics* 60). However, his atomistic views which claim that expressions are semantically self-standing "are as crazy as holism and are as desperately in need of argument" according to Lepore who co-authors *Holism: A Shopper's Guide* with him (Russell Trenholme, "Review of *Holism: A Shopper's Guide*," 251, n. 1).

There has been doubt about the notion of self-standing meanings raised by philosophers, for meaning as a linguistic feature seems to have a very different etiology with the entities these accounts proposed to be identified with it.[110] Meanings can be stated, but entities, whether they are physical objects, mental entities, or abstract entities in the third realm, cannot be. The most serious problem shared by the diverse accounts of this approach is that, despite the appearance, self-standing meanings provide no explanatory power to our understanding of meaning. In Davidson's words, they "have no demonstrated use" as they are supposed to perform ("Truth and Meaning," 21).

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[110] For some example, see Ludwig Wittgenstein (*Philosophical Investigations* §293), W. V. Quine ("Ontological Relativity," 27), and Davidson ("Truth and Meaning").

4.1.1 Explanatorily vacuous ORs

The introduction of meanings as entities is supposed to help us explain how we understand the languages of ours. It is said that given the meanings of the primitive expressions in a language, we can construct the meanings of the complex expressions on the basis of the meanings of their parts and modes of combination. We then have the meanings of the complex expressions as structured entities which correspond to the structured syntax of the associated complex expressions. Once we understand constituents of the complex expressions and the way the constituents are combined to form the complex expression, we understand the complex expressions.

Following Davidson, Ernest Lepore and Krik Ludwig argue that everything we want from such a theory of meaning can be achieved without bringing in meanings as entities:

> Appealing only to assignments of meanings to expressions will never by itself enable us to understand complexes built up out of them. . . . What we need in addition are *rules* attaching to the forms of complex expressions. . . . [O]nce we have such rules . . . assigning meanings to the elements of complex expressions has no role to play in explaining how we understand those complexes. (*Donald Davidson: Meaning, Truth, and Reality* 45-6, italics in the original)[111]

Their strategy is first to construct a sample theory which assigns entities to semantically primitive expressions of a language and recursively generated assignments of structured complexes of them to sentences. The sample theory, accordingly, will indicate what meaning

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[111] Richard Mark Sainsbury holds a similar opinion with somewhat different arguments in "Knowing Meanings and Knowing Entities."

each expression has in the sense of which meaning entity it is correlated with. The next step is to scrutinize the contribution made by self-standing meanings to such a theory.

According to Lepore and Ludwig, the only object for this sample theory to accomplish is to generate true theorems for each object language sentence of the form (M):

(M) *s* means *p*,

where *s* is a sentence in the object language and *p* a name of the meaning of *s*. For that purpose, they suggest treating "expressions as referring to their meanings" and meaning entities as being "individuated as finely as equivalence classes of synonymous expressions, and thus as finely as Fregean senses" in the sample theory constructed (Lepore and Ludwig, "Ontology in the Theory of Meaning," 328).

Suppose there are only one singular term and one predicate in our very simple object language. Their semantic properties can be spelled out in the following axioms which read 'Caesar' means CAESAR and 'x is ambitious' means X IS AMBITIOUS, respectively.

(A1) Means('Caesar', CAESAR)[112]

(A2) Means('x is ambitious', X IS AMBITIOUS)

Here the idea is to treat the predicative term as a functional term, 'x is ambitious,' and the sentence formed by concatenating the singular term with 'is ambitious' as a referring term which refers to the value of the function 'x is ambitious,' given the referent of the singular term as argument.

We can then introduce further axioms to show how to assign meaning to complex expressions.

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[112] As indicated in chapter 3, I use capital letters to indicate the name of the meaning assigned to the indicated expression.

(A3) For any proper name α, for any predicate Π, the result of placing α in argument position

for Π means the value of the meaning of Π given the meaning of α as argument.

(A4) The value of any sentential function for an argument denoted by a referring term is

denoted by the expression that results from placing the referring term in the argument

place of the sentential function.

Apply (A3) to 'Caesar' and 'x is ambitious', we get that 'Caesar is ambitious' means the value of

the meaning of 'x is ambitious' given the meaning of 'Caesar' as argument. The meaning of 'x is

ambitious' is X IS AMBITIOUS, and the meaning of 'Caesar' is CAESAR, by (A2) and (A1)

respectively. According to (A4), the value of X IS AMBITIOUS given CAESAR as argument is

CAESAR IS AMBITIOUS. We get the meaning of the complex expression 'Caesar is ambitious':

'Caesar is ambitious' means CAESAR IS AMBITIOUS.

We can also add axioms for connectives, as illustrated in (A5)-(A9), and quantifiers, as

illustrated in (A10)-(A12), by treating them as functional terms.

(A5) Means('q and r', Q AND R)

(A6) Means('$\neg s$', $\neg$S)

(A7) For any binary sentential connective Δ. and any formulae φ, ψ, the result of placing φ

and ψ in the first and second argument places of Δ means the value of the meaning of Δ

given the meaning of φ and ψ as first and second arguments.

(A8) For any unary sentential connective Δ, any formula φ, the result of placing φ in the

argument place of Δ means the value of Δ given the meaning of φ as argument.

(A9) The value of any sentential connective for a sequence of arguments denoted by a

sequence of formulae is denoted by the expression that results from placing the formulae

sequentially in the argument places of the connective.

Apply (A8) to '¬' and 'Caesar is ambitious' we get:

'¬ (Caesar is ambitious)' means the value of the meaning of '¬' given the meaning of

'Caesar is ambitious'.

With (A9), we get:

'¬ (Caesar is ambitious)' means ¬ (CAESAR IS AMBITIOUS).

Apply (A7) to 'and', 'Caesar is ambitious', and '¬ (Caesar is ambitious)' we get:

'Caesar is ambitious and ¬ (Caesar is ambitious)' means the value of the meaning of 'and'

given the meaning of 'Caesar is ambitious' and '¬ (Caesar is ambitious)' as first and

second arguments.

With (A9), we get:

'Caesar is ambitious and ¬ (Caesar is ambitious)' means CAESAR IS AMBITIOUS and ¬

(CAESAR IS AMBITIOUS).

Finally, introduce axioms for a universal quantifier.

(A10) Means('For all x: f', FOR ALL X: F) (where f is a formula)

(A11) For any unary quantifier Ω, any formula φ, the result of placing φ in the argument

place of Ω means the value of the meaning of Ω given the meaning of φ as argument.

(A12) The value of the meaning of any unary quantifier for an argument denoted by a

formula is denoted by the expression that results from placing the formula in the

argument place of the quantifier.

Apply (A11) to 'For all x: f' and 'x is ambitious', we get:

'For all x: x is ambitious' means the value of the meaning of 'For all x: f' given the meaning

of 'x is ambitious' as argument.

Apply (A12) to it, we get:

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'For all x: x is ambitious' means FOR ALL X: X IS AMBITIOUS.

The same method can be extended to theories of more complex languages or cases where the metalanguage and the object language are different.[113]

So far so good. It seems that, given this sample theory, we can produce for any complex expression of the object language an assignment of meaning which gives the right result. The problem, as Lepore and Ludwig point out, is that we can alter the base clauses of the sample theory in a way where the resultant theory provides no insights into how to understand the object language. For example, in the alternative theory we can have the following axioms where 'BRUTUS', 'CASSIUS', 'ANTONY', and 'PORTIA' are names for 'x is ambitious', 'q and r', '$\neg s$', and 'For all x: f', respectively:

(A2*) Means('x is ambitious', BRUTUS)

(A5*) Means('q and r', CASSIUS)

(A6*) Means('$\neg s$', ANTONY)

(A10*) Means('For all x: f', PORTIA).

With (A1) and other original axioms, we can generate complex expressions. For example, with (A2*) and (A3), we get:

'Caesar is ambitious' means the value of BRUTUS given CAESAR as argument,

which is an instance of (M) but does not help to understand 'Caesar is ambitious' at all.

Nonetheless, this alternative theory is as legitimate as the original one for it does tell us, as much as the original sample theory does, "what each expression of the object language means in the sense of telling us what meaning entity is assigned to it" (*ibid.*, 331). The difference, as Lepore and Ludwig remark, is that, in the original theory, the expressions we use in the

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[113] See Lepore and Ludwig, "Ontology in the Theory of Meaning," 330.

metalanguage to name the assigned meanings to primitive expressions of the object language *L* are not only in the same grammatical category with but also the translations of the corresponding primitive expressions of *L*. Being told what meanings, construed as entities, each expression in *L* is to be assigned is not sufficient for us to know what the complex expressions of *L* mean. Rather, it is because we already know which metalanguage expression is the translation of the corresponding expression of *L* that we know what the complex expressions of *L* mean in the original sample theory.

Lepore and Ludwig further demonstrate that our original sample theory can generate true theorems for each *L*-sentence of the form (M) even without assigning entities to every meaningful expression. This can be shown by constructing a translation theory on the basis of the information in the original sample theory where 'translates' is treated as a two-place predicate relating an object language expression to its translation of the metalanguage. This time, they make the object language French (*ibid*., 332).

(T1) Translates('César', 'Caesar') [cf. (A1)]

(T2) Translates('est ambitieux', 'is ambitious') [cf. (A2)]

(T3) For any proper name α, for any predicate Π, translates([α Π], trans(α)^trans(Π)).[114] [cf.

(A3)]

(T5) For any *q*, *r*, translates([*q* et *r*], trans(*q*)^'and'^trans(Q)) [cf. (A5)]

(T6) For any *s*, translates([¬*s*], '¬'^(trans(*s*))) [cf. (A6)]

(T7) For any *f*, translates([Chaque *x*: *f*], 'For all *x*:'^trans(*f*)) [cf. (A7)]

Here "'trans(x)' is a function that yields the translation of the [object language] expression *x* into the metalanguage, where for all *y*, trans(x) = y iff translates(x, y)" (*ibid*.). I follow Lepre and

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[114] '^' indicates concatenation.

Ludwig to use brackets for Quinean corner quotes,[115] and some examples of the application of these axioms are as follows. Apply (T3) to 'César' and 'est ambitieux' we get:

Translates([César est ambitieux], trans(César)^trans(est ambitieux))

Apply (T1) and (T2) to it, we get:

Translates('César est ambitieux', 'Caesar is ambitious') (which reads 'César est ambitieux' is translated as 'Caesar is ambitious')

Apply (T6) to '¬' and 'César est ambitieux' we get:

Translates('¬ César est ambitieux', ¬ (trans(César est ambitieux)))

Since 'César est ambitieux' is translated as 'Caesar is ambitious', we get:

Translates('¬ César est ambitieux', '¬ (Caesar is ambitious)')

Apply (T7) to 'Chaque x: f' and 'César est ambitieux', we get:

Translates('Chaque x: César est ambitieux', 'For all x:'^trans(César est ambitieux))

Since 'César est ambitieux' is translated as 'Caesar is ambitious', we get:

Translates('Chaque x: César est ambitieux', 'For all x: Caesar is ambitious')

Lepore and Ludwig argue that what is at work in both this translation theory and the original sample theory is the knowledge of the metalanguage not the meaning entities which expressions refer to. "Reference to the meaning, whatever it is, is [simply] beside the point" (*ibid*). In other words, what is required for someone to understand in order to understand a complex expression is not, as the original sample theory seems to indicates, the *OR* between an expression and a meaning but rather the relation between an expression (of the object language) and another expression (of the metalnaugage). As it is shown above, "[t]here is no way to state

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[115] It can be defined as follows: where 'ψ' denotes a formula, '[φ ψ]' denotes the result of concatenating 'φ' and the formula denoted by 'ψ' in the order, from left to right.

what an [object language] expression means . . . without using terms the same in meaning as it, and so understood" (*ibid.*, 334). Lepore and Ludwig's argument demonstrates that the introduction of meanings as entities is neither sufficient nor necessary to enable us to understand object language sentences. Knowing *ORs* is not helping us to understand the object language.

4.1.2 The intra-linguistic burden on semantics

Borg ("Minimalism and the Content of the Lexicon") recently also posts similar challenges to explanatory adequateness of the atomistic theories. She lists four "intra-linguistic" features that the atomistic accounts seem doomed to fail to predict or explain. For these features involve the syntactic interactions of expressions, phenomena a semantic theory with *ORs* as the only determinants of meaning lacks resources to cope with. They demonstrate what she calls the "intra-linguistic burden on semantics" which "concerns properties of, and relations among, expressions" (Borg, *Pursuing Meaning* 167-8).

   Firstly, consider the possible and impossible readings for natural language sentences.

   (16) a. Jack is too clever to catch Jim.

        b. Jack is too clever to catch.

   (17) a. Jill is eager to please.

        b. Jill is easy to please.

Despite the surface similarities of each pair of these sentences, they require very different readings. For example, while Jack and Jill are the agents of (16a) and (17a) respectively, they do not play this role in (16b) and (17b). It is argued that an adequate semantic theory must explain the difference as such. To do that, however, "we need to appeal to more than the syntactic structure of the sentence and the denotational content of the terms involved" (Borg, "Minimalism and the Content of the Lexicon," 61), and yet, the task seems beyond what atomism is able to

offer. For, as Borg (*ibid*.) correctly points out, for the current example, it does not help to simply say that 'easy' means, say, the property of being easy.[116]

Moreover, the phenomenon of syntactic interactions of expressions seems everywhere. Consider the second case in Borg's list—verb behaviors. The observation suggests that there is a sort of non-arbitrary patterns of syntactic distribution in verb behaviors which an adequate semantic theory is expected to explain and predict. For example, the fact that some of the following sentences are admissible but some are not suggests that there are different patterns how these verbs behave (*ibid*., 62).

(18) a. I hit the wall with the bat.

     b. I hit the bat against the wall.

(19) a. I cut the rope with knife.

     b. *I cut the knife against a rope.

(20) a. She touched the cat with her hand.

     b.*She touched her hand against the cat.

According to Borg, we can say that (19b) and (20b) are not admissible because 'cut' and 'touch', unlike 'hit', do not "care about the kind of motion which precedes the contact" (*ibid*.). Something is a hit "not merely if it makes a specific kind of contact but also if it involves a certain kind of motion beforehand," but there is nothing like that involves a cut or a touch (*ibid*.). Again, this kind of explanation seems something that atomism is short of. Nothing in the claim that 'hit' means HIT, 'cut' means CUT, or 'touch' means TOUCH can help explain the patterns of the behaviors of these verbs.

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[116] See also Paul M. Pietroski ("Meaning before Truth," 263-4).

The third group of semantic relations on Borg's list of the intra-linguistic burden of semantics includes relations such as synonymy, analyticity, entailment, and polysemy. Suppose 'vixen' and 'female fox' are synonymous. How can atomism show that the meaning of 'vixen' is somehow a combination of the meaning of 'female' and 'fox'? How can atomism capture the inferential relation between 'red' and 'colored' or 'dog' and 'mammal'? How can atomism explain the facts that words can have "multiple meanings where those meanings seem related to one another in non-arbitrary ways" (*ibid*., 64)?

Some of these relations may be easier to handle than others. A localist like Devitt may responds that, say, it is in terms of the fact that 'vixen' refers to anything that 'female' and 'fox' both refer to that 'vixen' and 'female fox' are synonymous.[117] Polysemy is probably the most challenging case here. Consider the meaning of 'book' as in 'the book weighs two pounds' versus 'the book is in every shop in the city' where 'book' has different but related meaning in each sentence (*ibid*.).[118] As Dummett says, "any acceptable theory of meaning must give recognition to the interconnectedness of language" ("What is A Theory of Meaning (II)," 43), cases like this seem to suggest that we cannot exclude the contribution of the linguistic environment that an expression E is within when considering the meaning of E.[119]

The fourth case in Borg's discussion is "impossible words." They are words that "do not occur in any natural language, despite their having apparently cogent meanings" (Borg,

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[117] See Devitt (*Coming to Our Senses* 18-26).

[118] See also Borg (*Pursuing Meaning* 172).

[119] See also Devitt (*Coming to Our Senses*, 11), Bilgrami ("Why Holism is Harmless and Necessary"), Mark Greenberg and Harman ("Conceptual Role Semantics"), and Peregrin ("An Inferentialist Approach to Semantics") for similar remarks.

"Minimalism and the Content of the Lexicon," 64), and it is thought that their absence is not an accident "in the way that it is an accident[, say,] that there is no noun that picks out one's tallest friends relatives" (Kent Johnson, "From Impossible Words to Conceptual Structure: The Role of Structure and Processes in the Lexicon," 334) and thus need to be explained. It becomes another challenge to atomism if that is the case. For example, we can say someone broke something but not something bliked someone (where 'bliked' means 'was broken by'). One suggestion of the explanation of the absence of the impossible word 'blik' is to attribute it to a general fact "that whenever a transition verb of English expresses a relation between the doer of an action and the thing that is acted upon" (*ibid*.). Such explanation seems nothing an atomistic theory can afford.[120]

All these cases provide a strong demonstration that lexicons contain more information than their denotations. Lexicons contain also additional "rules which indicate the kinds of arguments [they] can take and the rules of composition relevant to those different arguments" (Borg, *Pursuing Meaning* 196). As Borg points out, there are some complex patterns of the syntactic interactions of expressions in natural language that require us "to appeal to the complex structures and information" in the lexicons (Borg, "Minimalism and the Content of the Lexicon," 65). That it is not enough to have *ORs* as the only determinants of meaning gives us reason not to be an atomist. For the non-atomists who want to embrace invariant meanings shared across systems without atomism, there is molecularism which, on the one hand, maintains that meaning

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[120] See also John Collins's "Impossible Words Again" where he argues that "only on the assumption that lexical items contain a semantically relevant structure can we plausibly explain why certain would-be verbs are impossible" (235).

is non-atomistic in nature, and on the other, urges that meaning cannot be holistic as (H) has it.[121] We are moving our focus to molecularism in the next section.

4.2 Molecularism and the No-principled-basis Consideration

Molecularism holds that it cannot be the case that all the *IRs* an expression *E* has to other expressions are the determinants of *E*'s meaning,[122] and from which, it is argued that only some of the *IRs* can determine meaning and there must be a distinction in kind between *IRs* even if there is no satisfactory principled basis for the very distinction provided. Accordingly, only some, but not all, *IRs* of *E* are determinative of the meaning of *E*. As a result, a change in meaning of *E* will affect only the limited group of expressions which *E* has meaning-constitutive relation to. Therefore, molecularism as such, if true, allows us to identify linguistic items across systems and thus avoids "the dire consequences" of holism.

Fodor and Lepore (*Holism: A Shopper's Guide* 23-5) find this common attitude among the molecularism unsatisfactory. They argue that molecularism is untenable, for it inevitably runs into holism if without a principled basis to draw the distinction among *IRs*. In response, the molecularist urges that Fodor and Lepore's "no-principled-basis consideration" is groundless.[123] For the lack of a generally accepted criterion for distinguishing between *IRs* does not undermine the viability of the distinction itself. It does not follow from the claim that the distinction is indeterminate that there is no distinction at all.[124]

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[121] For example, see Horwich (*Meaning* 59-60).

[122] It is usually held, by the molecularists, some *IRs* are more salient, some are less so, and still others irrelevant for meaning determination.

[123] As Devitt calls it in *Coming to Our Senses* 12.

[124] See Paul A. Boghossian. ("Analyticity Reconsidered," 384); John Perry, ("Fodor and Lepore on Holism");

While the molecularist's point is well taken, I think that Fodor and Lepore are indeed onto an important question here. That is, what does it make molecularism if without a principled basis for the distinction among *IRs*? The answer I shall be suggesting is the following. Firstly, without a principled basis for the distinction among *IRs*, molecularism will not be well-motivated. It is not enough for the molecularist to simply claim that only some, but not all, *IRs* of *E* are determinative of the meaning of *E*. Furthermore, even if molecularism is well-motivated without a principled distinction among *IRs*, it does not get us very far. Both points will be expounded in turn.

The intuition behind molecularism is the idea that *prima facie* there seems to be apparent examples that some *IRs* are not meaning determining. It is in light of such examples that the molecularist finds justification for the claim that we do not need a principled basis to draw the distinction among *IRs* to reject holism. But if we understand holism as a determination claim in the way I suggested in section 1.2, this intuition behind molecularism is groundless.

One might think, for example, that if the change of the *IR* between 'bachelor' and 'frustrated' does not affect the meaning of 'bachelor' as that of the *IR* between 'bachelor' and 'unmarried' does, then there seems no ground to say that the *IR* between 'bachelor' and 'frustrated' is one of the determinants of the meaning of 'bachelor'.[125] This example may appear to be a counter example of (Hb), but it is not. Recall that the truth of (H) depends on the following facts:

(Ha) that there is no additional determinant other than the cited determinants (IR_1, $IR_2, ..., IR_n$, of *E* to every other expression in the given language), and

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Devitt (*ibid.*, 87-94).

[125] The example is from Devitt (*op. cit* 30).

(Hb) that the cited determinable (E's meaning) does depend on each cited determinant (IR_1, $IR_{2, ...,}$ IR_n, of E).

To make it a case of counter example of (Hb), we need to show not only

(21) that the meaning of 'bachelor' stays intact when the change of the *IR* between 'bachelor' and 'frustrated' occurs, but also

(22) that none of the other *IRs* of 'bachelor' is affected by the change of the *IR* between 'bachelor' and 'frustrated'.

The condition (22) appears a sheer difficulty to demonstrate, given the interdependence among "the cited determinants of E" in (Hb). Without suitable counter examples against (Hb), the molecularist will need a principled distinction in kind between *IRs* to make her point. This implies that molecularism cannot be a well-motivated alternative to holism without such a principled distinction. But even if molecularism is well-motivated without a principled distinction among *IRs*, it is not a very helpful determination claim about meaning. For, in that case, unlike its rivals, molecularism does not give a definite answer to what counts the determinants of the meaning of an expression. All it can tell us is that only some, but not all, *IRs* of E can play the role. We will still need a principled basis for the distinction among *IRs* because molecularism does not take us very far without it. The challenge of the no-principled-basis consideration remains.

4.3 Devitt's Molecularism

Surprisingly, given the popularity of molecularism in the debate at issue, few molecularists take the no-principled-basis consideration seriously enough to respond to it. Devitt who propounds a molecularist account which provides a principled basis for the distinction between meaning-determining *IRs* and non-meaning-determining ones is one exception. It seems to me that he is

right to further point out that such a principled distinction should be at hand of the molecularist because "we need a principled basis for counting an inferential property as meaning-constituting only because we need one for counting any property as meaning-constituting" which is, by the way, a demand applies not only to the molecularist theories but any theory of meaning (Devitt, "Responses to the Maribor Papers," 378). I think this point explains why molecularism without a principled distinction among *IRs* tells us little about meaning determination.

Devitt takes the meaning of a word as "its property of referring to something in a certain way," that is, what he calls "the mode of reference" of the word ("A Shocking Idea about Meaning," 461). *IRs*, on this account, are meaning-determining only when they are reference-determining.[126] Given this criterion to divide *IRs*, Devitt's molecularist theory is well-motivated. Is the theory justified though? Our next step is to look into this question. For, as mentioned in section 1.2, molecularism, if true, presents a counter example against (Hb).

According to Devitt, meanings are supposed to serve two semantic purposes: one is explaining behavior and the other informing us about reality. Following this aim, he conducts three arguments for his version of molecularism which holds that *ORs* (causal links, the semantically significant relations of expressions to the world, for him) must be taken into account for meaning determination (*Coming to Our Senses* 160). If I understand it correctly, on this account, there must be at least some expressions which are semantically self-standing, so holism cannot be right. In the rest of this section, we will scrutinize Devitt's arguments in turn and see whether there is any good reason to support his molecularism.

4.3.1 The argument from the success of meaning ascriptions

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[126] See also Devitt and Sterelny (*op. cit.* 263).

Devitt argues that the success of our ascriptions of meaning provides a good reason to suppose that meaning is localistic rather than holistic. For, according to Devitt, we ascribe to others' expressions shared meaning in ordinary circumstances, and shared meaning cannot be holistic but must be localistic.

Joseph Levine raises a question that one may naturally wonder about this argument. After all, "[i]t is one thing to say that our explanatory practice is successful and that it involves the attribution of properties of a certain sort (the sort the moderate localist endorses) and another to say that it's in virtue of the properties attributed that it's successful" (Levine, "Troubles with Moderate Localism," 67). If one thing successfully explains another thing, it does not follow that the former determines the success of the explanation of the latter. That the match was struck could successfully explain why it lit, but the lighting is not determined by the striking. The lighting of the match is determined by the striking and the presence of oxygen, the dryness of the match, and so forth. Without the existence of other factors, even the match was struck, it would not light. Levine's point is that we cannot obtain a nomologically or metaphysically necessity of localistic properties from Devitt's argument unless the success of our ascriptions is proved to be completed determined by the localistic properties.

Devitt is quite aware of the problem as he admits that the argument from the success of our ascriptions does not rule out the possibility of holistic meanings (Devitt, *Coming to Our Senses* 127). Nevertheless, he chooses to stick with the faith on the effectiveness of the evidence in our folk practice. Given the support that for the most part, we have been successfully ascribing to each other certain attitudes to tokens with certain localistic properties, Devitt urges that we can have strong confidence on molecular localism unless there is a powerful alternative explanation of the success of these ascriptions.

I am not as optimistic about this as Devitt is. Levine's challenge is exactly to the point that we cannot derive the normative localism from the descriptive premise, and this challenge is hardly answered in Devitt's response above. Moreover, as I argue in section 3.2, holistic meanings are sharable, so holism can provide an alternative explanation of the success of meaning ascriptions as Devitt demands.

4.3.2 The argument from our interest in generality

According to Devitt, "we ascribe meanings to *explain behavior*" (*ibid*., 126, italics in the original). In searching for meanings that are suited for playing a role in the explanation of behavior, Devitt claims, we want to be able to give common explanations of the common behavior of different individuals. For example, suppose that two people are together in a kitchen, drinking from glasses that were filled from the tap.[127] We want to find commonalities in the two cases to explain their common behavior "because common properties will, other things being equal, lead to common behavior" (*ibid*.). We may say that they each wanted the thirst to be quenched and believed that 'water' quenches thirst. By doing so, we attribute to them the common meaning of, say, 'water'. But Devitt remarks, only localistic meanings can be shared across individuals. Accordingly, the meaning of 'water' we ascribe to the two people in the example must be localistic.

It seems an undeniable doctrine that we have an interest in generality accompanies any semantic purpose we might have as Devitt points out. Let us grant that for the sake of argument. There is also a pervasive worry among philosophers that holistic meanings do not have the sort

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[127] This example is borrowed from Catherine J. L. Talmage ("Semantic Localism and the Locality of Content," 107).

of generality we are interested in semantics because of the aforementioned problem of stability. Devitt is obviously one of them as he claims:

> Holistic meanings would be so difficult to learn, teach, and use. . . . The more holistic the meaning, the more the theory that would have to be grasped; and more the likely variation from person to person, time to time; and so forth. (Devitt, *ibid*., 124, n. 13).

Among the various challenges which holism faces, Devitt regards the failure of meeting our interest in generality as most serious. This sort of worry is also part of "the dire consequence" of holism discussed in section 3.1. On Devitt's view, the putative meaning has to be common and peculiar to the tokens to which one ascribes the very meaning in order to be shared. Localistic properties are constituted by only a few of the relations of any token that has them and so they have the feature to be shared by many things. Holistic properties, on the other hand, are more unlikely to be shared since they are constituted by a large proportion of the inferential properties of its tokens. Therefore, only localistic properties can meet our interest in generality and serve our purposes of explaining behaviors. Holistic properties are too fine-grained for the task. This explains the localist doctrine why we tend to ascribe localistic properties rather than holistic one.[128]

Once again, Devitt's arguments rely heavily on the idea that holistic meanings cannot be shared across individuals, a pervasive misunderstanding among the opponents of holism. If I am right to claim that holistic meaning too can be shared,[129] then, as a result, the fact that we

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[128] See Devitt (*Coming to Our Senses* 125-7). See also Fodor (*Psychosemantics*, Ch. 3); Fodor and Lepore, (*Holism: A Shopper's Guide* 14-5) for a similar point.

[129] See section 3.2.

successfully ascribe shared meanings to others' thoughts and utterances cannot serve as a criterion on whether meanings are localistic or holistic as Davitt supposes.

4.3.3 The argument from Representationalism

Devitt argues that the meanings we ascribe are supposed to be representational. The resulting Representationalism, as he calls it, is a truth-referential theory of meaning which holds that meanings are entirely constituted by representational properties, properties that determine reference or truth-conditions. If meanings are entirely constituted by referential properties, either in the atomistic or in the molecular sense, they cannot be holistic.

On his view, we need *ORs* to explain truth conditions.[130, 131] According to this view, truth conditions are compositional, and are determined by reference and structure (Devitt and Sterelny, *op. cit.* 22).[132] It maintains that the meaning of an expression in a sentence is determined by its

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[130] According to Devitt and Sterelny (*op. cit.* 20), truth conditions describe states of affair in the world which have to hold for a given sentence to be true. It is the property of a sentence in virtue of which it is true if a certain situation in the world obtains and not true if that situation does not obtain. It is claimed that the meaning of a sentence is exhausted by its truth condition, and the truth condition represented by the sentence is the core of the meaning of the sentence.

[131] Another reason I can think of is to connect language with the world. But see my discussion in section 3.3. I do not think this reason is well-supported.

[132] For example, consider a simple sentence *S*, 'Snow is white'. The sentence is true if and only if snow is white. The truth of the sentence depends on the sentence having the simple structure of a one-place predication. It also depends on its containing 'snow', referring to snow, and 'is white', referring to white things. The sentence has its truth condition in virtue of the facts that there is some object that 'snow' refers to, and that 'white' applies to that object. In virtue of the truth condition of a sentence, we can identify linguistic items across, say, languages. For example, one can say the German sentence 'Schnee ist wiess' and the French sentence 'La neige est blanche' mean the same thing because they have the same truth-condition that snow is white.

contribution to the truth condition of that sentence. In other words, the meaning of an expression *E* must be given in terms of the contribution *E* makes to the truth properties of the sentences in which it occurs.

It is undeniable that one central way in which speakers use language is to say something about the world, to describe states of affairs, as we mentioned in section 3.3. And the notion of truth seems to be one of the most useful tools in describing the relation between representations and states of affairs in the world. Nonetheless, as intuitive as it may be, the truth-referential account of meaning is far from unproblematic.

First of all, for a representation to be able to have truth condition, it has to be truth-evaluable. However, there are sentences that do not seem to have truth values at all, and thus cannot be given truth conditions. Expressions occur in these sentences do not contribute to the truth conditions of the sentences for there is simply no truth conditions (of the sentence) for them to contribute to.[133]

Furthermore, there are linguistic devices that do not contribute to truth conditions under any circumstances. For example, words like 'but', 'although', and 'after all' do have encoded meaning but do not seem to affect the truth conditions of sentences containing them (Corinne Iten, *Linguistic Meaning, Truth Conditions and Relevance* 16).[134] As these examples indicate,

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[133] Examples include imperatives (e.g., "(You) go now!"), optatives (e.g., "God help us!"), and interrogatives (e.g., "Which one do you like?").

[134] Here I constraint my focus on the cases related only to linguistic expressions, where the meaning of an expression seems to contribute to the meanings of its host sentences in different ways other than contributing to the truth-conditions of those sentences. See Iten (*op. cit.*, 15-25) for a more detailed discussion on diverse examples where linguistic meaning of an expression cannot be accounted for in terms of the contribution it makes to the truth conditions of the sentences or utterances in which it occurs.

not all expression meanings are representational.[135] The truth-referential account is either false or incomplete. If that is the case, then we seem to lose the motivation to believe Devitt's claim that meanings are entirely constituted by properties that determine reference or truth-conditions.

This concludes my argument that Devitt's molecularism is not well-grounded. While Devitt's account does provide a principled basis to draw the distinction among *IRs* and thus is well-motivated in the sense discussed in section 4.2, the argument for self-standing meanings is still wanting. Devitt provides no good reason to believe that *ORs* must be taken into account for meaning determination. If we are right about the sharability of holistic meanings (section 3.2) and the explanatory inertness of *ORs* (section 4.1), it seems fair to consider holism as a viable option over molecularism.[136]

4.4 Borg's Organizational Lexical Semantics

Granting the problems of the explanatory inertness of *ORs* discussed in section 4.1, we are pushed to consider the meaning of words as far richer in systematic ways than a mere list of word-object pairs. In contrast to the non-atomistic proposals, Borg urges us to save self-standing meanings. She argues that the lexical complexity which the cases of intra-linguistic burden on

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[135] Note that not every human language we know has equivalents of English words like 'and', 'or', and 'but'. Linguists have found "the absence of iterable embedding in various human languages." And it has been claimed that some of these languages even "lack syndetic sentence coordination," that is, "they do not have sentence coordination that is explicitly marked with a coordinator word" (Geoffrey K. Pullum and Barbara C. Scholz, "Recursion and the Infinitude Claim," 131). See Pullum and Scholz (*ibid.*, 129-33) for a survey of some representative studies of these findings in the literature.

[136] Another attempt to save self-standing meanings, often discussed in the literature, is the two-factor theories which, like molecularism, endeavor to get the best from both *IRs* and *ORs*. As we have discussed in section 3.1.1, this account is not tenable either.

semantics mentioned in section 4.1.2 indicate "emerges not within the meanings of words themselves but within the organization of the lexicon" (Borg, *Pursuing Meaning,* 194) which need not play a role in constituting the meaning of an expression.[137]

In order to accommodate the intra-linguistic burden on semantics, Borg proposes that lexical items have, in addition to the denotational (and thus atomistic) core meaning, an organizational lexical structure to profile the information required to carry the intra-linguistic burden on semantics. The idea is to "posit an additional level of lexical organization which is capable of grouping word-meaning pairs into different categories" (*ibid.*, 194). She calls this approach "Organisational Lexical Semantics" (OLS). Since the additional content emerges on this device is "within the organization of the lexicon" (*ibid.*, 193) but extraneous to atomistic meaning per se, one can admit of lexical complexity demanded by the intra-linguistic burden on semantics while still hanging on to atomism.

By making space for information in the lexicon beyond mere word-meaning pairs, Borg hopes to have the complex patterns of the syntactic interactions of expressions illustrated in the cases in section 4.1.2 explained on the additional level of lexical organization and keep the atomistic meanings intact. For example, on this account, 'dog' can be marked as a *+/- AGENT*, *+ ANIMATE* expression which implies that 'dog' can be used as an animate agent and can be categorized as a *+ ANIMATE* noun and so forth (*ibid.*).[138] Or for example, 'hit' can be marked as

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[137] As Fodor once points out: "Saying that lexical items have features is one thing; saying that lexical items are feature bundles is quite another" (*Concepts: Where Cognitive Science Went Wrong* 63, n. 14).

[138] I use italic capital letters to denote semantic features or the organizational properties captured by OLS. They are technical terms. While they share some content with the ordinary concepts or meanings on this account, they are different from the latter. See Borg (*Pursuing Meaning* 177, n. 4).

a + *MANNER OF MOTION*, + *CONTACT* expression, and that directs us to have it in the same

category as other + *MANNER OF MOTION*, + *CONTACT* expressions, such as 'kick' and 'chop'

(*ibid*.). These specified properties, says Borg, do not constitute part of the word's meaning.

Instead, they tell us something about the word's meaning "by revealing the categories into which

[the word] falls" (*ibid*.,194). They do not constitute part of the meaning of 'dog' and 'hit', for

example, and thus are not enough for us to know the meaning of the word. On this account, one

could know the meaning of an expression *E* without knowing the additional information how *E*

works, and vice versa.[139]

4.4.1 Assessment

So OLS comprises two propositions. First, it admits that lexical items have complex semantic

features,[140] and second, it denies that lexical items are bundles of these features and are thus

semantically self-standing. It is similar to the two-factor theories (section 3.1.1) in the sense that

it splits two sorts of components of lexical items, only without including the intra-linguistic

features in word meanings. Instead, on this account, the intra-linguistic features are

"incorporated as part of the principles of categorization within the lexicon" (*ibid*., 197). Because

the information required to carry the intra-linguistic burden on semantics plays no role in

meaning constituting, OLS does not share the alignment problem with the two-factor theories.

On the other hand, for exactly the same reason, what the additional information can do is more

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[139] Corresponding to the division between how an expression *E* works from what *E* means, there is the division

of errors regarding one's competence with *E* and one's grasp of *E*'s meaning. One could be wrong about the

meaning of *E* but right about the additional information how *E* works, and vice versa.

[140] See also Fodor and Lepore ("The Emptiness of the Lexicon: Reflections on Pustejovsky," 113) where they

state: "A lexical entry is allowed to be complex. If it is, it specifies (a) a meaning (viz., content, viz., denotation) and

(b) a rule of composition that contributes to determining the of the phrases of which the item is a constituent."

limited than that of narrow meaning of the two-factor theories. Thus while OLS "allows more content into the lexicon than a purely denotational account of word meaning, . . . the additional content which it admits is itself pretty limited" (*ibid.*, 199).

OLS seems doing better in capturing expressions' syntactic behaviors than their semantic relations, such as synonymy, analyticity, entailment, and polysemy. It is partly due to its principle that the additional information it adds to atomism is not meaning constituting and partly due to its restriction on what sort of information can associate with the lexicon to carry the intra-linguistic burden on semantics. According to Borg, OLS allows only the information which is "either a feature which firm, type-level lexical intuitions attach to a term" or "a feature which is capable of affecting that term's syntactic behavior" to be part of the term (*ibid.*, 199). OLS can help explain the move from 'x hit y' to 'x made (physical) contact with y' and 'x chased y' to 'y was followed by x' but not the inference from 'x is a bachelor' to 'x is unmarried', from 'x is red' to 'x is colored', or from 'x is a dog' to 'x is mammal' (*ibid.*, 200). This latter group of inferences, for Borg, belongs to our knowledge of the world not meaning, and we need to look to the world not to the language for support for them.[141] In other words, on Borg's view, the relation underlies these inferences is not properly an internal one.

So 'dog' means DOG. In addition to its meaning, the lexicon contains more information or semantic features in part due to objects in the world picked out by 'dog'. The additional information can be marked as +/- *AGENT* and + *ANIMATE* but not + *ANIMAL*, + *MAMMAL*, or + *FOUR LEGS* because only the features like +/- *AGENT* and + *ANIMATE* are of our lexical knowledge about 'dog', other features are of our general knowledge about dogs and do not have any impact of the syntactic behavior of 'dog'. This is the story OLS will tell about 'dog'. It is

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[141] See also Devitt (*Coming to Our Senses* 19).

really not much about meaning but more about accommodating syntactic behaviors of the lexicon. Indeed, as Borg says, "it is a desire to capture correctly the syntactic behavior of expressions, recognizing that simple, referential lexical entries may not be the whole story in accounts of lexical content" that motives OLS (*ibid*., 205).

That OLS focuses more on syntactic behaviors of expressions is even more obvious when we compare OLS with other approaches which endorse lexical complexity, such as lexical semantics, inferential role semantics, and the device of semantic postulates discussed in *Pursuing Meaning*. While lexical semantics and inferential role semantics take lexical complexity as the idea that there is a complex structure underlying the apparently unitary form of a lexicon which gives or fixes its meaning, Borg suggests embracing a weaker notion of the complexity which does not locate within word meaning. Such lexical complexity can be characterized above and beyond a mere list of word-object pairs, as Rudolf Carnap's device of meaning postulates suggests. As Barbara Partee, a contemporary advocate of meaning postulates, introduces the notion, meaning postulate is "a technique for capturing significant generalizations about extractable regularities within lexical meanings" (Partee, "Lexical Semantics and Compositionality," 328).

Meaning postulates can be used to "specify semantic properties that distinguish various semantic subclasses within a given semantic type" (Partee, "Compositionality and Coercion in Semantics: The Dynamics of Adjective Meaning," 149) so it can accommodate the intra-linguistic burden on semantics.[142] This approach, however, according to Borg, is not compatible

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[142] For example, a skillful surgeon is still a surgeon, but a former surgeon is not a surgeon any more. We can characterize the diverse behaviors of 'skillful' and 'former' in terms of meaning postulates as follows.

(a) $\forall x \, \forall P \, [\text{skillful}(P)(x) \rightarrow P(x)]$

with the atomistic account she favors, for although it "retains the idea that word meanings are non-complex," it "allows additional content to be meaning constituting in the sense that, if additional information about a word meaning *e* makes reference to some other word meaning *e**, then it will not be possible for a subject to possess *e* without also possessing *e**" (Borg, *Pursing Meaning* 190-1). Borg thus proposes an even more conservative notion of lexical complexity which "rejects both the idea that word meanings are complex and that additional lexical information is meaning constituting" (Borg, *ibid*.,191). While this is a notion that a referential lexical semantics can accommodate, the problem remains—does it successfully capture the original intra-linguistic burden which worries us? I am afraid not, and here is why.

Consider Borg's own example 'ready'. According to OLS, 'ready' always means READY. In addition to its meaning, the lexicon contains more information which gets it categorized as a member of a set of two-place adjectives.[143] The logical form of sentences containing 'ready' thus have the form '_ready_' or '$\exists x \, \exists y$ Ready $<x, y>$'. "In sentences where only the first argument place is filled then the associated information kicks in to mark the missing argument place at the level of the logical form" (Borg, *ibid*., 202). Thus the sentence 'Flintoff is ready' is treated as expressing the proposition that there is something for which Flintoff is ready. The logical form of the sentence is '$\exists x$ Ready $<$Flintoff, $x>$'.[144] On this account, while the meaning of 'ready' is

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(b) $\forall x \, \forall P \, [\text{former}(P)(x) \rightarrow \neg \, P \, (x)]$

See Partee ("Compositionality and Coercion in Semantics: The Dynamics of Adjective Meaning," 149).

[143] Following Fodor and Lepore's treatment for 'want' ("The Emptiness of the Lexicon: Reflections on Pustejovsky," 115), OLS treats 'ready' as "[always denoting] the same relation—the relation of readiness—which holds between a subject and the thing for which they are held to be ready" (Borg, *op. cit*. 203).

[144] OLS treats gradable adjectives like 'tall' in a similar way if they are understood as relative to some comparison class or standard. 'Tall' means TALL. Information associated with the lexical categorization of 'tall'

atomistic, the contribution it makes to the sentences of which it is part is explained by the fact

that it is grouped with other two-place expressions.

As Collins criticizes in his review of Borg's *Pursuing Meaning* ("Review of *Pursuing*

Meaning," 154), however, there seems no reason to think 'ready' as a two-place rather than a

one-place expression. One of the problems to treat it as the former, says Collins, occurs when we

put the negation with the sentence. 'Flintoff is not ready' has its natural reading 'Flintoff is not

ready to do some particular thing' ('∃x ¬ Ready < Flintoff, x>'), not 'Flintoff is not ready to do

anything at all'. But if we read 'Flintoff is ready' as OLS suggests, then 'Flintoff is not ready'

would become '¬ ∃x Ready < Flintoff, x>' which reads 'It is not the case that there is an x that

Flintoff is ready for'. OSL cannot get us '∃x ¬ Ready < Flintoff, x>' in such case. It seems that

OLS cannot deliver what it promises, that is, to accurately capture the complex patterns of the

syntactic interactions of expressions illustrated in the cases in section 4.1.2.

4.5 Closing Remarks

In this chapter, in searching for what invariant shared meanings can buy for us, we inspect

various alternative accounts which maintain that invariant self-standing meanings are

indispensable for semantic theories. We have argued that atomism is indefensible not only

because that self-standing meanings by themselves provide no explanatory power for our

understanding of meaning but also because that it lacks the resources to accommodate the intra-

linguistic burden on semantics.

"Hybrid" theories which endorse non-atomistic meanings on the one hand, but are not ready

to give up self-standing meanings on the other, are canvassed. I argue that molecularism cannot

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marks it a two-argument expressions with the logical form '∃x ∃y Tall <x, y>'. The logical form of a sentence like

'Ted is tall' is '∃x Tall <Ted, x>'. (Borg, *ibid.*, 204)

bypass the no-principled-basis consideration. Devitt's localism provides no independent

justification for self-standing meanings. Two-factor theories are not tenable due to the alignment

problem. Moreover, Borg's organizational lexical semantics does not constrain intra-linguistic

burden on semantics within the organization of the lexicon with success. The challenge of intra-

linguistic burden on semantics is here to stay. The prospect of the non-holist is pessimistic.

We have argued that the fact that holism leads to (H→) should be conceived as an inevitable but harmless consequence of holism (chapter 3).

(H→) There is no invariant meaning shared across systems or across time slices of the same system available for (H) to identify linguistic items.

While (H→) indicates that holism has no resource for guaranteed meaning sharing across systems or time slices of the same system, it does not commit us to the rejection of (H). For, on the one hand, we have seen that holism, construed as (H), does not imply "total change" of meaning (section 1.2).[145] On the other hand, holism, like its non-holistic counterparts, observes the external as well as internal constraints, such as the constraints from our interactions with the surroundings and from the structure of the language, on the change in the meaning of our words (section 3.2.2).

We have also cast doubts on the explanatory power of the notion of invariant linguistic meaning to our understanding of meaning and language use. The linguistic phenomena involved in what we call "the dire consequence" of holism (section 3.2.1) are possible even without such invariant linguistic meaning. The success of translation, communication, disagreements, change of opinions, psychological generalizations, and so forth, is no miracle to holism. But the question remains. How can we understand each other through language without guaranteed meaning sharing?

In this chapter, we shall explore the answer to this question by looking into the inferential view of communication and the framework of Relevance Theory (RT for short hereafter) which

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[145] That is, holism does not imply that whenever there is a change in one (or more) of the determinants of the meaning of an expression *E* in one's language, the change of the meaning of *E* must follow.

holds that utterances are "pieces of evidence about [utterer's] meaning" rather than "signals encoding the messages that [utterers] intend to convey" (Dan Sperber and Deirdre Wilson, "Introduction: Pragmatics," 2) and that successful linguistic interaction need not involve the exact reproduction of thoughts. The question of whether there is identical meaning shared across participants in linguistic interactions does not even arise in the relevance theoretical framework.[146] Our understanding of each other can be explained without the identity of the mental representations involved. I would like to suggest that it is exactly the sort of explanation that the holist should go for when it comes to language uses.

5.1 Grice and Pragmatics

   Grice ("Logic and Conversation," 28) takes communicative actions as a particular class of human actions. On his view, what words mean and what people mean by them are ultimately to be analyzed in terms of the utterer's intentions, that is, mental states of the utterer which she intends her audience to discover.[147, 148] On this account, communication is an intentional

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[146] For example, Dan Sperber and Deirdre Wilson (*Relevance* 193) think that "[i]t seems to us neither paradoxical nor counter-intuitive to say that there are thoughts which we cannot exactly share, and that communication can be successful without resulting in an exact duplication of thoughts in communicator and audience."

[147] As Grice takes it in "Meaning Revisited" (229), "to say what a word means in a language is to say what it is in general optimal for speakers of that language to do with that word, or what use they are to make of it; what particular intentions on particular occasions it is proper for them to have." See also Grice ("Utterer's Meaning and Intentions"; "Utterer's Meaning, Sentence-Meaning, and Word-Meaning"; "Meaning").

[148] Note that Grice used the term "utter", together with "uttering" and "utterance" in an artificial sense which covers "any case of doing *x* or producing *x* by the performance of which [an utterer] meant that so-and-so" (Grice, "Utterer's Meaning, Sentence-Meaning, and Word-Meaning," 118). Nonlinguistic and even nonconventional

behavior which involves "the publication and recognition of intentions" (Sperber and Wilson, *Relevance* 24) and can be achieved by means of linguistic or nonlinguistic actions directed towards fulfilling certain audience-directed intentions of the utterer. For example, we can point to something and try to get others to see what we have in mind. When we see someone pointing and want to know what she meant by it, we are interested in what she intended to point to, that is, what she had in mind with the act of pointing.[149]

Similarly, what an utterer means by uttering something can be characterized in terms of an overtly audience-directed intention to produce a response in an audience via their recognition of the utterer's intention to produce the very response. To understand an utterance, accordingly, is to recognize the intentions behind it. The recognition of the utterer's intentions "is sufficient [for human communication]: as long as there is some way of recognising the [utterer's] intentions, then communication is possible" (Sperber and Wilson, *Relevance* 25).[150]

5.1.1 The code model and the inferential model of communication

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performances are included. Linguistic performances, like verbal communication, are only a specific class of intentional behaviors in general. I will follow Grice to use "utter" in this way in what follows.

[149] The example is from Nicholas Allott ("Relevance Theory," 73).

[150] Note that while what the utterer intends to communicate is determined solely by her intentions, the utterer cannot be said to intend to have the response which she thinks that there is very little or no hope for the addressee to entertain. In other word, the utterer cannot intend to communicate something she cannot rationally hope to achieve. This account thus can explain why I cannot expect an addressee to work out that I intend to talk about dogs with the word 'cat' under at least some circumstances where I think that there is very little or no hope for the addressee to recognize my intentions. See Grice ("Intention and Uncertainty"); Stephen Neale ("Paul Grice and the Philosophy of Language," 552); Allott (*op. cit.*).

Grice's framework provides the foundations of what Wilson and Sperber call an "an inferential model of communication, an alternative to the classical code model" (Wilson and Sperber, "Relevance Theory," 607).[151] A code is a system where the same signal is always linked to the same message. Take traffic lights as an example. A red light always is linked to the message "stop," and a green light is always linked to the message "go." As long as one masters these rules, one can decode the messages linked to the red and the green lights unambiguously every time one sees a signal.[152] According to the classical code model, human communication works in a similar way: an utterer "encodes her intended message into [his utterance], which is decoded by the [addressee] using an identical copy of the code" (*ibid*.). It is assumed that the utterer and the addressee share a code, so that the utterer's thought, encoded into an utterance, should be replicated in the addressee by a decoding process. The result comes out from verbal communication should thus be an exact reproduction in the addressee of the thoughts the utterer intended to convey.

Grice's framework indicates that communication goes beyond encoding and decoding. Not only that we often communicate something different from what is encoded by our words or gestures, but also that we can accomplish communication by gestures with no encoded conventional meaning. As Kepa Korta and John Perry remark, intention recognition is "not basically a matter of following conventional rules, but ampliative reasoning about what is going on in other minds" (Korta and Perry, "Pragmatics"). Grice's account thus "gives us an account both of how we can communicate without conventional signals at all . . . and of how we can communicate something distinct from what the conventional signals actually mean (as in irony,

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[151] See also Kepa Korta and John Perry ("Pragmatics," section 3.1).

[152] The example of traffic light is from Billy Clark (*Relevance Theory* 14-5).

metaphor, hints, etc.)" (Stephen Levinson, "On the Human 'Interaction Engine'," 50).[153] The inferential view, unlike the code one, takes utterances as "pieces of evidence about [utterer's] meaning" rather than "signals encoding the messages that [utterers] intend to convey" (Sperber and Wilson, "Introduction: Pragmatics," 2). Accordingly, the comprehension of utterer's meaning is not achieved "by decoding the [utterance] to obtain the associated message" but "by inferring this meaning from evidence provided not only by the utterance but also by the context" in which the utterance is uttered (*ibid*.).

We have seen that communication does not necessarily involve the use of a code. Now, consider an example from Wilson and Sperber ("Outline of Relevance Theory," 89).

(23) a. Peter: Did you enjoy your skiing holiday?

(23) b. Mary: (displays her leg in plaster)

It is said that by displaying her leg in plaster, Mary communicates with Peter that her skiing holiday did not live up to expectations. There is no code to pair "displaying one's leg in plaster" with the specific meaning Mary is intending to communicate here. But by providing her action as evidence of what she intends to convey, Mary can still respond to Peter, and it seems that Peter will be able "to use his knowledge of the world [, including Mary] and his general reasoning abilities" to work out what Mary intends to communicate given her pose (*ibid*.). Relevance

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[153] In the case of communicating without conventional signals, Stephen Levinson recalls a story of Kpémuwó ("On the Human 'Interaction Engine'," 42-3). Kpémuwó was the only deaf person in a remote village on Rossel Island, Papua New Ginea, and lived three hours walk away from any other deaf people when Levinson was in the village at the time. The two once engaged in a "conversation" in which Kpémuwó recounted a story about a woman who was dying of cancer in his village by means of pointings and iconic gestures, and Levinson was amazed that he could understand what was trying to communicate given that he shared no language and little culture with Kpémuwó at the time.

theorists take the existence of such cases as the evidence that "the inferential model is adequate by itself to account for at least some forms of communication" since such cases are not compatible with the code model (Sperber and Wilson, *Relevance* 26). Sperber and Wilson thus claim that human communication is inferential communication. We can communicate with or without using a language or some other codes.[154]

Moreover, according to Wilson and Sperber, this example also brings out a fundamental difference between the code and the inferential models of communication. As it is already implied in our introduction of the code model, "decoding procedures, when correctly applied to an undistorted signal, guarantee the recovery not only of an interpretation, but of the correct one (i.e., the intended interpretation)" (Wilson and Sperber, "Outline of Relevance Theory," 90). It is not the case in the inferential model though. According to the inferential model, "[there] are always alternative ways of interpreting a given piece of evidence, even when all the correct procedures for interpretation are applied" (*ibid*.). A single utterance, like any piece of evidence in general, can always be related to a range of different hypotheses, "all similar enough to the thoughts the communicator wanted to convey" (*ibid*., 89). For example, from a logical point of view, Peter might entertain a different hypothesis other than "Mary's skiing holiday did not live up to expectations" with the evidence provided in (23b), say, "Mary broke her leg before leaving for the holiday, and as a result did not go skiing at all." Unlike the code model, the inferential model, by itself, provides no procedure to guarantee the intended interpretation. "The two approaches thus start from radically different assumptions about the nature of communication itself" (*ibid*., 90).

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[154] See Sperber and Wilson ("A Deflationary Account of Metaphors," 100).

Verbal communication, without doubt, involves coding and decoding, for utterances in verbal communication are linguistically coded pieces of evidence.[155] However, as Sperber and Wilson remark, "from the fact that a particular communication process involves the use of a code, it does not follow that the whole process must be accounted for in terms of the code model" (Sperber and Wilson, *Relevance* 27). They hold that verbal communication is one of the complex forms which combine both code and inferential views, and "inferential communication . . . might involve the use of coded signals which fall shorts of encoding the communicator's intentions and merely provide incomplete evidence about them" (*ibid*.). On this view, linguistic decoding provides input to the inferential procedure of comprehension, but it is not the only source of input to the procedure. As Grice's framework indicates, the decoded linguistic meaning falls short of determining the utterer's meaning. Following Grice, proponents of the inferential view of communication go further to advance that in order to understand what someone means by an utterance, the addressee must use all sorts of information available, and the decoded linguistic meaning is only one of the examples of the information. On their view, "[the] central aim of pragmatic theory is to describe the factors other than a knowledge of sentence meaning that affect the interpretation of utterances" (Wilson and Sperber, "Outline of Relevance Theory," 86).[156]

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[155] At least, the grammar of a natural language is itself a code which pairs phonetic and semantic representations.

[156] As Korta and Perry ("Pragmatics") point out, most post-Gricean peagmatic theories are in agreement that there is more to what one can mean by an utterance than the decoded linguistic meaning involved. The question divides various theories is: How much more? Many neo-Griceans still hold a "minimalist" position which allows only minimal intrusion of pragmatic reasoning in our understanding of utterances. See, for example, Korta and Perry ("Pragmatics") for more discussion on the matter.

5.1.2 Grice's theory of conversation

According to Grice, inferential communication is governed by a set of maxims of conversation. His theory of conversation suggests an explanation of how we make inferences about the intentions of others in communication. He introduces the notion of implicature which is what the utterer implicates by the words uttered, by proposing to make a distinction of what the utterer means by the utterance U between what the utterer says and what the utterer implicates (Grice, "Logic and Conversation," 118). What the utterer says by U, for Grice, is determined by the truth-conditional aspect of the conventional meaning of U with processes of disambiguation and reference fixing of the words uttered on the particular occasion and thus is restricted to the truth-conditional content of U. Implicatures, on the other hand, are aspects of what the utterer means by U, which go beyond what the utterer says by U and thus are information that has no bearing on truth-conditional content.

By introducing the notion of implicature, Grice is making points of fundamental importance to contemporary pragmatics, such as in making an utterance U, an utterer typically conveys something more than or different from what the words uttered encoded, and understanding linguistic utterances is thus more than a matter of knowing the linguistic meanings of the words used and the way in which these words are combined. Consider Grice's own example:

> A and B are talking about a mutual friend, C, who is now working in a bank. A asks B how C is getting on in his job, and B replies: *Oh quite well, I think; he likes his colleagues, and he hasn't been to prison yet*. ("Logic and Conversation," 24, italics in the original)

All B literally said of C here is that C hasn't been to prison up to the time of the utterance. But B

could have implicated, more than what is literally said, that C is the sort of person likely to yield

to the temptation provided by his occupation, for example.

Some questions immediately follow the introduction of implicatures. What to make

utterances reliable guides to utterer's intended meaning since the latter goes beyond what is

encoded in the sentence uttered? How can the utterer be reasonably confident that her intended

meaning will be understood, and how can the addressee recognize the relevance intentions of the

utterer's?

Grice responds to these concerns by suggesting certain rules and principles to govern

conversation. He also claims that these rules and principles need not be conformed when there is

a good reason not to. The idea is that communication is a purposive, rational behavior, and a

rational utterer will try to be cooperative and helpful and therefore she will generally aim to meet

certain standards, described by Grice's maxims to achieve her goal (Grice, "Logic and

Conversation," 28-30). Specifically, for Grice, to be cooperative the utterer should produce

utterances which are informative, truthful, relevant, and formulated in an appropriate manner. He

proposes a Cooperative Principle (CP) and several conversation maxims which, he supposes, the

utterers are not only aware of but trying to follow.

> Cooperative Principle (CP): Make your conversational contribution such as is required,
> at the stage at which it occurs, by the accepted purpose or direction of the talk
> exchange in which you are engaged. (Grice, "Logic and Conversation," 26).

> The maxims of conversation (*ibid*., 26-7):

- Quality: Try to make your contribution one that is true.
  - Do not say what you believe to be false.

- o Do not say that for which you lack adequate evidence.

- Quantity:

  - o Make your contribution as informative as is required (for the current purposes of the exchange).

  - o Do not make your contribution more informative than is required.

- Relation: Be relevant.

- Manner: Be perspicuous.

  - o Avoid obscurity of expression.

  - o Avoid ambiguity.

  - o Be brief (avoid unnecessary prolixity).

  - o Be orderly.

  - o Frame whatever you say in the form most suitable for any reply that would be regarded as appropriate; or, facilitate in your form of expression the appropriate reply (Grice, "Presupposition and Conversational Implicature," 273).

The maxim of quality says that we expect each other only to say things that are true or well evidenced. If I asked you how to get to the train station, I do not expect you to give me directions if you do not know where the train station is. It is not cooperative, according to Grice, if you tell me directions simply based on guesswork.[157] The maxim of quantity says that we should provide enough information but not too much. Suppose I ask you how to get to the train station. It seems too informative for you to say, 'Lift up your left foot, move it to the front and place it on the ground, and then raise your right foot and repeat the moves', on the one hand, and not

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[157] This example is adopted from Clark (*Relevance Theory* 57).

informative enough for you to say, 'Simply walk', on the other. Grice does not give a definition

of what it means to be relevant in the maxim of relation. We may understand it as "having to do

with the topic we are discussing." If I ask you how to get to the train station, and you respond,

'The weather is strange today', your answer is not relevant to my question. And the maxims of

manner are about how to formulate utterances.

The maxims of conversation can be overtly and blatantly violated. In such cases, says Grice,

"some maxim is violated at the level of what is said, but the [addressee] is entitled to assume that

that maxim, or at least the overall [(CP)], is observed at the level of what is implicated" (Grice,

"Logic and Conversation," 33).

Since the utterers are expected to observe these standards, the interpretation a rational

addressee should choose is accordingly said to be the one that best satisfies the expectations in

terms of these maxims. The reasoning of what is implicated, claims Grice, is based on

knowledge of what is said by the utterer, the context of the utterance, relevant background

information, and the consideration of (CP) and the maxims of conversation proposed. These

maxims, according to Grice, apply to all sorts of cooperative behavior, verbal or non-verbal. He

presents the general pattern of this kind of reasoning on the addressee as follows:

> [The utterer] has said that p; there is no reason to suppose that he is not observing
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> the maxims, or at least the [(CP)]; he could not be doing this unless he thought
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> that q; he knows (and knows that I know that he knows) that I can see that the
>
> supposition that he thinks that q is *required*; he has done nothing to stop me
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> thinking that q; he intends me to think, or is at least willing to allow me to think,
>
> that q; and so he has implicated that q. (*ibid*., 31, italics in the original)

Apply this to the earlier example, to B's remark that C has not yet been to prison. A would reason like the following:

> B has said that C has not been to prison yet; he has apparently violated the maxim of relation, that is, be relevant, but I have no reason to suppose that he is not observing the CP; the best explanation for his violation of the maxim is that he thought that C is potentially dishonest; B knows (and knows that I know that he knows) that I can see that he is thinking that C is potentially dishonest; he has done nothing to stop me thinking that C is potentially dishonest; so he has implicated that C is potentially dishonest.

Grice distinguishes conversational implicatures from conventional ones and specifies a couple of distinctive features of the former. Firstly, conversational implicatures are cancelable (*ibid*., 44).[158] An element of what is communicated that is related to conventional meaning cannot be cancelled without a sense of inconsistency or contradiction. But an element that is conversationally implicated can be explicitly cancelled by what the utterer says next.

Consider the following examples.

 (24) Barack Obama has two daughters.

 (25) Barack Obama has only two daughters and no more.

What is said in (24) is not incompatible with the possibility that Barack Obama in fact has, say, three daughters. But given the maxim of quantity, if it is not the case that Barack Obama has exactly two daughters, the utterer should have said so. Thus, (25) is conversationally implicated by (24). This implication can be cancelled if the utterer adds a couple of words to her utterance (24), say (26).

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[158] See also Allott (*Key Terms in Pragmatics* 26).

(26) Barack Obama has two daughters, and maybe more.

(26) does not have the implication in (25). Implicatures can also be cancelled in certain linguistic or non-linguistic contexts. For example, imagine the following exchange in a music shop.

(27) a. John: The CD is eight dollars, and I haven't got any money on me.

b. Mary: Don't worry, I've got eight dollars.

Given the context of the conversation, Mary's response does not yield the usual conversational implicature that Mary has got eight dollars and no more, for all the information needed in this context is whether or not Mary has enough money for John to buy the CD rather than the exact amount of money she might have.[159]

Secondly, with the exception of those due to the maxim of manner, conversational implicatures are non-detachable from the propositional content expressed by the utterances by which they are implicated (*ibid*., 39). Therefore they "cannot be detached from an utterance simply by changing the words of the utterance for synonyms" (Levinson, (*Pragmatics* 116).

Consider am example from Levinson (*ibid*., 116-7) where (29) is an ironic interpretation of (28).

(28) John's a genius.

(29) John's an idiot.

Within the same context, we can change (28) to (30). As long as (30) expresses the same proposition as (28), (29) will still be a conversational implicature of (30) even the linguistic form of (30) is different from that of (28).

(30) John's an enormous intellect.

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[159] This example is adopted from Yan Huang (*Pragmatics* 33).

Conversational implicatures are attached to the propositional content, but not to the linguistic form of the utterances by which they are implicated.

Thirdly, conversational implicatures are calculable.[160] According to Grice, "[t]he presence of a conversational implicature must be capable of being worked out [from what is said, and how it was said, and the fact that it was said by the utterer]; for even if it can in fact be intuitively grasped, unless the intuition is replaceable by an argument, the implicature (if present at all) will not count as a conversational implicature" (Grice, "Logic and Conversation," 31).

Fourthly, conversational implicatures are non-conventional (*ibid*., 39). While conversational implicatures depends on the encoded conventional meaning of the linguistic expressions, they are not coded in nature. They are not part of what the utterer says since they are not part of conventional meaning of linguistic expressions.

Fifthly, conversational implicatures are indeterminate. The indeterminacy of conversational implicatures follows from the fact that conversational implicatures are worked out by inference to the best explanation. "[Since] there may be various possible specific explanations, a list of which may be open" in the sense that it is indeterminate (*ibid*., 40).

Conventional implicature, on the other hand, are cases where the implicatures are conventional and thus linguistic encoded. They are "non-truth-conditional inferences that are not derived from . . . [Grice's maxims of conversation], but simply attached by convention to particular lexical items or expressions" (Levinson, *Pragmatics* 127), and they can be expected in contrast with conversational implicatures on all the distinctive properties of the latter outlined above. Conventional implicatures are non-cancellable "because they do not rely on defeasible assumptions about the nature of the context" (*ibid*., 128). They are detachable because they rely

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[160] See also Allott (*Key Terms in Pragmatics* 26).

on the encoded meaning lexical items or expressions used in utterances. They are not calculated, "but rather given by convention" (*ibid*.). Their meanings are rather determinate.

5.2 Critiques of Grice's Theory of Conversation

While Grice's theory of conversation is important and influential for the development of pragmatics, it has some serious problems of explanation.[161] In this section, we will discuss some critical challenges to Grice's account.

5.2.1 The role of the pragmatic principles in recovering what is said

Grice sees the scope of the pragmatic principles, that is, his maxims of conversation, as governing the recovery of conversational implicatures. For him, what the utterer says by producing an utterance *U* on a given occasion is determined by the truth-conditional aspect of the conventional meaning of *U* with processes of disambiguation and reference fixing of the words uttered on the particular occasion. Accordingly, in order to know what is said by the utterer, two things are necessary for Grice's account. Firstly, the addressee needs to be able to narrow down the range of possible senses and reference of *U*. Secondly, the addressee needs to make a decision about which sense and reference among the possible range is the one intended by the utterer. Grice seems to think that the addressee can rely on semantic rules to recognize the intended sense of ambiguous expressions and the referents of referring expressions among the possible range, but he says little about how it can be done.

Wilson and Sperber ("On Grice's Theory of Conversation," 156) point out that while the addressee can rely on semantic rules to fulfill the first of these two tasks, the same strategy is not going to help her with the second task. Consider their example (31) (*ibid*.).

(31) Refuse to admit them.

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[161] See Sperber and Wilson (*Relevance* 31-8); Martin Davies ("Philosophy of Language," 131-2).

Wilson and Sperber claim that the addressee will need contextual information to help her decide which sense of 'admit' and which reference of 'them' is intended by the utterer in (31). We can imagine (31) said in response to different questions (32) and (33) on different occasions.

(32) What should I do when I make mistakes?

(33) What should I do with the people whose tickets have expired?

If (31) is said in response to (32), the addressee "can immediately eliminate all of the possible interpretations of [(31)] except the one in which *admit* means 'confess to' and *them* refers to the [utterer's] mistakes" (*ibid*., 157, italics in the original). But if (31) is said in response to (33), the addressee will interpret the utterance accordingly, that is, to interpret 'admit' as 'let in', and 'them' as referring to people whose tickets have expired. (32) and (33) are simply two examples among the indefinite possibilities of what an utterer can intend by uttering (31). As Wilson and Sperber correctly observe, an utterance like (31) has "an indefinite range of logically possible interpretations," for according to Grice, any of the possibilities "could have been intended by [an utterer] who was not observing Grice's maxims" at the level of what the utterer says (*ibid*.).[162]

How can the addressee make a decision about the intended sense of an ambiguous expression and the referents of referring expressions among the indefinite range of the possibilities? It seems, as Wilson and Sperber argue persuasively, that the addressee's ability to make such decision must depend on the assumption that the utterer has observed Grice's maxims even at the level of what is said by the utterer.[163] In particular, in order to understand (31), the addressee must assume something like Grice's maxim of relation: The utterer's utterance (31)

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[162] See also Sperber and Wilson (*Relevance* 184).

[163] See also Robyn Carston ("Implicature, Explicature, and Truth-theoretic Semantics," 160).

117

has to be taken as relevant.[164] But then, it means that the pragmatic principles must be observed at the level of what is said by the utterer, and this is in conflict with Grice's proposition which allows the maxims of conversation to be violated.

5.2.2 The problem of (CP) and the maxims of conversation

Similar problem of the difficulty to explain the addressee's choice of the interpretation of the utterer's intended implication occurs at the level of conversational implication as well. While Grice's (CP) and the maxims of conversation can guide the addressee to narrow down the range of possible conversational implications of the utterer's utterance U, there may still be a variety of interpretations which meet the maxims of conversation. It is not clear how the maxims of conversation can further tell us that "on the same basis, an equally convincing justification could not have been given for some other interpretation that was not in fact chosen [as what the utterer intended to implicate by U]"(Sperber and Wilson, *Relevance* 37).

The problem is partly due to the fact that the essential concepts used in the formulation of the maxims of conversation are not properly defined. As we have mentioned earlier when introducing the maxims, for example, we can only understand the concept of relevance in the maxim of relation to some intuitive extent that it means something like "having to do with the topic we are discussing." But this criterion is still quite vague. Moreover, Grice provides no explicit general account of the relationships between the different maxims of conversation.

A couple of results follow from this.[165] Firstly, it is not clear what to do when different maxims are in conflict. Since Grice gives no rationale behind or criteria of individual maxims,

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[164] So if (31) is said in response to (32), we should interpret it as "Refuse to admit your mistakes," for otherwise, utterance would not be relevant.

[165] See Wilson and Sperber ("Outline of Relevance Theory," 91); Davis ("Philosophy of Language," 131-2).

there seems no further guideline or justification we can rank maxims under such circumstance. Secondly, it is not clear whether the maxims mentioned are sufficient, and there is no criterion to follow if it turns out that they are not. How do we decide what to add if the existing maxims are not sufficient? Thirdly, it is not clear whether these maxims are necessary. If it turns out that they are not, how do we decide which existing maxim to eliminate? For example, it is said that the role performed by the maxim of relation often seem to be close to that performed by the maxim of quantity.[166, 167] One way to decide whether something is relevant we are discussing is to examine whether it is informative enough to the topic. But if that is true, does it mean that one of the maxims is redundant? The maxim of quantity share similar vagueness with the maxim of relation, too. It has been pointed out that it is not clear how we can measure degrees of information as the maxim of quantity requires. How do we decide, say, what to count as "informative enough" but not "more informative than is required"?[168] It is not clear that Grice's account can answer these questions.

5.2.3 Literal and non-literal uses of language

Grice embraces the traditional assumption about literalness which retains a sharp distinction between literal utterances and nonliteral ones. A literal utterance is an utterance in which the words used by the utterer are used with their literal meaning, and a nonliteral utterance, on the other hand, is not the case.[169] Such an account considers literal meanings as primary and treats

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[166] See Clark (*Relevance Theory* 70).

[167] Grice ("Logic and Conversation," 27) himself points out that the effect of the second submaxim is secured by his maxim of relation.

[168] See, for example, Wilson and Sperber ("On Grice's Theory of Conversation," 171).

[169] See Allott (*Key Terms in Pragmatics* 112).

nonliteral meanings as the results of systematic departures from literal ones.[170] On Grice's framework, nonliteral utterances, such as irony, metaphor, meiosis, and hyperbole, are handled as violation of the first submaxim of quality (do not say what you believe to be false), for what is literally and explicitly said by the utterer in these cases is obviously something that the utterer believes to be false. Understanding a nonliteral utterance U, on this account, involves first accessing and then rejecting a literal interpretation of U, and then looking for an appropriately related true implicature of it. The problem is that while it is true that irony, metaphor, meiosis, and hyperbole are all false at the level of what the utterer said, they are very different in other respects. The general difficulty of Grice's theory of conversation mentioned in the former subsections applies to these cases, too. It is not clear that the implicatures suggested by Grice's account in the cases of nonlinguistic uses do characterize what is communicated.

According to Grice, since nonliteral utterances violate the first submaxim of quality, the addressee has to find a related implicature q such that, by supposing that the utterer believes that q, she can see the utterer as observing (CP). The most likely supposition for irony, he suggests, "is the contradictory of [what the utterer said]" (Grice, "Logic and Conversation," 34).[171] In the case of metaphor, the most likely supposition, he suggests, is that "the [utterer] is attributing to [the addressee] some feature or features in respect of which the audience resembles (more or less

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[170] See Sperber and Wilson ("Introduction: Pragmatics," 17).

[171] This account is problematic because there are common examples of irony in which the utterer does not mean the opposite of what she said. One such example is "Our friends are always there when they need us" (Allott, *Key Terms in Pragmatics* 106). One can utters this sentence ironically but still endorse the sentiment it expresses without implicating the contradictory of the sentence for here "the utterance is a distorted echo of the proverb 'Our friends are always there when we need them'" (*ibid.*). See also Clark (*Relevance Theory* 285); Wilson ("The Pragmatics of Verbal Irony: Echo or Pretence?", 1724).

fancifully) the mentioned substance" (*ibid*.). In meiosis, the utterer expresses a stronger meaning than her words carry in themselves. So the suggested supposition for meiosis is a stronger proposition than what the utterer said. In hyperbole, the utterer expresses a weaker meaning than her words carry in themselves. The suggested supposition for hyperbole is a weaker proposition than what the utterer said.

What does Grice's proposition buy for us? It says that when an utterer violates the maxim of quality, she may be doing so in order to communicate the contradictory, a related simile, a stronger or a weaker version of what the utterer said. Grice's proposition tells us only this much. It does not tell us how the addressee works out which implicature among these possibilities is the one intended by the utterer on a particular occasion. As Allott points out, Grice's account, at best, "could only explain how the search for a [non-literal] interpretation is triggered, by blatant violation of a maxim, but not how it is resolved" (Allott, *Key Terms in Pragmatics* 122).[172] If we recall that, for Grice, conversational implicatures should be capable of being worked out from what is said, how it was said, and the fact that it was said by the utterer, there seems nothing to be worked out in the process suggested by Grice of looking for an appropriate implicature in these nonliteral utterances, and it is in conflict with his account of the calculability of conversational implicatures.

Moreover, while the nonliteral utterances are taken as violating the first submaxim of quality, utterers are described as not saying something but merely as "making as if to say" the literal meaning of the utterance (Grice, "Logic and Conversation," 31) or as "purport[ing] to be putting forward" a proposition (*ibid*., 34) with their nonliteral utterances. The problem, as Wilson points out ("The Pragmatics of Verbal Irony: Echo or Pretence?", 1726), is that if

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[172] See also Carston ("Metaphor and the Literal/Nonliteral Distinction," 171); Clark (*Relevance Theory* 285).

nothing is said by at least some of the nonliteral utterances, then nothing in the nonliteral utterances is to violate the first submaxim of quality.

Loose uses of language present a problem for Grice's "literal first" approach, too. As Sperber and Wilson point out, we often produce utterances which are not strictly true, and they are not generally perceived as violating the maxim of quality. Consider the following examples of loose uses of language from Wilson and Sperber ("Truthfulness and Relevance," 592, italics in the original).

(34) The lecture starts *at five o'clock*.

(35) Holland is *flat*.

(36) Sue: I must *run* to the bank before it closes.

(37) Jane: I have a terrible cold. I need a *Kleenex*.

Grice appears to treat such loose talk and rough approximations as literal rather than nonliteral utterances, but as we shall see shortly, they share the property of not being strictly and literally true with the nonliteral uses of language mentioned earlier. It is not clear what the criterion is to put them on the literal side.

As Wilson and Sperber remark, utterances such as (34)-(37) are "not strictly and literally true," for "lectures rarely start at exactly the appointed time, Holland is not a plane surface, Sue must hurry to the bank but not necessarily run there, and other brands of disposable tissue would do just as well for Jane" (Wilson and Sperber, *ibid*.). Furthermore, such loose uses of language are very common. They apparently violate Grice's maxim of quality. How should they be analyzed?

While one can follow Grice's maxims to think that these utterances are used to implicate their strictly true counterparts as indicated in (34')-(37'), this strategy raises two concerns.

(34') The lecture starts at or shortly after five.

(35') Holland has no mountain and very few hills.

(36') I must go to the bank as fast as if I were running.

(37') I need a Kleenex or other disposable tissue.

Firstly, it is not obvious that we always understand loose uses of language this way. It is not clear that, if it is indeed that by uttering (34)-(37), the utterer is implicating (34')-(37'), why does one not simply utter (34')-(37')? (34)-(37) may be preferable to (34')-(37'), especially when we consider that (34')-(37') are longer than (34)-(37) and do not provide any more valuable information than (34)-(37). It seems that in many circumstances it is the loose interpretation, say, "The lecture starts around five o'clock" for (34), rather the strict literal interpretation, the first thing to the addressee's mind to be tested. Such looseness of expression seems to be expected in general.[173]

Secondly, given the prevalence of loose talk, we may wonder whether it is reasonable to assume the existence of the maxim of quality when people quite commonly fall short of strictly obeying it. If we admit that loose talk "does not involve a degree of overtness in real or apparent violation which might trigger the search for an implicature," as Wilson and Sperber think we should, it causes problem to Grice's framework. For if that is the case, then Grice's framework seems to leave loose uses of language unexplained. It is not obvious how we can maintain the existence of the maxim of quality and explain loose talk at the same time. Thus Sperber and Wilson come to the conclusion that:

> [The addressee] is not invariably entitled to expect a literal interpretation of the [utterer's] thought, nor is such an interpretation always necessary for successful

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[173] See Sperber and Wilson (*Relevance* 234).

communication to take place. A less-than-literal interpretation of the [utterer's] thought may be good enough: may indeed be better on some occasions than a strictly literal one. (Sperber and Wilson, "Loose Talk," 158)[174]

5.2.4 Strength of implicatures

We have seen that although it seems that the maxims of conversation work for some obvious cases like those we use to illustrate the maxims earlier, there are many common cases where the maxims seem to fail to explain or predict. Thus Sperber and Wilson claim that Grice's account "explains communication too poorly" (Sperber and Wilson, *Relevance* 32). Their ("Relevance Theory," 620) diagnosis is that one feature of conversational implicatures—the degree of strength of implicatures—is overlooked. For them, the claim that there is "a convention of literalness or anything of the sort" is too strong (Sperber and Wilson, *Relevance* 230). Such a convention is a constraint postulated on the ground of the code model of communication which presupposes that what is communicated by an utterance is what it encodes and that the meaning of an utterance is "an identical reproduction" of a thought of the utterer (*ibid.*)

We already saw some problems of understanding communication this way. Sperber and Wilson argue that there is no ground to postulate "any *ad hoc* constraint, [such as one by the code model,] apart from strictly grammatical constraints" in our understanding of verbal communication (*ibid.*, italics in the original). On the other hand, they argue that there is a gradient of cases between strong and weak implicatures.

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[174] And Carston follows: "[W]e frequently use elements of encoded linguistic meaning non-literally, either because this is the most efficient way of communicating our thoughts, or because our language does not provide us with any literal means" (Carston, *Thoughts and Utterances* 340).

A proposition may be more or less strongly implicated. It is STRONGLY

IMPLICATED (or is a strong implicature) if its recovery is essential in order to

arrive at an interpretation that satisfies the addressee's expectations of relevance.

It is WEAKLY IMPLICATED if its recovery helps with the construction of such

an interpretation, but is not itself essential because the utterance suggests a range

of similar possible implicatures, any one of which would do. (Wilson and Sperber,

"Relevance Theory," 620)

Take the following examples from Sperber and Wilson (*Relevance* 56).

(38) a. Peter: Do you want some coffee?

(38) b. Mary: Coffee would keep me awake.

According to Sperber and Wilson's analysis, Mary clearly implicates that she does not want

coffee (or, in some circumstances that she does) and that it is because coffee would keep her

awake that she does not want it. Here the implicature that Mary does not want coffee can be seen

as a strong implicature because without it Mary's utterance (38b) would not be relevant to

Peter's question (38a), and if Peter does not understand that Mary's response is implicating that

she does not want coffee, he would miss the main point of Mary's utterance.

While this analysis seems to characterize the main aims of Mary's utterance, Sperber and

Wilson note, we can still ask the question why she chooses the indirect rather than direct answer

to Peter's question. Why does she not reply that she does not want coffee? They think that the

indirect answer in (38b) allows Mary to communicate not only that she does not want coffee but

also why she does not want it. The further information of Mary's reason of not wanting coffee

provides evidence for further inferences. For example, one of the inferences might be that Mary

will not drink tea since tea will keep her awake. This implicature is not by itself the main

communicative point of Mary's utterance (38b) but a weak implicature of it, according to Wilson and Sperber. In contrast to strong implicatures, weak implicatures are not individually required for the addressee to make sense of what is communicated. But on the other hand, on this account, at least some weak implicatures are required to make sense of what is communicated.[175]

The distinction between strong and weak implicatures is useful, as Wilson and Sperber note, in many ordinary cases in which the utterer's intentions seem vague, that is, she may be intending to convey "a wide array of possible implications, each of which is a weak implicature" (Wilson and Sperber, "Relevance Theory," 621). For example (Sperber and Wilson, *Relevance* 56):

(39) a. Peter: What do you intend to do today?

(39) b. Mary: I have a terrible headache.

What does Mary implicate here? Sperber and Wilson's answer is that "[t]here is no precise assumption, apart from the one explicitly expressed, which she can be said to intend Peter to share" (*ibid.*, 56-7). Yet there is more to (39b) than what is explicitly expressed: Mary "intends Peter to draw some conclusions from what she said, and not just any conclusions" (*ibid.*, 57).

Consider the previous example (36).

(36) Sue: I must *run* to the bank before it closes.

Wilson and Sperber make the following remarks about it.

> Suppose that Sue, chatting with friends in the street, looks at her watch and says, 'I must run to the bank before it closes.' Her friends will take her to mean that she must break off their chat and hurry to the bank. For them, that much information is worth deriving. Whether she will actually get to the bank by running, walking

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[175] See Wilson and Sperber ("Relevance Theory," 620).

fast or a mixture of both is of no interest to them, and they will simply not attend

to this aspect of the literal meaning of her utterance. (Wilson and Sperber,

"Truthfulness and Relevance," 598)

There are at least two points worth mentioning here. Firstly, take the literal meaning of 'run' as

M(run). It does not matter whether *M(run)* is running, walking fast or a mixture of both for we

are not dealing with the literal meaning of 'run' here.[176] The function of linguistic meaning of an

utterance, in inferential communication, is not to encode the utterer's meaning, not even some of

it, but to provide evidence of her meaning to the addressee (Wilson and Sperber, Meaning and

Relevance xi).[177] As long as Sue's friends can reach the implicature that "Sue must break off the

chat," communication is achieved. The question whether $M(run)_{utterer}$ and $M(run)_{addressee}$ are

identical simply does not arise. Secondly, in the light of the notion of the strength of implicatures,

the difference between implicatures of (36) can be seen as a difference in degree of strength.

There is no need for the addressee to make a decision about whether the utterance in (36) is

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[176] Note that in this case, there is a sharp discontinuity between running and walking. Running and walking

involve different standards of precision so that even 'run' is used loosely, it will not be the same as or similar to

walking. See Sperber and Wilson ("Introduction: Pragmatics," 19-21) for more discussion about the distinction

between loose uses and linguistic ambiguity or vagueness.

[177] This is a crucial difference between RT, as an account of inferential communication, and other pragmatic

theories. For example, Kent Bach ("Conversational Implicature," 127) takes linguistic meaning of an utterance as

what he calls a "propositional radical" which encodes only a fragment of the proposition of the utterer's meaning.

But RT does not take the linguistic meaning of an utterance as part of the utterer's meaning. That is what it means to

say that the function of linguistic meaning of an utterance, in inferential communication, is not to encode the

utterer's meaning, not even some of it.

literal or not. There is no need to appeal to Grice's maxims and thus no violation of the maxims involved.

Once we include the consideration of the strength of implicatures, loose talks and other nonliteral uses of language can be understood as cases which convey an array of implicatures of different strength. Wilson and Sperber claim that we should treat it as if there is a continuum of our uses of language: literal uses, approximate or loose uses, metaphorical uses, and so forth, all involve the same interpretive mechanisms and can be explained in the same way. Communication will be successful as long as the addressee can arrive at the intended implications, even weak ones. As we will see shortly in section 5.4, RT is to provide a unified account for such interpretive mechanisms.

5.3 Communication without Shared Meaning

We have shown some serious challenges to the traditional assumption which takes literalness as the norm in verbal communication. The problems presented indicate that, given the prevalence of nonliteral uses of language, this assumption should be abandoned. How do we understand utterances then? Wilson and Sperber propound that "all interpretations start loosely," rather than literally (Wilson and Sperber, "Representation and Relevance," 144). On this view, an utterance is to be understood as more or less literal, "unless nothing less than a fully literal interpretation will do" (*ibid*.). How can it to be done?

5.3.1 Representation by resemblance

First off, let's introduce the notion of representation by resemblance. We use one thing to represent another thing which it resembles all the time, be it pictures, diagrams or actions. And people are expected to identify the respect in which the resemblance between the representation and the represented holds. For example, if I am asked how big a watermelon is, I may use my

hands to draw a circle to show the size of it or exhibit another object which I believe has similar size of it. Likewise, a patron can locate the book she is looking for by looking into the floor plan of the library. Sperber and Wilson note that it does not require all the properties of such a representation to be shared by the original to make it work.[178]

Sperber and Wilson introduce the notion of representation by resemblance to characterize this feature of representations. Resemblance in this case is a comparative notion defined in terms of sharing of implications:

> Two representations resemble each other (in a context) to the extent that they
> share logical and contextual implications. The more implications they have in
> common, the more they resemble each other. (Wilson, "Metarepresentation in
> Linguistic Communication," 426)[179]

Resemblance comes with two extremes. At one end where representations share no logical and contextual implications, there is no resemblance at all. At the other end where representations share all their logical and contextual implications, there is maximal resemblance, i.e. fully identity.

According to RT, the logical implications of a proposition p are implications derivable from p by applying inference rules using only p as input. The contextual implications of p are implications derivable from p and the union of a context of background assumption C, but not by p alone or by C alone.[180] Take Sperber and Wilson's example from "Loose Talk." Consider two

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[178] See Sperber and Wilson ("Loose Talk," 159).

[179] See also Wilson and Sperber ("Representation and Relevance," 138); Sperber and Wilson (*Relevance* 228).

[180] See Eun-Ju Noh (*Metarepresentation* 73); Sperber and Wilson (*Relevance* 105; "Loose Talk," 157).

propositions (40) and (41) and two contexts (42) and (43) which are sets of assumptions {(42a), (42b)} and {(43a), (43b)} respectively.

(40) It is winter.

(41) It is freezing cold.

(42) a. If it is winter, then it is cold.

(42) b. If it is cold, then we should stay at home.

(43) a. If it is winter, there are no flowers in the garden.

(43) b. If it is freezing cold, we should heat the greenhouse.

How do we compare the resemblance between (40) and (41) in both contexts? In the first context {(42a), (42b)}, (40) and (41) share (44) and (45) where (44) is contextually implied by (40) and logically implied by (41), and (45) is contextually implied by both (40) and (41). In the second context {(43a), (43b)}, (40) and (41) share no implications. (40) and (41) thus resemble each other more in the first context than in the second one.

(44) It is cold.

(45) We should stay at home.

5.3.2 Descriptive and interpretive representations

Given the notion of representation by resemblance, we can then introduce the notion of interpretive representation. Wilson and Sperber distinguish two sorts of representations—descriptive representation is a relation between a representation and the state of affairs it represents, and interpretive representation is a relation between a metarepresentation and the representation it represents.

Utterances and thoughts represent. They can be used to represent not only states of affairs but also thoughts of the utterer. Similarly, thoughts "may be entertained not only as descriptions

130

of states of affairs but also as representations of further thoughts" (Wilson and Sperber, "Representation and Relevance," 113).[181] With the notion of representation by resemblance, all representations can be analyzed in terms of resemblance. The relation between utterances and thoughts can be understood as based on resemblances rather than strict identity of their propositional content.[182] It thus explains how thoughts and utterances get relevant to each other. On their view, all utterances can be understood as interpretive in a sense, since every utterance is used to resemble, to some degree, a thought held by the utterer.[183]

Resemblance between representations, as shown above, is defined in terms of the logical and contextual implications shared by the representations. It does not appeal to a notion of identity of representations. Identity of the respective thoughts entertained by utterer and addressee is unnecessary for successful communication accordingly. It is the sharing of logical and contextual implications of these thoughts that matters for the success of communication. Literalness, on this account, is simply a special case of interpretive resemblance: "[W]hen one thought or utterance is interpretively used to represent another, all of whose implications it shares, it is a literal interpretation of that other thought or utterance" (*ibid*., 138). Literalness "enjoys no privileged status" and thus plays no explanatory role in the account of language comprehension (Sperber and Wilson, "Précis of *Relevance*," 708; Wilson and Sperber, "Truthfulness and Relevance," 586).

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[181] See also Sperber and Wilson (*Relevance* 226-31).

[182] This is contrast to Grice's framework which takes utterances as fully literal interpretations of thoughts of the utterer and thoughts represented by declarative utterances as descriptive representations entertained by the utterer. See Wilson and Sperber ("Representation and Relevance," 142).

[183] See, for example, Wilson and Sperber ("Explaining Irony," 128).

5.3.3 The critique of the similarity view

What does this alternative account of communication buy for us? Recall the similarity response

discussed in section 3.1.3 which argues for a workable notion of meaning similarity to help

holism avoid "the dire consequences" of holism. How does the current resemblance response

which considers resemblance, rather identity, between representations as primary differ from the

similarity response discussed in section 3.1.3?

Cappelen and Lepore seem to think that there is no difference between the two accounts,

which, according to them, both require "no cross contextual content identity" and share a version

of what they call "the similarity view" (Cappelen and Lepore, "Shared Content," 1034). "The

Similarity View," according to Cappelen and Lepore, holds that: "[s]entences like 'A said that p',

'A said what B said', 'I agree with what A said', 'I understand exactly what I said', and the other

such locutions . . . require [only] content similarity across contexts" (*ibid*.). They (*ibid*.) claim it

follows from this view that:

- 'A said that p' means the same as 'A said something similar to p',

- 'A said what B said' means the same as 'A said something similar to what B said',

- 'A and B agree' means the same as 'A and B endorse similar thoughts',

- 'A understands what B said' means (something like) 'A grasped a proposition similar to

  the one expressed by B', and so forth.

In general, they claim, in "the similarity view," when an utterer uses a sentence to communicate

that p, the addressee will not grasp p but something similar to p.[184] But, as Fodor has put it, "a

robust notion of content similarity *can't but* presuppose a correspondingly robust notion of

content identity" (Fodor, *Concepts* 32, italics in the original). Cappelen and Lepore comment on

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[184] See Cappelen and Lepore ("Relevance Theory and Shared Content," 117).

132

"the similar view" that we must understand what it is to say that *p* in order to understand what it is to say something is similar to *p*.[185] This is exactly the problem of the similarity response we talked about in section 3.1.3. Does the account of resemblance of representations get away from the problem faced by the earlier discussed similarity response? How?

As Sperber and Wilson plausibly point out, "comprehension is a non-demonstrative inference process," and there is no reason to "assume that it is governed by a failsafe procedure," as held in the traditional code model (Sperber and Wilson, *Relevance* 44-5). We must acknowledge that the addressee may not result in an exact reproduction of thought of the utterer. The inferential model recognizes that there are always alternative ways of interpreting an utterance and thus bears no tension with the indeterminacy of conversational implicatures. Communicative success itself, as the inferential view has it, is not something that language users can or do verify.[186]

Cappelen and Lepore are right to think that, on the current account, when an utterer uses a sentence to communicate that *p*, the addressee will grasp something which resembles to *p*, but they are wrong to claim that *p* will not ever be recovered. As elaborated in section 5.3.1, the account of resemblance of representations does not rule out the possibility of identity of the respective thoughts entertained by utterer and addressee. When it happens, it is the case of maximal resemblance. Unlike the similarity response discussed in section 3.1.3, the current resemblance response does not appeal to the notion of similarity to replace the explanatory role

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[185] See Cappelen and Lepore (*ibid*., 126).

[186] See Daniel Wedgwood ("Dissimilarities in Perspective," 298-301). Wedgwood gives similar reasons to defend RT. As a pragmatic theory, RT aims to explain how we make inferences about the intentions of others based on the inferential nature of communication which it takes heavily from the inferential model of communication.

the notion of identity in communication. The point is that neither similarity nor identity of representations plays a role in explaining how communication works on this account. To say that they do is to presuppose an objective notion of similarity which "can only be defined relative to identity" (Daniel Wedgwood, "Dissimilarities in Perspective," 298).

Cappelen and Lepore's criticism of "the similarity view," as correctly pointed out by Wedgwood, is grounded in an omniscient perspective in the evaluation of what is shared. Such an omniscient perspective "takes identity to be the measure of communicative success" discussed above (*ibid*., 297) and "concerns the objective distribution of thoughts across different people's heads, as might be perceived by an omniscient observer" (*ibid*., 296).[187] In other words, Cappelen and Lepore's criticism of "the similarity view" would have force only if similarity were "part of a story about how successful communication is guaranteed, or measurably achieved" (*ibid*., 299). But that is not the picture the inferential view of communication shares, and we have elaborated the reason by pointing out the problems of assuming literalness as the norm in verbal communication. The thoughts that one aims to communicate "are seldom, if ever, perfectly replicated in the mind of the audience" (Carston, *Thoughts and Utterances* 47), and that is why communication can fail and often does.[188] If communication requires an exact duplication of thoughts among the interlocutors, communicative success will be rare, if not impossible. Moreover, even the claimed perfect match among the interlocutors does happen, there is no way to confirm it unless we could literally read others' minds.[189]

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[187] See also Wedgwood ("Shared Assumptions," 658).

[188] See also Bach ("Minding the Gap," 39); Wilson and Sperber ("Truthfulness and Relevance,"606).

[189] See Daniel Wedgwood ("Shared Assumptions: Semantic Minimalism and Relevance Theory," 657).

In the inferential model, the addressee's interpretation of an utterance is to be thought of as a hypothesis about the utterer's intended meaning. It is a predication of the utterer's future utterances and behavior via what the interpretation implies and thus may be borne out or contradicted by the utterer's subsequent utterances and behavior.[190] Suppose Mary intends to convey her thought (46b) by uttering (46a) in a place of work.

(46) a. Roseanne got sick. (This is the utterance that q.)

(46) b. Rosanne has something of the order of flu or a migraine. (This is the utterer's thought that p.)

(46a) and (46b) have some relevant logical and contextual implications in common, such as (47), (48) and so forth, so the utterance (46a) which expresses q is an interpretive expression of her thought (46b).

(47) Rosanne is not at work today.

(48) Rosanne will not attend today's staff meeting.

Now, since people may have different notions of sickness in mind, Mary's colleagues who hear the utterance may come up with different interpretations, (46) and (47), for example.

(49) Rosanne has queasiness of some sort.

(50) Roseanne has some grave medical condition, of the order of cancer or a serious heart condition.

As they both share the implications (47) and (48) with (46b), (49) and (50) resemble to (46b). Even so, it seems an example of communicative failure if one entertains (50) as the interpretation of Mary's utterance. (50) includes relevant implications, such as "long term cover for Rosanne's

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[190] See Wedgwood ("Dissimilarities in Perspective," 298-301).

work must be found" and "Rosanne's colleagues might think about visiting her," which are not shared with either (49) or (46b). One may wonder, as Georg Kjøll does ("Content Similarity and Communicative Success," 34), whether the inferential view of communication can explain the dissimilarity between (49) and (50) and thus explain why (49) is a case of successful communication but (50) is not, given their resemblance, without having the sharing of logical and contextual implications work as a measure of successful communication.

In response, Wedgwood ("Dissimilarities in Perspective," 301) argues that to the extent that the dissimilarity needs an explanation, we have one. The explanation is based on the implications of the addressee's interpretations and the utterer's future utterances and behaviors. This is still consistent with Sperber and Wilson's remark that it is contextual information which divides interpretations into the "right" and the "wrong" ones (Sperber and Wilson, *Relevance* 186).[191] For example, if after announcing (46a), Mary acts as if Roseanne will return the next morning, then people who entertain (50) will have to revise their original interpretation, for (50) implies that Roseanne will not be back to work soon. Or, people who entertain (50) may subsequently talk about visiting Roseanne and then learn further from Mary that Roseanne will return the next morning and realize that there is no need to visit her. This is how we recognize when communication is not achieved. The notion of similarity or identity plays no explanatory role here.

5.4 Relevance Theory

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[191] Sperber and Wilson introduce "a criterion of consistency with the [communicative] principle of relevance" as "a mean of distinguishing those contextual implications which are shared from those which are not" and argue that it "gives us a way of constructing the right interpretive assumption about [the utterer's] informative intention" (Sperber and Wilson, *Relevance* 234). We will discuss the principle of relevance in the next section.

So far we have elaborated and examined Grice's account for how to make inferences about the intentions of others. In response to the problems faced by Grice's account, an account of inferential communication which aims to make improvements on Grice's theory of conversation is developed by Sperber and Wilson with their followers. This theory, RT, will be our focus in the rest of this chapter.

5.4.1 Relevance and cognition

RT suggests that an adequate pragmatic theory should ground the standards governing inferential communication in human cognition which, as a result of evolution, is governed by the search for maximal relevance, whether from internal or external sources, in a certain situation.[192] This is expressed as the cognitive principle of relevance in RT:

> Human cognition tends to be geared to the maximisation of relevance. (Sperber
>
> and Wilson, *Relevance* 260)

"Relevance" in RT is a technical term which is defined as a property of inputs to cognitive systems. An input or stimulus can be a sign, a sound, an utterance, a piece of memory, and so forth. It may deliver a variety of different types of changes in an individual's assumptions about the world (Sperber and Wilson, *Relevance* 265). It may, for example, provide evidence to strengthen or weaken the existing assumptions of the individual, or it may rearrange the way the existing assumptions is stored or "combine inferentially with existing assumptions to yield new conclusions (known as contextual implication)" (Carston, "Relevance Theory," 164). Such changes "may increase or decrease the accuracy of the cognitive system's information about the world and may make useful information easier or harder to access" (*ibid.*). An input is relevant to an individual only when the adjustments to the way the individual represents the world it brings

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[192] Sperber and Wilson (*Relevance* 261).

about are beneficial to the individual in the context at the given time (Wilson and Sperber, "Relevance Theory," 608).[193]

In relevance-theoretic terms, a context is a "psychological construct" which provides potential premises for the individual to use in inferences (Sperber and Wilson, *Relevance* 15). It is a subset, rather the totality, of the existing assumptions of an individual in a given cognitive environment. The cognitive environment of an individual at a certain time is the set of assumptions that are manifest to her, including all the facts that an individual is capable of becoming aware of. In RT, manifestness is the degree to which an assumption is accessible in a context. Assumptions may be accessible on the basis of perception or of inference.[194]

An assumption can be manifest to an individual with or without being actually entertained by the individual. They are "thoughts treated by the individual as representations of the actual world (as opposed to fictions, desires, or representations of representations)" (Sperber and Wilson, *Relevance 2*). An assumption is manifest to an individual at a given time if and only if she is capable of entertaining the assumption at that time and accepting it as true or probably true. Among the assumptions that are manifest, some can be more highly manifest than others (*ibid*., 39). Therefore manifestness, as the degree to which an assumption is accessible to an individual, is a weaker notion than knowledge. That is, more things can be manifest than being known. In a similar way, the range of what is visible is broader than that of what is seen. Sperber and Wilson

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[193] For example, an input which yields a true conclusion (or an improvement in memory or imagination) after processing by the individual at a given time is relevant to her, according to Wilson and Sperber ("Relevance Theory," 608). On the other hand, if an input yields a false conclusion out of the processing, it still makes a cognitive effect, but not a positive one. False conclusions, on this view, are not worth having. See also Wilson and Sperber ("Truthfulness and Relevance," 602).

[194] See Allott (*Key Terms in Pragmatics* 115).

hold that "what visible phenomena are for visual cognition, manifest facts are for conceptual cognition" (*ibid.*). What is manifest to an individual is a function both of the physical environment around and of the conceptual abilities of the individual. The more likely an assumption is to be entertained by the individual, the more manifest it is to her.

Since deriving effects from any given input requires cognitive resources, such as attention, perception, memory, and inference, processing effort also plays a role in accessing relevance. As creatures with finite processing resources who aim to maximize relevance, we tend to allocate our attention and processing resources in such a way as to yield the greatest possible positive cognitive effects for the smallest possible processing effort.[195] The relevance of an input is a trade-off between the positive cognitive effects derived from the input and the effort required to process it. Other things being equal, the greater the positive cognitive effects achieved and the smaller the processing effort required, the more relevant an input is to an individual at the time.[196]

5.4.2 Relevance and communication

Applying the cognitive principle of relevance to the explanation of behavior which does and does not involve communication makes it possible for us to predict and even manipulate others' reactions. Consider the following examples form Diane Blackmore (*Relevance and Linguistic Meaning* 60-62).

> A bus driver who is preparing to leave from a bus stop and sees in his rear mirror
> the reflection of an anxious-looking woman holding a bus pass, making
> ineffectual attempts to cross the busy street behind him.

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[195] See, for example, Wilson and Sperber ("Truthfulness and Relevance," 601-2).

[196] See Sperber and Wilson (*Relevance* 265-6).

If the bus driver is prepared to invest effort in processing the woman's action, he will use contextual assumptions to derive inferences about the woman's beliefs (such as, that the bus is about to leave), desires (such as, that she wants to cross the street), and intentions (such as, that she intends boarding a bus—preferably his). That is, his explanation of the woman's action will involve the attribution of the woman's beliefs and intentions. According to RT, such search for an explanation of others' actions is a consequence of the fact that he is looking for the maximal improvement to his overall representation of the world and thus is governed by the cognitive principle of relevance.

Now, suppose that the woman in this example has waved her weekly bus pass above her head in such a way to overtly claim the bus driver's attention. This time, the bus driver would not simply infer that she wants to catch the bus. He would attribute to her a higher-order intention, namely, the intention to make evident her intention to inform him of something and to expect him to use cognitive resources to infer the intention behind her action. Sperber and Wilson call this higher-order intention a communicative intention which gives the addressee "special help" in recognizing that the utterer's intention to inform her of something (Wilson and Sperber, "Linguistic Form and Relevance," 153). They call the action which gives rise to the attribution of communicative intention "ostensive-inferential communication" and define it as follows:

> The communicator produces a stimulus which makes it mutually manifest to communicator and audience that the communicator intends, by means of this stimulus, to make manifest or more manifest to the audience a set of assumptions [*I*].[197] (Sperber and Wilson, *Relevance* 63)

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[197] People's cognitive environments may intersect. Whenever that happens, the intersection is "a cognitive environment that the people in question share" (Sperber and Wilson, "Précis of *Relevance: Communication and*

Ostensive-inferential communication involves two kinds of action, ostensive by the communicator and inference by the addressee respectively. The presence of the utterer's communicative intention is a criterion for whether the utterer's action is overtly communicative.

The utterer's communicative intention creates a presumption of relevance to the addressee. This is RT's communicative principle of relevance (Wilson and Sperber, "Relevance Theory, 611-2):

> Every ostensive stimulus conveys a presumption of its own optimal relevance [to
> the addressee].

An ostensive stimulus is optimally relevant under two presumptions:

(r1) It is relevant enough to be worth the audience's processing effort.

(r2) It is the most relevant one compatible with communicator's abilities and preferences.[198]

Once the addressee has recognized that an action is an ostensive one, the presumption of optimal relevance will guide the address in interpreting the action. According to (r1), the addressee can expect that there will be at least enough positive cognitive effects to justify the effort involved in interpreting the ostensive stimulus. According to (r2), the addressee is entitled to even higher expectation of which the utterer is doing the best to make the ostensive stimulus as easy as

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Cognition," 699). A mutual cognitive environment is a shared cognitive environment in which it is manifest to all the individuals who share it that they share it with each other. Every manifest assumption in a mutual cognitive environment is mutually manifest because for each of such assumption, the fact that it is manifest to the individuals who share the very environment is itself manifest to each of them. See Carston (*Thoughts and Utterances* 378, 376).

[198] Note that (r1) and (r2) are only presumptions. RT does not claim either that they will always be true or that they are always taken as true. According to Sperber and Wilson ("Précis of *Relevance: Communication and Cognition*," 704), their role is simply to guide the addressee to determine the interpretation of the ostensive stimulus. See also Allott ("Relevance Theory," 80).

possible for her to understand. Sperber and Wilson explain that it is in the utterer's own interest

too to try to make her ostensive stimulus the most relevant to the addressee for doing so will

"make her communication most likely to succeed" (Sperber and Wilson, *Relevance* 270), so the

addressee should follow a path of least effort when doing interpretation.[199] Accordingly,

following the path of least effort, the best possible interpretative hypothesis an addressee can

find, in the absence of contrary evidence, is the first interpretation which satisfies her

expectations of relevance. For if it were not the case, the utterer would have failed the

presumption (r2).

Here we see the differences between RT and Grice's account. The communicative

principles of relevance assumes nothing like Grice's (CP). Cooperation "is not essential to

communication or comprehension" in RT (Wilson and Sperber, "Relevance Theory," 613). What

is important in communication is the utterer's desire to be understood.[200]

> [T]he best utterance for [an utterer] to produce is the one that is likely to be
>
> interpreted in the intended way, and the best interpretation for [an addressee] to
>
> choose is the one arrived at by use of the relevance-guided procedure, which is
>
> therefore likely to have been predicted and intended by the speaker. (Wilson and
>
> Sperber, "Truthfulness and Relevance," 606)

5.4.3 Relevance and comprehension

How do we make inferences about the intentions of others in communication? RT states that our

goal in verbal communication is to use language to make a set of our assumptions *I*, manifest to

our addressee. The consistency with the communicative principle of relevance as a criterion will

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[199] See also Wilson and Sperber ("Relevance Theory," 612; "Truthfulness and Relevance," 605).

[200] See also Sperber and Wilson ("Pragmatics," 474); Allott ("Relevance Theory," 81).

"provide a means of distinguishing those contextual implications which are shared from those which are not" and "gives us a way of constructing the right interpretive assumption about my informative intention" (Sperber and Wilson, *Relevance* 234). The principle suggests a comprehension procedure as follows (Allott, "Relevance Theory," 82). It is an inferential process which takes the production of an utterance by an utterer as input and an interpretation of what is communicated as output.

(I) Following a least effort path, construct a most accessible, i.e. the most easily constructed, (hypothetical) interpretation of the utterance.

(II) Check to see whether the interpretation as a whole is relevant enough and the most relevant one that is compatible with the utterer's abilities and preferences as she estimates it.

(III) If the interpretation hypothesized in step (I) passes the test in step (II), accept it as the intended interpretation.

(IV) If not, go back to step (I) and construct the next most accessible interpretation and repeat the test in step (II). Repeat the steps until an optimally relevant interpretation is found. Keep in mind that the utterance may not be as relevant as it might have been, so you may need to adjust the expectation of relevance sometimes.[201] If no interpretation that is optimally relevant is found within reasonable time and effort, the overall cognitive economy will shut down the search.

Sperber and Wilson point out that the task of understanding utterances can be divided into sub-tasks, including working out explicatures,[202] working out implicated premises, and working out

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[201] See n. 198.

[202] An explicature of an utterance is a communicated assumption which is a development of either the logical

implicated conclusions. They remark that all the sub-tasks are driven by the search for relevance, and they should not be thought of as sequentially ordered. We do not start with one sub-task and then move on to another. Instead, hypotheses about each of the sub-tasks are worked out "in parallel against a background of expectations which may be revised or elaborated as the utterance unfolds" (Wilson and Sperber, "Relevance Theory," 615).[203]

To illustrate, consider the exchange in (38).

(38) a. Peter: Do you want some coffee?

(38) b. Mary: Coffee would keep me awake.

Mary's utterance makes manifest to Peter a set of assumptions which might include, for example, the following assumptions (51)-(55) among many others.

(51) Someone has made a sound.

(52) Mary has spoken.

(53) Marry has said to me "Coffee would keep me awake."

(54) Mary has responded my question whether she wants some coffee.

(55) There is a set of assumption *I* which Mary intends to make manifest to me by saying

'Coffee would keep me awake'. (This is Mary's communicative intention.)

The relevance-theoretic comprehension procedure suggests that Peter might interpret Mary's utterance in the following procedure.

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form or of a sentential subpart of the logical form of the utterance (Carston, *Thoughts and Utterances* 124). See the illustration below.

[203] This is different from Grice's account which treats the recovery of explicit content of the utterance as involved in a "primary" procedure which does not directly dependent on pragmatic principles and treats the recovery of implicated content of the utterance as involved in a secondary process which is inferential and directly depends on pragmatic principles. See Wilson and Sperber ("Relevance Theory," 615).

(a) Mary has said to me, "Coffee would keep me$_x$ awake" where 'me$_x$' is an uninterpreted pronoun.

(b) Mary's utterance is optimally relevant to me.

(c) Mary's utterance will achieve relevance by being a response to my question whether she wants some coffee.

(d) Mary believes that coffee would keep Mary awake.

(e) Mary does not want to be awake.

(f) Mary does not want coffee.

Each step is to be elaborated in the following.

(a) is the logical form (i.e. semantic representation) or the encoded meaning of the sentence uttered by Mary. Peter still needs to decide the referent of 'me$_x$'. Logical forms are rarely propositional.[204] They have logical properties, that is, they can be "amenable to logical processing" (Sperber and Wilson, *Relevance* 72). The logical form in this case, for example, implies that coffee would keep someone awake. The role of the linguistically encoded sentence meaning in interpretation gives no more than a schematic indication of what the utterer means in RT. Guided by expectations of relevance raised by the utterance, "the [addressee's] task is to use this indication, together with background knowledge, to construct an interpretation of [what the utterer means]" (Wilson and Sperber, "Truthfulness and Relevance," 612).

(b) means that there is a set of assumptions *I* which Mary intends to make manifest to me by her utterance in (38b).

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[204] Propositionality is defined as "capable of being true or false" by Sperber and Wilson (*Relevance* 72).

Realizing (c), Peter must decide which assumptions made manifest by the Mary's utterance are such that it is mutually manifest that Mary intends to make them manifest. The set of assumptions *I* may include, for example, (56)-(58).

(56) Coffee would keep Mary awake.

(57) Mary has said that coffee would keep her awake.

(58) Mary believes that coffee would keep her awake. (This is step (d) above.)

(56) is the propositional form developed from the logical form of Mary's utterance after assigning Mary as the referent to 'me$_x$'. In this case, it is also one of the explicatures of Mary's utterance. An explicature of an utterance, in RT, is a communicated assumption which is a development of either the logical form or of a sentential subpart of the logical form of the utterance (Carston, *Thoughts and Utterances* 124).[205]

(d) is a higher-level explicature of Mary's utterance. It is higher-level because it contains another explicature, 'Coffee would keep Mary awake', which is a development of the logical form of Mary's utterance. It is an explicature because it is also a development of the logical form of Mary's utterance. According RT, an utterance may have more than one explicature. The greater the inferential element involved, the weaker the explicature is. For example, (d) is weaker than 'Coffee would keep Mary awake'.

Given Mary's belief in (d), an assumption regarding being awake or not will be highly accessible. The implicit premise (e) of Mary's utterance may be the first assumption occurring to Peter which satisfies Peter's expectation of optimal relevance in (c). If that is the case, then Peter

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[205] This definition is a modified version of Sperber and Wilson's original definition in *Relevance* (182). For the further discussion of the modification, see Carston (*Thoughts and Utterances* 116-25).

can infer the implicature (f) (as the implicated conclusion) of Mary's utterance from (d) and

(e).[206]

(f) is a possible implication of Mary's utterance. It satisfies Peter's expectation of optimal

relevance in (c), and there is no evidence against it, so he stops and take (f) as the intended

interpretation of Mary's utterance in (38b).

5.4.4 Relevance theory on Grice's maxims

Sperber and Wilson argue that RT avoids the problems of Grice's account discussed in section

5.2 by having a single well defined principle, the communicative principle of relevance.

Moreover, as an account of inferential communication, RT claims that the communicative

principle of relevance does "all the explanatory work of Grice's maxims and more" (Sperber and

Wilson, "Précis of *Relevance: Communication and Cognition*," 704).[207] In this section, we will

look at some examples to illustrate these points.

Firstly, suppose you ask your addressee a question and she remain silent.[208] The silence may

indicate that she is unwilling or unable to answer your question. RT has no problem explaining

both possibilities.[209] In Grice's framework, the addressee's silence can only be considered as a

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[206] In just the same way, if the first assumption occurs to Peter is "Mary's eyes remain open when she is

awake," then he would conclude "Coffee would cause Mary's eyes to remain open," rather than (f). See Sperber and

Wilson (*Relevance* 35).

[207] See also Clark (*Relevance Theory* 68-76).

[208] See the example discussed in Wilson and Sperber ("Relevance Theory," 613).

[209] The silence of the addressee may or may not be an ostensive stimulus. When it is an ostensive stimulus,

according to RT, it can be analyzed as merely involving an extra layer of intention, and hence as communicating that

the addressee is unable or unwilling to answer. When it is not an ostensive stimulus, the silence will be taken as

indicating that the address is unable or unwilling to answer. If the addressee is clearly willing, then we can conclude

violation of the first submaxim of Quantity (make your contribution as informative as is required) which implies her inability to make contribution to the conversation. Being unwilling to provide the required information is to violate (CP) and thus it is impossible in Grice's framework.

Secondly, consider the role of the pragmatic principles in recovering what is said. As mentioned in section 5.2.1, Wilson and Sperber ("On Grice's Theory of Conversation," 156-8) argue that the pragmatic principles must be observed at the level of what is said by the utterer. Recall their example (31) (*ibid.*, 156).

(31) Refuse to admit them.

It brings out the problem how Grice's account can explain the addressee's need of contextual information to help her decide which sense of 'admit' and which reference of 'them' is intended by the utterer in (31). The intended sense of these two words will be different on different occasions where (31) is a response to, say, (32) and (33).

(32) What should I do when I make mistakes?

(33) What should I do with the people whose tickets have expired?

RT's relevance-guided comprehension procedure, on the other hand, can make the right predictions about the interpretation of the interpretation of (31) in both (32) and (33). In each case, the addressee is taking the utterance (31) as optimally relevant to her question.

Here is how. The utterer has said to the addressee "Refuse to admit$_x$ them$_y$" where 'admit$_x$' is an ambiguous word and 'them$_y$' is an uninterpreted pronoun. Given the assumption that it is said in response to the question in (32), the interpretation which satisfies the addressee's optimal relevance is 'Refuse to confess to your mistakes'. If the assumption is that what is said is in

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that she is unable to answer, and if she is clearly able, we can conclude that she is unwilling to answer.

response to the question in (33), then the interpretation to satisfy the optimal relevance is 'Refuse to let people whose tickets have expired in'.

Thirdly, Grice's maxims can be replaced by a single principle of relevance (Wilson and Sperber, "On Grice's Theory of Conversation," 170). Not only that, in Wilson and Sperber's own words, the communicative principle of relevance provides a "more explicit account of all implicatures which Grice's maxims were set up to describe" (*ibid*., 171). We will look at each maxim in turn.

Maxims of Quality. The function Grice attributes to the maxims of quality is to ensure the quality of the utterer's overall contribution to communication. Wilson and Sperber ("Truthfulness and Relevance," 585-6) argue that this function can be more effectively achieved in a framework with no maxim of quality. RT's communicative principle of relevance can explain cases successfully explained by the maxims of quality and thus subsume the maxims of quality. As Wilson and Sperber remarks ("On Grice's Theory of Conversation," 171-2), when the utterer chooses to make truthful contribution, she is justified to do so in order to achieve optimal relevance. Our expectations of truthfulness are simply "a by-product of expectations of relevance" ("Truthfulness and Relevance," 584).

On the other hand, RT's communicative principle of relevance can as well explain cases which present problems to the maxims of quality, such as those of loose talk. Consider the examples of loose talk mentioned in section 5.2.3.

(34) The lecture starts *at five o'clock*.

(35) Holland is *flat*.

(36) Sue: I must *run* to the bank before it closes.

(37) Jane: I have a terrible cold. I need a *Kleenex*.

Wilson and Sperber argue that relevance-oriented inferential processes are efficient to explain our comprehension in such loose talk. We will not think the utterer of (34) as a liar if we find that the exact time when the lecture starts is one minute after five o'clock. Holland is not a plane surface, but we will not think the utterance in (35) as false. We will not think Sue in (36) a liar even she does not get to the bank by running. Jane in (37) will be happy to take any brand of disposable tissue even it is not of Kleenex.

RT predicts in each of these examples that the false utterances would be more relevant to the addressee than their strictly true counterparts (34')-(37') for the latter group involve more effort to process.

(34') The lecture starts at or shortly after five.

(35') Holland has no mountain and very few hills.

(36') I must go to the bank as fast as if I were running.

(37') I need a Kleenex or other disposable tissue.

For RT, false utterances are acceptable, as long as the addressee can access enough positive cognitive effects to justify her processing the utterance. Under this criterion, the utterer can even use an utterance U which expresses a thought q that is not hers to communicate her own thought p. Even if q has some logical and contextual implications which the utterer herself does not accept as true and does not want to communicate, following the communicative principle of relevance, the utterer is justified to utter U as long as she thinks that it is the most relevant utterance to the addressee and that the addressee has ways to sort the implication of q into those she does and those she does not want to endorse.[210]

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[210] See Sperber and Wilson (*Relevance*, 233-4).

Maxims of Quantity. Grice's maxim of quantity says that we should provide enough information but not too much in communication. It is unclear what the criterion of being well and properly informative is. From the perspective of RT, whenever the utterer contributes too little or too much information, she would violate both the communicative principle of relevance. By having optimal relevance as the criterion of proper informativeness provided by the utterer, RT's communicative principle of relevance not only explains effects which Grice's maxim of quantity is to explain but makes what is required by the maxims of quantity more precise, and hence subsumes the maxims of quantity.

Maxim of Relation. The maxim of relation says to be relevant. Given the similarity between the maxim of quantity and the maxim of relation, similar results go with latter as well. Whatever violates this maxim is violating consistency with the communicative principle of relevance. Therefore, the maxim of relation is subsumed too.

Maxims of Manner. The first submaxim of manner says to avoid obscurity of expression. It follows from RT's communicative principle of relevance, for what it aims to explain can be explained in RT. An utterer who talks obscurely runs the risk that the addressee will be unable to understand the utterance as well as to derive effects from it.

The second submaxim of manner says to avoid ambiguity. If we understand "ambiguity" in the sense of an expression which encodes more than one meaning, virtually every utterance is ambiguous because all expressions can have different meanings in different contexts. On this reading, this submaxim will not ever be observed. Furthermore, if the ambiguity is intended by the utterer, she will violate consistency with the communicative principle of relevance, for there is always at most one interpretation consistent with this principle. There is no need to avoid

ambiguity in RT. What this submaxim aims to explain can be explained by RT's communicative principle of relevance.

The third submaxim of manner says to be brief. It is misstated for the lack of a proper measurement of brevity, according to Wilson and Sperber ("On Grice's Theory of Conversation," 173). Brevity can be measured in more than one way, such as number of words, number of syllables, syntactic or semantic complexity,[211] and so forth. Consider one Wilson and Sperber's examples (*ibid.*).

(59) a. Peter is married to Madeleine.

(59) b. It is Peter who is married to Madeleine.

While (59a) is shorter than (59b) by all the measurements we just mentioned, it is not difficult to imagine contexts in which the longer utterance (59b) would be more appropriate than the short utterance (59a). This submaxim of manner cannot explain such cases in which there is no conversational implicature follows from the violation of this submaxim of manner.

The fourth submaxim of manner says to be orderly, according to which, the utterer is expected to arrange the events in the order in which they occur, and the addressee is expected to draw inferences in the same way. Combining events with the connective 'and' can communicate a large range of different interpretations in addition to its logical, truth-functional meaning. For example, consider (60a) and (60b) from Carston (*Thoughts and Utterances* 222).

(60) a. He took off his boots and got into bed.

(60) b. He got into bed and took off his boots.

They mean something like (61a) and (61b), respectively.

(61) a. He took off his boots and then got into bed.

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[211] It will take more to produce the utterance if the utterance is of more syntactic or semantic complexity.

(61) b. He got into bed and then took off his boots.

It seems that 'and' in natural language differs in meaning from its counterpart '&' in logic. While 'p & q' and 'q & p' are equivalent in logic, 'p and q' and 'q and p' are not, as illustrated here.

The function of the submaxim of orderliness, for Grice, is to explain such difference without assigning an extra sense in addition to the logical truth-functional sense of 'and'. The additional meanings of 'and' illustrated in (60a) and (60b) is taken as a matter, not of the semantics, but of the pragmatics of 'and'. On his account, 'and' is equivalent in meaning to '&', and (61a) and (61b) are conversational implicatures of (60a) and (60b), respectively. It is the order of mention of the events, in these cases, that drives the temporal sequencing interpretation for utterances where 'and' is a constituent, just like it is in (62), an example without 'and'.

(62) He took off his boots. He got into bed.

As Wilson and Sperber point out, this explanation, however, cannot work with the following example in which the relation between the two events combined by 'and' is not only that the latter takes place after the former does but that the former is the cause of the latter.

(63) Someone left a manhole uncovered and I broke my leg.

So, if my friend gives me an advice like (64), she is not telling me to sue if I break my leg at some point after a manhole is left uncovered, but telling me to sue if my breaking leg is a result of that someone leaves a manhole uncovered.

(64) If someone leaves a manhole uncovered and you break your leg, sue.[212]

Such example raises a serious problem for Grice's account, and Wilson and Sperber's attribute the problem to Grice's assumption that "the only way pragmatic principles can contribute to

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[212] This example is from Wilson and Sperber ("Pragmatics and Time," 171).

utterance interpretation is by giving rise to implicatures" (Wilson and Sperber, "Pragmatics and Time," 172), a problem we have discussed in section 5.2.1. They point out that for "an utterance that describes two events or states without explicitly stipulating any temporal ordering between them. . . . there are four logically possible ways in which the events or states might be temporally related" (*ibid.*, 173). Use '*p*' and '*q*' to refer to the two events or states respectively, and the four ways to relate *p* and *q* can be represented as follows: *p* happened before *q*; *p* and *q* were simultaneous; *q* happened before *p*; no ordering, or some subtler ordering, is pragmatically understood.[213] An adequate pragmatic account of the temporal sequence relation needs to at least explain why we generally take the events to have happened in a certain order as they have in these four possibilities. Grice's submaxim of orderliness explains the first possibility only and thus fails the task.

RT, on the other hand, gives a general explanation which works for all these various cases. From the perspective of RT, the addressee is searching for a most accessible interpretation consistent with the communicative principle of relevance in these various cases, and "the appropriate interpretation falls out automatically from consistenc" (*ibid.*, 182). To illustrate, consider the example (63) above.

(63) Someone left a manhole uncovered and I broke my leg.

If (63) is to yield an interpretation consistent with the communicative principle of relevance, the information that someone left a manhole uncovered must make some contribution to overall cognitive effects to the addressee. Wilson and Sperber note that since "causal stories are highly relevant . . . causal schemas come readily to [the addressee's] mind for the interpretation of utterances" (*ibid.*, 183). That someone left a manhole uncovered is the cause of my breaking my

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[213] See Wilson and Sperber ("Pragmatics and Time," 173-4) for examples of each case.

leg is the appropriate interpretation of (64) because it is the most accessible line of interpretation to the addressee.

The last submaxim of manner requires the utterer to frame what is said in the form most suitable for any reply that would be regarded as appropriate. It follows from RT's communicative principle of relevance, according to which, the utterer is expected to do the best to make the ostensive stimulus as easy as possible for the addressee to understand.

To sum up, among Grice's maxims of conversation, two submaxims of manner ('avoid ambiguity' and 'be brief') are proved to be eliminable. And the rest of the maxims can be replaced by RT's communicative principle of relevance.

We have discussed the problems of the "literal first" approach to comprehension in sections 5.2.3. and 5.2.4. RT, as an account of inferential communication, holds that there is no sharp literal-nonliteral distinction and that utterances on the literal-loose-metaphorical continuum are all interpreted in the same interpretive mechanisms, following the criterion of consistency with the communicative principle of relevance. Before closing this section, we will illustrate how RT, as an alternative of the "literal first" approach, handles the non-literal uses of language by looking at two most obvious cases where the what is communicated go beyond the linguistically encoded meaning of utterances: metaphors and ironies. We will also see how RT can be empirically tested.

Metaphor. Metaphor is taken as a kind of loose use in RT. Recall the distinction between strong and weak implicatures in section 5.4.4. Many metaphors involve weak communication as illustrated in (39b) (in section 5.2.4) where the utterer has not endorsed any particular precise assumptions, apart from the one explicitly expressed, but has rather intended to communicate a

wide array of possible weak implicatures. The more creative or unusual a metaphor, the wider

the range of potential implicatures involved.[214]

Consider the following example from Carston ("Metaphor and the Literal/Nonliteral

Distinction," 479).

(65) Sally is a chameleon.

The utterer has said to the addressee "Sally$_x$ is a chameleon" where the referent of 'Sally$_x$' is to

be identified. This utterance is supposed to be optimally relevant to the addressee. That is, there

is a set of assumptions *I* followed from the logical form of (65) which the utterer intends to make

manifest to the addressee by the utterance in (65).

The addressee does not wonder whether Sally is literally a chameleon or not but simply

begins to derive relevance assumptions, such as (66)-(69), and so forth.

(66) Sally is an animal of a certain type.

(67) Sally is changeable.

(68) Sally has a capacity to adapt to her surroundings.

(69) It is hard to discern Sally's true color.

The addressee will be justified to choose the first interpretation which satisfies her expectation of

optimal relevance in the context as the intended interpretation of (65). As long as the addressee

can sort the implications into those the utterer does and does not intend to communicate, her

construction of any one of the implications the utterer intends to communicate is "good enough

for the communication to have succeeded" (Carston, *Thoughts and Utterances* 358).

Irony. From the relevance theoretic point of view, irony is a variety of echoic utterance

which conveys an ironic attitude to an attributed thought. An echoic utterance is a variety of

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[214] See Sperber and Wilson (*Relevance* 236); Carston (*Thoughts and Utterances* 358).

attributive utterance, which, according to RT, represents a thought which the speaker attributes to some source other than herself at the particular time. It is a variety of interpretive utterance used to represent thoughts with which they resemble in content. As Wilson and Sperber remark, when an utterance is used in an echoic matter, the utterer's "primary intention is not to provide information about the content of the attributed thought, but to convey her own attitude or reaction to that thought" (Wilson and Sperber, "Explaining Irony," 128-9), and that is the intention to be recognized by the addressee. In the case of irony, the utterer may distance herself from the attributed thought as "ludicrously false, under-informative or irrelevant" (*ibid*., 141).

We already mentioned the problem that Grice's definition of irony is unnecessary in section 5.2.3.[215] Sperber and Wilson (*Relevance* 240-1) argue that it is insufficient for irony as well, for it cannot distinguish genuine irony from the following example. Suppose Mary and Peter are out for a drive. When they are at the junction, Peter stops the car to look both ways before joining the main road. The road is clear. So he is ready to drive on, and Mary says to him:

(70) There's something coming.

By saying that, she means to reassure him that the road is clear. Mary's utterance in (70) is not an irony. But as Sperber and Wilson point out, it satisfies Grice's definition of irony. By uttering (70), Mary has intended to communicate the opposite of the utterance (70), that is, (71).

(71) There's nothing coming.

On the other hand, the relevance theoretic account has no problem accounting for the difference between irony and such example. On this view, (70) is not ironical because it lacks "an echoic element and an associated attitude of mockery or rejection" (Sperber and Wilson,

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[215] See n. 171.

Relevance 241). An utterance has to be echoically used to dissociate the utterer from an attributed thought to be ironical (Wilson and Sperber, "Explaining Irony," 132, 141).

Consider a different scenario, set up by Sperber and Wilson, in which Peter is an over-cautious driver "who never pulls into a main road in front of oncoming traffic, however far away" (Sperber and Wilson, *Relevance* 241). When Peter and Mary stop at the junction, the road is clear in both directions, let's say, "except for a just-visible cyclist on the horizon" (*ibid.*). As Peter is about to drive onto the main road, Mary reprovingly says (70). According to Sperber and Wilson, this time, Mary's utterance (70) may well be ironical. She can be echoing the sort of opinion Peter is constantly expressing while implicitly expressing a dissociative attitude to the attributed opinion. In doing so, Mary's utterance implicates that Peter is always over-cautious to a ridiculous extent.

According to the criterion of consistency with the communicative principle of relevance, to understand Mary's utterance as ironical in this second scenario, Peter has to decide that, by uttering (70), Mary is not making an assertion relevant in its own right but echoing one of his thoughts. Peter also has to decide that Mary is not merely reporting the attributed thought but expressing an ironic attitude to it. Thus the first accessible interpretation satisfying Peter's expectation of relevance will involve echoic use, that is, Mary's utterance is intended to achieve relevance by expressing her dissociative attitude to his cautious thought that there's something coming. One possible interpretation is that, by echoing Peter's cautious thought that there's something coming, Mary intends to communicate that Peter's over-cautious attitude is ridiculously unnecessary.

As a cognitive psychological theory, RT provides not only theoretical explanations but also experimentally testable predictions regarding the interaction of effort and effect. Suppose you are

asked the time by a random stranger in the street. You look at your watch and see that it is 11:58 exactly. How should you reply?

In Grice's framework, you should obey the maxim of truthfulness and say to the stranger "It's 11:58." If you say "It's 12:00" instead, you will be understood as conveying that it is exactly 12:00. By contrast, from the relevance theoretic perspective, you should aim at optimal relevance. It should be possible for you to give less accurate answers whenever they bring about optimal relevance. The difference between the two frameworks has been experimentally tested in a series of studies by Jean-Baptiste Van der Henst and colleagues, in which the experimenters asked participants the same question with different information about the reason of asking.[216]

In an initial experiment, participants were asked by strangers in the street "Hello, do you have the time please?" without further indication. The general assumption of the experiments was that if participants were simply trying to minimize their own effort, then they should always round to the closet multiple of five when their watch is analogue and never do so when it is digital. The result shows that people rounded in both conditions. 97 per cent of participants with analogue watches and 57 per cent of those with digital watches were reported to give a rounded answer. It shows that a majority of participants of the digital group made an extra effort to reduce the effort of their audience and thus confirms the prediction that utterers systematically aim at being relevant rather than accurate unless there is evidence that doing so would lead to the loss of cognitive effects.

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[216] See Jean-Baptiste Van der Henst, et al. ("Truthfulness and Relevance in Telling the Time"); Van der Henst and Sperber ("Testing Principles of Relevance"). See also Raymond W. Gibbs and Gregory A. Bryant ("Striving for Optimal Relevance when Answering Questions") for a further development of this line of enquiry.

In a second experiment, the participants were approached and asked "Hello! My watch isn't working properly. Do you have the time please?". The question indicates that a strictly accurate answer would be more relevant under the circumstance. In this experiment, only the answers of participants with analogue watches were recorded, and the result shows that 49 per cent of the answers were rounded. That means 51 per cent of the participants of the analogue group were able and willing to make an extra effort to give an accurate answer for the sake of optimal relevance.

In a third experiment, the experimenters aim to further manipulate the relation between relevance and accuracy. Participants were asked "Hello, do you have the time please? I have an appointment at [some time] *t*." The predication is that the closer people get to the time of the appointment the more accuracy of the answers is likely to be relevant.[217] Participants were divided into two groups. The "earlier" group was tested between 30 to 16 minutes before the time of the imaginary appointment, and the "later" group was tested between 14 minutes before the time of the appointment and the time of the appointment itself. The result shows that 97 per cent of participants in the "early" group and 75 per cent of those in the "later" group gave a rounded answer as predicted.

In this subsection, we have shown the advantages the relevance theoretical analysis of various uses of language has over Grice's theory of conversation. We have also shown that how RT can be empirically confirmed or disconfirmed. While the communicative principle of relevance can be falsified by evidence that people tend to orient to other properties of utterance

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[217] For example, being told that it is 3:30 at 3:32 is likely to have the same effect as being told that it is 3:32 for an appointment at 4:00. But being told that it is 4:00 at 3:58 is likely to be misleading for the same meeting. Accuracy is more important in the latter case than the former. See Van der Henst and Sperber (*ibid.*, 168).

rather than optimal relevance, the results of the experiments discussed in Van der Henst and

Sperber ("Testing Principles of Relevance," 165-9) provide strong evidence that people do speak

in an optimally relevant manner. The advantages of RT over Grive's theory of conversation is

well justified.

5.5 Closing Remarks

Holism has long been accused of failing to explain some of the most important linguistic

phenomena, such as translation, communication, disagreements, change of opinions,

psychological generalizations, and so forth. For it is alleged that these phenomena require some

guaranteed meaning sharing across systems or time slices of the same system to take place. It is

argued that since holism, as construed as (H), implies (H→), it is out of resource of any sort of

notion of invariant linguistic meaning, and what I call "the dire consequence" of holism follows

straightforward. Such accusation is based heavily on the code model of language.

Following Wilson and Sperber, we have argued that the "failsafe procedure" held in the

traditional code model (Sperber and Wilson, *Relevance* 44) is inadequate for understanding real-

world linguistic interaction. The comprehension of others' behaviors, verbal or nonverbal, is not

achieved by coding and decoding the message exchanged but by inferring others' intention from

evidence available on scene where linguistic decoding provides only part of the input or evidence

to the addressee's inferential procedure. The role of the linguistically encoded sentence meaning

in interpretation gives no more than a schematic indication of what the utterer means (section

5.4.3).

We have discussed the problems of the "literal first" approach to comprehension based on

the code model and argued against the thought that literalness or guaranteed meaning sharing

plays an explanatory role in comprehension. The thought that invariant linguistic meaning shared

across systems is necessary for the explanation of meaning sharing is ungrounded (section 3.2.1).

In the light of the notion of representation by resemblance, the notion of literalness can be

explained away as simply a special case of resemblance. It is the sharing of logical and

contextual implications of thoughts not the identity of thoughts that matters for communicative

success. Relevance theory, as an account of inferential communication, provides theoretical

explanations of how communication can be achieved without guaranteed meaning sharing, and

its predictions are, at least partly, experimentally confirmed.

The same framework applies to the phenomena involved in "the dire consequence" of

holism discussed in the beginning of chapter 3. The holist's response to the objection from "the

dire consequence," as suggested in this dissertation, is that there is no solid justification for the

claim that some guaranteed meaning sharing across systems or time slices of the same system is

required for translation, communication, disagreements, change of opinions, psychological

generalizations, and so forth, to take place. The requirement of an omniscient perspective in the

evaluation of what is shared is wrong-headed. Neither similarity nor identity of representations

or meaning is necessary to explain our understanding of each other. Holism is intact from the

objection against (H$_\rightarrow$).

CHAPTER 6: CONCLUSION

This dissertation examines the debate over holism. I suggest understanding holism as characterizing the determination relations between the meaning of an expression and its determinants and argue that we can best capture the features that the holist maintains by construing holism as the view that the meaning of an expression is determined by its *IRs* to every other expression in the language of individual competent users. Like other determination claims, the doctrine tells us only that if the determinants are the same, then the determinable must remain the same. It does not imply either that whenever there is a change in one (or more) of the determinants, the determinable must change accordingly nor that differences on the determinants side must lead to differences on the determinable side. The often alleged worry that if meanings are holistic, any change in one's language will change the meaning of all the expressions in the very language does not follow.

We also should accept that it is an inevitable outcome that there is no invariant meaning shared across systems or across time slices of the same system and thus no guaranteed meaning sharing available for holism so understood. This fact, however, does not commit us to the rejection of holism. For like their non-holistic counterparts, holistic meanings are sharable either across individuals or time slices. Moreover, I think the focus of the debate over holism should be about whether invariant meanings shared across all possible occasions where the corresponded expressions are uttered are necessary for the explanation of meaning sharing. I argue against the pervasive belief that the answer of the question is positive and that, as a result, holism is untenable.

My argument for holism consists of three parts. The first part argues that invariant meanings are not necessary for the explanation of meaning sharing (section 3.2). The second part argues

163

that invariant meanings give no reason to favor the non-holistic accounts (chapter 4). The third part shows how we can explain the phenomena involved in "the dire consequence" of holism without invariant meanings (section 5.3).

I give two arguments to show that atomism is indefensible. Meaning cannot be atomistic. Firstly, following Lepore and Ludwig, I argue that, despite the appearance, self-standing meanings by themselves provide no explanatory power for our understanding of meaning (section 4.1.1). Secondly, there are "intra-linguistic" features regarding either properties of or relations among expressions which go beyond the scope that a semantic theory with *ORs* as the only determinants of meaning can cope with (section 4.1.2).

Molecularism aims to preserve the notion of invariant linguistic meaning or anything of the sort on the one hand, and appeal to *IRs* for the explanatory power of which atomism lacks on the other. I argue that given the sharability of holistic meanings (section 3.2) as well as the explanatory inertness of *ORs* (section 4.1), molecularism will need a well-justified basis for a principled distinction among *IRs* to separate itself from holism. As of my knowledge, Devitt is one rare exception among the molecularists who takes such consideration seriously enough to try to live up to the demand. However, if I am right, his proposition is not well-grounded. On my view, a molecularistic proposition to defeat holism is still in absence. This concludes the first two parts of my arguments for holism. Invariant meanings, if exist, are not necessary for the explanation of meaning sharing and give no reason to favor the non-holistic accounts.

The third part of my argument is based on current development in the study of pragmatics which now provides us a better understanding of the role of linguistic meaning in human interaction. The idea that we need invariant linguistic meaning or anything of the sort to explain our understanding of each other is based on one version or other of the code model of

communication which involves a shared code among different parties. The role of linguistic material uttered in this model is to serve as a vehicle of the invariant linguistic meaning to ensure an exact reproduction in the addressee of the thoughts the utterer intended to convey. Communication, however, does not necessarily involve the use of a code. Furthermore, what is meant by the utterer in communication generally outstrips what is linguistically encoded in the sentence she uttered. These give us plausible reason to think that, following Grice, communication goes beyond encoding and decoding.

Sperber and Wilson suggest that communication is fundamentally an inferential process where linguistic material uttered serves as a piece of evidence about what the utterer intended to communicate (section 5.1.1). There is no guaranteed meaning sharing across participants involved, and our interpretation of an utterance is to be thought of as a hypothesis about the utterer's intended meaning in the inferential process. There is no guarantee for the intended interpretation out of the inferential procedure, and thus there is no need for an omniscient perspective in the evaluation of what is shared to the story about communicative success, either. The measure of successful communication, in this picture, is based on the implications of the addressee's interpretations and the utterer's future utterances and behaviors. As an account of inferential communication, relevance theory shows an example of how we can explain our understanding of each other without guaranteed meaning sharing (section 5.4). That completes the last part of my argument for holism.

Holism is usually not argued for as an independent thesis but rather appears as a vital drawback of a theory of meaning in the literature for its not being able to deliver a notion of shared meaning. This view is so prevalent that oftentimes people simply take holism as a reason for the rejection of a theory without further argument. Given the importance of the notion of

invariant meaning in the debate over holism, I think we need arguments for the claim that guaranteed meaning sharing across individuals or time slices does play a required role in our understanding of each other. The purpose of this dissertation is to add this part of discussion to the debate. As a result, I find that a solid justification for the necessity of the notion of invariant linguistic meaning or anything of the sort in a semantic theory is still wanting.

BIBLIOGRAPHY

Allan, Keith, and Katarzyna Jaszczolt, eds. *The Cambridge Handbook of Pragmatics*. New York: Cambridge UP, 2012.

Almog, Joseph, John Perry, and Howard Wettstein. *Themes from Kaplan*. Oxford: Oxford UP, 1989.

Allott, Nicholas. *Key Terms in Pragmatics*. New York: Continuum, 2010.

———. "Relevance Theory." Capone, et. al. 57-98.

Bach, Kent. "Conversational Implicature." *Mind and Language* 9.2 (1994): 124-62.

———. "Minding the Gap." Bianchi 27-43.

Baptista, Luca, and Erich Rast, eds. *Meaning and Context*. New York: Peter Lang, 2010.

Båve, Arvid. "A Deflationary Theory of Reference." *Synthese* 169 (2009): 51-73.

Becker, Kelly M. "On the Perfectly General Nature of Instability in Meaning Holism." *Journal of Philosophy* 95 (1988): 635-40.

Bianchi, Claudia. *The Semantics/Pragmatics Distinction*. Stanford: Stanford: CSLI Publications, 2004.

Bilgrami, Akeel. *Belief and Meaning: The Unity and Locality of Mental Content*. Oxford: Basil Blackwell, 1992.

———. "Meaning, Holism and Use." Lepore, *Truth and Interpretation* 101-22.

———. "Why Holism is Harmless and Necessary." *Noûs* 32.12 (1998): 105-26.

Blackmore, Diane. *Relevance and Linguistic Meaning*. New York: Cambridge UP, 2002.

Block, Ned. "Advertisement for a Semantics for Psychology." 1986. Rpt. in Stich and Warfield 81-141.

———. "Holism, Hyper-analyticity and Hyper-compositionality." *Mind and Language* 8 (1993): 1-26.

———. "Semantic Minimalism." Cummings, 423-5. Borg, Emma. *Pursuing Meaning*. New York: Oxford UP, 2012.

Boghossian, Paul A. "Analyticity Reconsidered" *Noûs* 30.3 (1996): 360-91.

Borg, Emma. "Minimalism and the Content of the Lexicon." Baptista and Rast 51-77.

———. *Pursuing Meaning*. New York: Oxford UP, 2012.

———. "Semantic Minimalism." Cummings, 423-5.

Boroditsky, Lera., and Jesse Prinz. "What Thoughts Are Made of." Semin and Smith 98-115.

Brandl, Johannes. "Semantic Holism Is Here To Stay." Fodor and Lepore, *Holism: A Consumer Update* 1-16.

Brandom, Robert. *Articulating Reasons: An Introduction to Inferentialism*. Cambridge, Mass.: Harvard UP, 2001.

———. "Inferentialism and Some of Its Challenges." *Philosophy and Phenomenological Research* 74.3 (2007): 651-76.

———. *Making It Explicit: Reasoning, Representing, and Discursive Commitment*. Cambridge, Mass.: Harvard UP, 1994.

———. "Reply to Commentators." *Philosophical Issues* 8 (1997): 199-214.

Bunnin, Nicholas, and E. P. Tsui-James, eds. *The Blackwell Companion to Philosophy*. 2nd Ed. Malden, Mass.: Blackwell, 2003.

Burton-Roberts, Noel, ed. *Pragmatics*. New York: Palgrave Macmillan, 2007.

Capone, Alessandro, et. al., eds. *Perspectives on Linguistic Pragmatics*, New York: Springer, 2013.

Cappelen, Herman, and Ernest Lepore. *Insensitive Semantics: A Defense of Semantic Minimalism and Speech Act Pluralism*. Malden: Blackwell, 2005.

———. "Shared Content." Lepore and Smith 1020-56.

———. "Relevance Theory and Shared Content." Burton-Roberts 115-35.

Carston, Robyn. "Implicature, Explicature, and Truth-theoretic Semantics." Kempson 155-81.

———. "Metaphor and the Literal/Nonliteral Distinction." Allan and Jaszczolt 469-92.

———. *Thoughts and Utterances: The Pragmatics of Explicit Communication*. Malden, Mass.: Blackwell, 2002.

Chandler, Daniel. *Semiotics: The Basics*. New York: Routledge, 2002.

Clapp, Lenny. "Is Even Thought Compositional?" *Philosophical Studies* 157 (2012): 299-322.

Clark, Billy. *Relevance Theory*. New York: Cambridge UP, 2013.

Collins, John. "Impossible Words Again: Or Why Beds Break but Not Make." *Mind and Language* 23 (2011): 234-60.

———. "Review of *Pursuing Meaning*." *The Review of Metaphysics* 67 (2013): 153-4.

Cumming, Louise, ed. *The Pragmatics Encyclopedia*. New York: Routledge, 2010.

Davies, Martin. "Philosophy of Language." Bunnin and Tsui-James 90-146.

Davidson, Donald. *Inquiries into Truth and Interpretation*. New York: Oxford UP, 1984.

———. "Knowing One's Own Mind." 1987. Rpt. in Davidson, *Subjective, Intersubjective, Objective* 15-38.

———. *Problems of Rationality*. New York: Oxford UP, 2004. Print.

———. *Subjective, Intersubjective, Objective*. New York: Oxford UP, 2003.

———. "Semantics for Natural Languages." 1970. Rpt. in Davidson, *Inquiries into Truth and Interpretation* 55-64.

———. "The Problem of Objectivity." 1995. Rpt. in Davidson, *Problems of Rationality* 4-18.

———. "Theories of Meaning and Learnable Languages." 1965. Rpt. in Davidson, *Inquiries into Truth and Interpretation* 3-15.

———. "Truth and Meaning." 1967. Rpt. in Davidson, *Inquiries into Truth and Interpretation* 17-36.

Dever, Josh. "Compositionality." Lepore and Smith 634-66.

Devitt, Michael. "A Shocking Idea about Meaning." *Revue Internationale de Philosophie* 218 (2001): 449-72.

———. *Coming to Our Senses: A Naturalistic Program for Semantic Localism*. New York: Cambridge UP, 1996.

———. "Responses to the Maribor Papers." Jutronić 353-411.

Devitt, Michael, and Kim Sterelny. *Language and Reality: An Introduction to the Philosophy of Language*. 2nd Ed. Cambridge, Mass.: MIT P, 1999.

Dresner, Eli. "A Measurement Theoretic Account of Propositions." *Synthese* 153 (2006): 1-22.

———. "Holism, Language Acquisition, and Algebraic Logic." *Linguistics and Philosophy* 25 (2002): 419-52.

———. "Meaning Holism." *Philosophy Compass* 7.9 (2012): 611–9.

Dummett, Michael. *Frege: Philosophy of Language*. 2nd Ed. Cambridge, Mass.: Harvard UP, 1981.

———. *The Seas of Language*. New York: Oxford UP, 1993.

———. "What is a Theory of Meaning? (I)." 1975. Rpt. in Dummett, *The Seas of Language* 1-33.

———. "What is a Theory of Meaning? (II)." 1976. Rpt. in Dummett, *The Seas of Language* 34-93.

Edmonds, David, and Nigel Warburton, eds. *Philosophy Bites Again*. Oxford UP, 2014, 240-64.

Enfield, N. J., and Stephen Levinson, eds. *Roots of Human Sociality: Culture, Cognition and Interaction*. New York: Berg, 2006.

Field, Hartry. "Logic, Meaning and Conceptual Role." *Journal of Philosophy* 74 (1977): 379-409.

Fodor, Jerry. *Concepts: Where Cognitive Science Went Wrong*. New York: Oxford UP, 1998.

———. *Hume Variations*. New York: Oxford UP, 2003.

———. "Language, Thought and Compositionality." *Mind and Language* 16 (2001): 1–15.

———. *LOT 2: The Language of Thought Revisited*. New York: Oxford UP, 2008.

———. *Psychosemantics: The Problem of Meaning in the Philosophy of Mind*. Cambridge, Mass.: MIT P, 1987.

———. *The Language of Thought*. Cambridge, Mass.: Harvard UP, 1975.

Fodor, Jerry, and Ernest Lepore. "All at Sea in Semantic Space: Churchland on Meaning Similarity." 1999. Rpt. in Fodor and Lepore, *The Compositionality Papers* 174-200.

———. "Brandom's Burdens: Compositionality and Inferentialism." 2001. Rpt. in Fodor and Lepore, *The Compositionality Papers* 135-54.

———. *Holism: A Shopper's Guide*. Oxford: Basil Blackwell, 1992.

———. *The Compositionality Papers*. New York: Oxford UP, 2002.

———. "The Emptiness of the Lexicon: Reflections on Pustejovsky." 1998. Rpt. in Fodor and Lepore, *The Compositionality Papers* 89-119.

———. "The Pet Fish and the Red Herring." 1996. Rpt. in Fodor and Lepore, *The Compositionality Papers* 27-42.

———. "Why compositionality Won't Go Away: Reflections on Horwich's 'Deflationary' Theory." 2001. Rpt. in Fodor and Lepore, *The Compositionality Papers* 43-62.

———. "Why Meaning (Probably) Isn't Conceptual Role." 1999. Rpt. in Fodor and Lepore, *The Compositionality Papers* 9-26.

Fodor, Jerry., and Zenon W. Pylyshyn. "Connectionism and Cognitive Architecture: A Critical Analysis." *Cognition* 28 (1988): 3-71.

Gibbs, Raymond W., and Gregory A. Bryant. "Striving for Optimal Relevance when Answering Questions." *Cognition* 106 (2008): 345-69.

Greenberg, Mark, and Gilbert Harman. "Conceptual Role Semantics." Lepore and Smith 295-322.

Grice, Paul. "Intention and Uncertainty." *Proceedings of the British Academy* 57 (1971): 263-79.

———. "Logic and Conversation." 1975. Rpt. in Grice, *Studies in the Way of Words* 22-40.

———. "Meaning." 1948, 1957. Rpt. in Grice, *Studies in the Way of Words* 223-223.

———. "Meaning Revisited." 1976, 1980. Rpt. in Grice, *Studies in the Way of Words* 283-303.

———. "Retrospective Epilogue." 1987. Rpt. in Grice, *Studies in the Way of Words* 339-85.

———. *Studies in the Way of Words*. Cambridge, Mass.: Harvard UP, 1989.

———. "Utterer's Meaning and Intentions." 1969. Rpt. in Grice, *Studies in the Way of Words* 86-116.

———. "Utterer's Meaning, Sentence-Meaning, and Word-Meaning." 1968. Rpt. in Grice, *Studies in the Way of Words* 117-37.

Hale, Bob, and Chrispin Wright, eds. A Companion to the Philosophy of Language. Malden: Blackwell, 1997.

Harman, Gilbert. "Analyticity Regained?" *Noûs* 30.3 (1996): 392-400.

———. "Meaning Holism Defended." 1993. Fodor and Lepore, *Holism: A Consumer Update* 163-72.

———. *Thought*. Princeton: Princeton UP, 1973.

Hinzen, Wolfram, et al., eds. *The Oxford Handbook of Compositionality*. New York: Oxford UP, 2012.

Horn, Laurence R., and Gregory Ward, eds. *The Handbook of Pragmatics*. Malden, Mass.: Blackwell, 2004.

Horwich, Paul. *Meaning*. New York: Oxford UP, 1998.

———. *Reflections on Meaning*. New York: Oxford UP, 2005.

Huang, Yan. *Pragmatics*. New York: Oxford UP, 2007.

Iten, Corinne. *Linguistic Meaning, Truth Conditions and Relevance*. New York: Palgrave Macmillan, 2005.

Jackman, Henry. "Descriptive Atomism and Foundational Holism: Semantics between the Old Testament and the New." *Protosociology* 21 (2005): 7-21.

———. "Meaning Holism." Zelta. Web 1 November 2014. < http://plato.stanford.edu/archives/fall2014/entries/meaning-holism/>.

———. "Moderte Holism and the Instability Thesis." *American Philosophical Quarterly* 36.4 (1999): 361-69.

Jackson, Frank, and Michael Smith, eds. *Oxford Handbook of Contemporary Philosophy*. New York: Oxford UP, 2005.

Janssen., Theo M. V. "Compositionality." van Benthem and ter Meulen, eds. 417-73.

Johnson, Kent. "From Impossible Words to Conceptual Structure: The Role of Structure and Processes in the Lexicon." *Mind and Language* 19 (2004): 334-58.

———. "On the Systematicity of Language and Thought." *The Journal of Philosophy* 101 (2004): 111-39.

Jönsson, Martin L. *On Compositionality: Doubts about the Structural Path to Meaning*. Diss. Lund U, 2008.

———. "Semantic Holism and Language Learning." *Journal of Philosophical Logic* 4.34 (2013): 725-59.

Jönsson, Martin L., and Ingar Brinck. "Compositionality and Other Issues in the Philosophy of Mind and Language: An Interview with Jerry Fodor." Theoria 71.4 (2005): 294-308.

Jutronić, Dunja., ed. *The Maribor Papers in Naturalized Semantics*. Maribor: Pedagoska Fakulteta Maribor, 1997.

Kaplan, David. "Words on Words." *The Journal of Philosophy* 108.9 (2011): 504-29.

———. "Demonstratives." Almog et al. 481-563.

Kempson, Ruth M., ed. *Mental Representations: The Interface between Language and Reality*. New York: Cambridge UP, 1988.

King, Jeffrey C. and Jason Stanley. "Semantics, Pragmatics, and the Role of Semantic Content." Szabó, *Semantics versus Pragmatics* 111-65.

Kjøll, Georg. "Content Similarity and Communicative Success." *International Review of Pragmatics* 2 (2010): 21-45.

Korta, Kepa, and John Perry. "Pragmatics." *The Stanford Encyclopedia of Philosophy*. Ed. Edward N. Zalta. Winter 2015 Ed. Web. 13 Dec. 2015. < http://plato.stanford.edu/archives/win2015/entries/pragmatics/>.

Lepore, Ernest, ed. *Truth and Interpretation: Perspectives on the Philosophy of Donald Davidson*. Oxford: Basil Blackwell, 1986.

Lepore, Ernest, and Barry Smith, eds. *The Oxford Handbook of Philosophy of Language*. New York: Oxford UP, 2006.

Lepore, Ernest, and Kirk Ludwig. *Donald Davidson: Meaning, Truth, Language, and Reality*. New York: Oxford UP, 2005.

———. "Ontology in the Theory of Meaning." *International Journal of Philosophical Studies* 14 (2006): 325-35.

Levine, Joseph. "Troubles with Moderate Localism." Jutronić 59-72.

Levinson, Stephen. "On the Human 'Interaction Engine'." Enfield and Levinson 39-69.

———. *Pragmatics*. New York: Cambridge UP, 1983.

Lormand, Eric. "How to Be a Meaning Holist?" *The Journal of Philosophy*, 93 (1996): 51-73.

Margolis, Eric and Stephen Laurence. "Multiple Meanings and the Stability of Content." *The Journal of Philosophy* 95.5 (1998): 255-63.

McCullagh, Mark. "Do Inferential Roles Compose?" *Dialectica* 57.4 (2003): 430-7.

Neale, Stephen. "Meaning and Interpretation." Edmonds and Warburton 240-64.

———. "Paul Grice and the philosophy of language", *Linguistics and Philosophy*, 15: 509–559.

Noh, Eun-Ju. *Metarepresentation: A Relevance-theory Approach*. Philadelphia: John Benjamins Pub, 2000.

Noveck, Ira A., and Dan Sperber. *Experimental Pragmatics*. New York: Palgrave Macmillan, 2004.

Pagin, Peter. "Is Compositionality Compatible with Holism?" *Mind and Language* 12.1 (1997): 11-33.

———. "Meaning Holism." Lepore and Smith 213-32.

Pagin and Dag Westerståhl. "Compositionality I: Definitions and Variants." *Philosophy Compass* 5.3 (2010): 250-64.

———. "Compositionality II: Arguments and Problems." *Philosophy Compass* 5.3 (2010): 265-82.

Patree, Barbara. "Lexical Semantics and Compositionality." *An Invitation to Cognitive Science. Vol. 1*. Ed. Daniel Osherson. 1995, 311-60. Web. 20 July 2014. < http://semanticsarchive.net/Archive/jhjMGYwM/BHP95Lexical%20SemanticsAndComp ositionality.pdf>.

———. "Compositionality and Coercion in Semantics: The Dynamics of Adjective Meaning." Eds. Gerlof Bouma, et al. *Cognitive Foundations of Interpretation*. Edita-the Publishing House of the Royal. 2007, 145-61.

Patterson, Douglas. "Learnability and Compositionality." *Mind and Language* 20.3 (2005): 326-52.

Peacocke, Christopher. "Holism." Hale and Wright 227-47.

Pelletier, Francis J. "Holism and Compositionality." *The Oxford Handbook of Compositionality*. Eds. Markus Werning et al. N. pag. Web. 20 March 2012. < http://www.ualberta.ca/~francisp/papers/PellHolCompShort.pdf >.

Peregrin, Jaroslav. "An Inferentialist Approach to Semantics: Time for a New Kind of Structuralism?" *Philosophy Compass* 3.6 (2008): 1208-1223.

———. "Inferentialism and the Compositionality of Meaning." *International Review of Pragmatics* 1 (2009): 154-181.

Perry, John. "Fodor and Lepore on Holism." *Philosophical Studies* 73 (1994): 123-58.

Pietroski, Paul M. "Meaning before Truth." Preyer and Peter 255-302.

Preyer, Gerhard, and Georg Peter, eds. *Contextualism in Philosophy: Knowledge, Meaning, and Truth*. New York: Oxford UP, 2005.

Pullum, Geoffrey K., and Barbara C. Scholz. "Recursion and the Infinitude Claim". van der Hulst 113-37.

Putnam, Hilary. "Reply to Michael Devitt." *Revue Internationale de Philosophie* 218 (2001): 495-502.

Quine, W. V. O. "Ontological Relativity." 1968. Rpt. in Quine, *Ontological Relativity and Other Essays* 26-68.

———. *Ontological Relativity and Other Essays*. New York: Columbia UP, 1969.

Recanati, François. *Literal Meaning*. New York: Cambridge UP, 2004.

———. "Literalism and Contextualism: Some Varieties." Preyer and Peter 171-96.

Reimer, Marga, "Reference." Zelta. Web 15 March 2013.
       <http://plato.stanford.edu/archives/spr2010/entries/reference/>.

Sainsbury, Richard Mark. *Departing from Frege: Essays in the Philosophy of Language*. New York: Routledge. 2002.

———. "Knowing Meanings and Knowing Entities." 2001. Rpt. in Sainsbury 181-191.

Saussure, Ferdinand de. *Course in General Linguistics*. New York: McGraw-Hill, 1966.

Sebeok, Thomas A., ed. *Current Trends in Linguistics. Vol.5 Linguistics in South Asia*. Paris: Mouton. 1969.

Semin, Gun R., Eliot R. Smith, eds. *Embodied Grounding: Social, Cognitive, Affective, and Neuroscientific Approaches*. New York: Cambrideg UP, 2008.

Senor, Thomas D. "Two-Factor Theories, Meaning Holism, and Intentionalistic Psychology: A Reply to Fodor." *Philosophical Psychology* 5.2 (1992): 113-51.

Silverberg, Arnold. "Meaning Holism and Intentional Content." *Pacific Philosophical Quarterly* 75 (1994): 29-53.

Soames, Scott. *Beyond Rigidity: The Unfinished Semantic Agenda of Naming and Necessity*. Oxford UP, 2002.

Sperber, Dan, ed. *Metarepresentations: A Multidisciplinary Perspective*. New York: Oxford UP, 2000.

Sperber, Dan, and Deirdre Wilson. "A Deflationary Account of Metaphors." 2008. Rpt. in Wilson and Sperber 97-122.

———. "Loose Take." *Proceedings of the Aristotelian Society* LXXXVI (1985-6): 153-71.

———. "Pragmatics." Jackson and Smith 468-501.

———. "Précis of *Relevance: Communication and Cognition*." *Behavioral and Brain Sciences* 10.4 (1987): 697-710.

Staal, J. F. "Sanskrit Philosophy of Language." Sebeok 499-531.

Stanley, Jason. "Review of François Recanati's *Literal Meaning*." *Notre Dame Philosophical Reviews*, 2005.9.8. Web 22 September 2013. <http://ndpr.nd.edu/news/24857/?id=3841>

———. "Semantics in Context." Preyer and Peter 221-53.

Sundell, Timothy. "Disagreement, Error, and an Alternative to Reference Magnetism." *Australasian Journal of Philosophy* 90.4 (2012): 743-59.

Szabó, Zoltán G. "The Case for Compositionality." Hinzen, et al. 64-80.

———. "The Determination of Meaning." *Philosophical Studies* 148 (2010): 253–72.

———. *The Problems of Compositionality*. New York: Garland.

———. "Review of J. Fodor and E. Lopre *The Compositionality Papers*." *Mind* 113 (2004): 340–4.

Talmage, Catherine J. L. "Semantic Localism and the Locality of Content." *Erkenntnis* 48 (1998): 101-11.

Trenholme, Russell. "Review of Holism: A Shopper's Guide." *Noûs* 28.2 (1994): 241-78.

van Benthem, J., and A. ter Meulen. *Handbook of Logic and Language*. Amsterdam: Elsevier, 1997.

Van der Henst, Jean-Baptiste, and Dan Sperber. "Testing Principles of Relevance." Noveck and Sperber 141-71.

Van der Henst, Jean-Baptiste, et al. "Truthfulness and Relevance in Telling the Time." *Mind and Language* 17 (2002): 457-66.

van der Hulst, Harry. *Recursion and Human Language*. New York: Walter de Gruyter, 2010.

Warfield, Ted A. "On a Semantic Argument against Conceptual Role Semantics." *Analysis* 53.4 (1993): 298-304.

Wedgwood, Daniel. "Dissimilarities in Perspective: A Reply to Kjøll." *International Review of Pragmatics* 3 (2011): 295-306.

———. "Shared Assumptions: Semantic Minimalism and Relevance Theory." *Journal of Linguistics* 43 (2007): 647-81.

Werning, Markus. "Right and Wrong Reasons for Compositionality." Werning et al. 285-309.

Werning, Markus, Edouard Machery, and Gerhard Schurz, eds. *The Compositionality of Meaning and Content*, vol. 1. New Brunswick: Ontos Verlag, 2005.

Werth, Paul, ed. *Conversation and Discourse*. New York : St. Martin's P, 1981.

———. *Relevance: Communication and Cognition*. 2nd Ed. Cambridge, Mass.: Blackwell, 1995.

Wetzel, Linda. "Types and Tokens." Zelta. Web 30 November 2014. < http://plato.stanford.edu/entries/types-tokens/>

Wilson, Deirdre. "Metarepresentation in Linguistic Communication." Sperber 422-59.

———. "The Pragmatics of Verbal Irony: Echo or Pretence?" *Lingua* 116 (2006): 1722-43.

Wilson, Deirdre, and Dan Sperber. "Introduction: Pragmatics." Wilson and Sperber, *Meaning and Relevance* 1-27.

———. "Explaining Irony." 2012. Wilson and Sperber 123-45.

———. "Linguistic Form and Relevance." 1993. Wilson and Sperber 149-68.

———. "On Grice's Theory of Conversation." Werth 155-78.

———. "Outline of Relevance Theory." *Links & Letters* 1 (1994): 85-106.

———. "Pragmatics and Time." 1998. Rpt. in Wilson and Sperber 169-86

———. "Relevance Theory." Horn and Ward 607-32.

———. "Representation and Relevance." Kempson 133-53.

———. "Truthfulness and Relevance." *Mind* 111.443 (2002): 583-632.

Wilson, Deirdre, and Dan Sperber, eds. *Meaning and Relevance*. New York: Cambridge UP, 2012.

Winawer, Jonathan, et. al. "Russian Blues Reveal Effects of Language on Color Discrimination." *Proceedings of the National Academy of Sciences of the United States of America* 104.19 (2007): 7780-5.

Wittgenstein, Ludwig. *Philosophical Investigations*. Trans. G.E.M. Anscombe. Eds. G.E.M. Anscombe and R. Rhees. Oxford: Blackwell, 1953.

Zalta, Edward N., ed. *The Stanford Encyclopedia of Philosophy* (Fall 2014 Edition).