LOGICAL STRUCTURE AND RELEVANCE

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To my parents, Γιώργος and Ρίτσα,

for being there in any imaginable way

and to Ronnie

for his never-ending support

Abstract

This thesis sets out to investigate relevance-theoretic pragmatics and its contribution to the study of linguistic meaning from a mentalist outlook. Adopting an internalist perspective with respect to the semantics of language seems to create serious problems for traditional accounts, which customarily seek to separate some common core of meaning from contextualisation. Against this background, it is argued that the ways in which an individual's mentally represented linguistic meanings are pervasively affected by his system of beliefs can be realistically addressed from a cognitive point of view through the implementation of the proposals of Relevance Theory regarding the inferential processes involved in the interpretation of utterances. In this setting, linguistic meaning is always provided through inference against the context of utterance and the need for a stable semantic content that is identical across individuals largely evaporates. In pursuit of this argument, the existing account of context within the relevance-theoretic framework is initially reviewed and extended. Then, on the basis of current research on the human cognitive capacity for metarepresentation and joint attention, it is suggested that it is an innate predisposition which enables us to efficiently align our contexts in instances of communication. In addition, it is argued that these highly developed mind-reading abilities are partially responsible for our natural tendency to develop an understanding of the world which closely resembles that of our peers; a point further elucidated by reference to Searle's notion of the Background. Finally, the semantics/pragmatics distinction is readdressed from a cognitive perspective and a case is made for the substitution of the externalist theory of semantic content with a more psychologically plausible contextualist counterpart within Relevance Theory itself.

Declaration

I hereby declare that this thesis has been composed by myself and that the research herein, which is my own except where explicitly stated otherwise in the text, has not been submitted for any other degree or professional qualification. This thesis complies with all the regulations for the degree of PhD at the University of Edinburgh and falls below the requisite word limit specified.

Stavros Assimakopoulos

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Contents

Chapter One

Introduction

> Because of language's familiarity, we rarely observe it, taking it rather for granted, as we do breathing and walking.
>
> (Bloomfield, 1935:3)

One of the most fascinating attributes of language is its catholic nature; under normal circumstances, we are all capable of understanding and using at least one language, our native one, without any particular effort. In the above quotation from one of the founding fathers of modern linguistics, language is compared to such fundamental activities as breathing and walking in terms of familiarity. However, much like them, our ability for language is no simple matter. This is why linguistics, the scientific study of language, has been such a flourishing field of research especially within the past couple of centuries. And of course one of the main reasons for which it has received such attention among scientists is that, just as the study of walking and breathing can reveal vital information about our biological mechanisms, so can the study of language provide us with invaluable information about our mental ones. Echoing an argument that originates from at least as far back as Leibniz, Chomsky suggests that "the most compelling reason [for studying language...] is that it is tempting to regard [it...] as 'a mirror of mind'" (Chomsky 1975:4).

Even more importantly, the ability for language seems to be unique to our species, which makes its investigation not only important for the study of the human mind but also fundamental for the study of human nature itself. As Chomsky suggests, "anyone concerned with the study of human nature and human capacities must somehow come to grips with the fact that all normal humans acquire language, whereas acquisition of even its barest rudiments is quite beyond the capacities of an otherwise intelligent ape" (1972a:67). Therefore, it is only natural for the distinctiveness of our linguistic ability to pose fundamental questions about the capacities of the human mind that make it available exclusively to us.

Within this spirit, and after the Chomskyan revolution that has largely

redefined the domain of linguistics, our ability for language has been increasingly examined as a cognitive capacity of the human mind/brain. One of the most innovative moves that Chomsky has made with respect to the study of language was to promote research in it from a naturalistic point of view on a par with 'hard sciences' like physics or chemistry. In this sense, language is to be investigated as a biological object that can reveal significant insights about how the mind works. And examining our internal cognitive linguistic capacities from a scientific standpoint can help us "construct intelligible explanatory theories [of the mind], with the hope of eventual integration with the 'core' natural sciences" (Chomsky 2000a:76). Against this background, language can be usefully considered to provide a 'window' to the workings of the human mind and because of that it certainly deserves to be investigated from a cognitive perspective.

This thesis constitutes a potential contribution towards this very direction. It can be generally viewed as an investigation of our mental capacity that enables us to successfully develop a fairly standard ability for language, under normal circumstances. The shift of the focus of linguistics from *externalized language* (E-language) that comprises the properties of language as a mind-independent system to *internalized language* (I-language), i.e. "some element of the mind of the person who knows a language, acquired by the learner, and used by the speaker-hearer" (Chomsky 1986:22) has been brought to the foreground of linguistics theorizing again by Chomsky, who defends an investigation of language in mentalist terms. In this conception, the investigation of I-language "treats language as a body of knowledge within the minds/brains of speakers, and seeks to characterise its properties within the context of a more general theory of psychology" (Jackendoff 1996:539). Along these lines, through my argumentation, I wish to examine certain properties of what knowing linguistic meaning realistically entails.

Given now that meaning is generally considered to be "the 'holy grail' not only of linguistics, but also of philosophy, psychology, and neuroscience" (Jackendoff 2002:267), it seems necessary to clarify right from the beginning the perspective from which I will investigate it in what follows. In this respect, what I am interested in for the purposes of this thesis is the extent to which our cognitive basis that enables us to develop knowledge of linguistic meaning is affected by our

mental ability to engage in pragmatic reasoning. In order to establish the necessity of incorporating pragmatics in the study of linguistic meaning from an internalist point of view, I will be basically concerned with the instantiation of language in the human cognitive system. Therefore, I will refrain, as much as possible, from engaging in any sort of philosophical discussion about what linguistic meaning can be thought to amount to. Rather, I will attempt to develop an account of how an incorporation of pragmatics can – and should – be pursued within the larger context of I-language. For reasons that will become apparent in due course, the framework that I will implement in my argumentation will be that of Relevance Theory, which provides a psychologically plausible cognitive view of pragmatics.

Following the general outlook of the relevance-theoretic account, which seeks to incorporate pragmatic reasoning in the domain of cognitive psychology much like Chomsky argues for the characterisation of linguistic knowledge in psychological terms, I will develop my account of linguistic meaning knowledge within what Carston calls the "dominant cognitive science paradigm" (2002a:4) nowadays. Against this background, my interest is primarily located at "the symbolic, computational level, which [...] is a genuine psychological level, a level of mental states and processes, many of which are unconscious and not accessible to consciousness even in principle (Carston 2002a:4-5). In what follows, I will propose an approach to linguistic meaning whose descriptive and explanatory adequacy should be evaluated at this psychological rather than at the neurophysiological level of cognitive processing, and which should be seen as contributing to the naturalistic investigation of the human mental capacities that Chomsky endorses.

1.1 Organisation of the thesis

It is a truism that the study of pragmatic reasoning is customarily thought to be external to the study of the cognitive system that is considered responsible for our knowledge of language. Even though I do not wish to argue against this highly uncontroversial assumption, I intend, through my argumentation, to demonstrate that pragmatic inference pervasively affects our cognitive ability for knowledge of linguistic meaning. Therefore, by suggesting how this influence can be accounted for

in concrete terms, I aim to show that it should be incorporated in a mentalist account of semantics within our theory of I-language.

Against this background, in the chapter that follows I begin my argumentation by providing a brief outline of the Chomskyan paradigm for the study of language. While admittedly the study of pragmatics falls outside of the subject-matter of linguistic competence, which Chomsky takes to be the principal object of enquiry for the linguist, I argue that an extension of the notion of competence is necessary if we want to deal with the nature of linguistic meaning in holistic and cognitively realistic terms. To that effect, I endorse two fundamental doctrines with respect to the language faculty. On the one hand, arguing against Chomsky's syntactocentrism, I follow Jackendoff in hypothesising that the language faculty presents a *parallel architecture* comprising distinct, yet interacting, mental components whose domains are syntax, semantics and phonology respectively. On the other hand, again in line with Jackendoff, I suggest that the investigation of meaning from a mentalist perspective should be pursued from a *conceptualist* rather than an externalist perspective. Finally, since both Chomsky and Jackendoff contend that linguistic meaning cannot be separated from general world knowledge in conceptualisation, I propose that it is pragmatics that can be implemented in the study of I-semantics to this effect, as it can provide genuine means by which to approach the ways in which our beliefs and general world knowledge affect our understanding of meaning during linguistic usage.

In the third chapter, I address Chomsky's pessimism regarding the possibility of studying pragmatics, by presenting the major steps that have been taken in delineating the field's subject matter. Given the mentalist perspective that this thesis adopts, I focus on the ability of pragmatic theory to explain how the inferential attribution of meaning takes place. After a brief illustration of Grice's pioneering ideas on the issue, I provide a detailed review of Relevance Theory[1], the post-Gricean framework that I utilise in my subsequent argumentation. Underlining right from the beginning the cognitive approach to pragmatics that the relevance-theoretic

[1] For ease of exposition, I will follow the relevance-theoretic tradition of referring to the speaker as 'she' and the hearer as 'he' throughout my argumentation. Additionally, all my citations from Sperber and Wilson's *Relevance* (1986/1995) will be from its second edition (1995), which, however, keeps the original pagination of the first one intact with the only addition of a 'Postface' (1995:255-279).

approach puts forth, I discuss its basic tenets with respect to cognition, communication in general and verbal communication in particular, in an attempt to show that it provides a psychologically plausible account of the computations that take place during thought and the interpretation of utterances. Finally, I substantiate my choice of implementing Relevance Theory in the mentalist treatment of meaning, by showing how it manages to not only provide a cognitive approach to pragmatics, but also locate a cognitive *module* responsible for pragmatic reasoning during verbal comprehension in the overall mental architecture.

Following the argument that beliefs and world knowledge influence our judgements of meaning by entering the contexts in which we interpret utterances, the fourth chapter sets outs to investigate the traditionally notorious notion of context from a mentalist perspective. Endorsing the relevance-theoretic proposal about a cognitive treatment of context, I gather the various ideas that have been put forth in the relevant literature regarding the realistic description of the context of utterance interpretation. Then I focus on the issue of *context selection*, the central innovation of Relevance Theory with respect to contextual investigations. After further substantiating the existing relevance-theoretic account of context selection, I attempt to extend it by addressing a criticism that it has received and suggesting that the actual mental computations that mediate it follow an *egocentric* pattern in both language production and interpretation.

Against this background, in the fifth chapter, I address the question that I raise towards the end of the previous one; that is, if individuals are egocentrically-biased in selecting contextual assumptions and contextual assumptions are essentially personal, how is successful communication more likely to occur than not? To this effect, I propose that the train of thought that is required in establishing an assumption's manifestness and/or mutual manifestness becomes surprisingly short during our cognitive development, since we are, under normal circumstances, genetically endowed with a unique *mindreading ability*. Presenting the relevance-theoretic approach to *metarepresentations* and complementing it with additional evidence about our natural tendency for *joint attention*, I suggest that individuals manage to effortlessly and mechanistically attribute intentionality to their interlocutors in all instances of communication. Furthermore, implementing Searle's

theoretical construct of the *Background*, I show how we remain largely *conventional* in our assumptions about the world, and respectively how these assumptions, although not identical among speakers of the same language, still are similar enough to make communication between them possible.

Then, in the sixth chapter, I discuss meaning from the relevance-theoretic perspective. After presenting some compelling, to my mind, arguments for the *linguistic underdeterminancy* thesis and showing why semantic representations fall short of providing complete meaning at the propositional level, I turn to the current relevance-theoretic view of lexical meaning. Suggesting that the notion of *encoded concept* that the framework puts forth lies on an unrealistic externalist perspective, I argue that the current account of lexical semantic content in it needs to be readdressed so as to match the objective of psychological plausibility that has been lying at the very foundation of the theory from its very beginning. Discussing the notion of *ad hoc concept* within the framework, I reach the conclusion that all the concepts that make up an utterance's basic *explicature* during verbal communication are essentially *ad hoc* in the relevant sense. Finally, I discuss the implications that this proposal carries for the current relevance-theoretic view of semantics, and argue that it makes the possibility of adopting a version of contextualist semantics all the more appealing for Relevance Theory.

In the seventh and last chapter, I connect my proposals regarding the relevance-theoretic framework with the discussion of I-semantics, as I presented it in the second chapter. Then, I go on to discuss how my overall argumentation there opens up new directions for the study of language as a cognitive capacity. After underlining the necessity of interdisciplinary research in order to eventually reach a comprehensive understanding of our linguistic ability from a mentalist perspective, I finish my argumentation by suggesting certain directions for future research within the relevance-theoretic framework.

Chapter Two

Language, meaning and human cognition

Even though in the chapters that follow I will only be marginally concerned with the Chomskyan paradigm itself, it is within the original Chomskyan motivation to investigate language from a mentalistic perspective that this thesis will develop. Of course, by not directly implementing in my account Chomsky's paradigm, I do not wish to undermine its general contribution to the field of linguistics, which is massive and deep-rooted in the work of the contemporary linguist. However, much like I find some of Chomsky's foundational remarks concerning the study of language to be compelling, there are some particular aspects of his theorizing that I believe can be readdressed, especially in the light of new developments in the psychological study of our mind and its processes. In this respect, as the Chomskyan perspective for the study of language seems like a suitable place to start my argumentation, I will first provide a brief overview of it discussing certain claims which I find to be in line with the overall spirit of this thesis, before I turn to ideas that I believe should be readdressed in the current context.

2.1 The Chomskyan turn in linguistics

To begin with, a Chomskyan hypothesis that I find particularly appealing for the study of language is that humans are born with an innate predisposition to acquire language. On the basis of a *poverty of stimulus* argument, i.e. that children develop their linguistic ability without an adequate amount of environmental input[1], Chomsky

[1] By 'adequate amount' I do not only refer to the magnitude of the linguistic input available to children, but also to its quality. In order for exposure to language to constitute the sole basis for language acquisition, it has not only got to be massive, but also full of both positive and negative evidence that will gradually shape the grammar in the child's mind. Against this background, the Chomskyan hypothesis suggests that the available evidence from the child's experience cannot account for the accuracy in which children acquire the intricate systematicity of their native language (for further discussion see Chomsky 1981, Hornstein and Lightfoot 1981, Gleitman & Wanner 1982, Shatz 1982, Pinker 1984, Bates & Elman 1996, among others; however, for a series of criticisms regarding the poverty of stimulus argument see Pullum & Scholz 2002, Scholz & Pullum 2002, 2006).

suggests that we are born with the cognitive 'hardware', a *language acquisition device* that enables us to acquire at least one language under normal circumstances. Along these lines, it is hypothesised that there exists in the human mind a dedicated mental structure, the *language faculty*, which is responsible for our ability to develop knowledge of our language in a fast and efficient manner, especially since the complexity of language poses serious learnability problems (e.g. Pinker 1979, 1984). It is within this picture that we are, thus, able to explain how, during some potentially *critical period* (Lenneberg 1967[2]), children manage to effortlessly acquire a full blown language with its distinctive phonological patterns, numerous morphosyntactic constructions and infinite meanings, reaching eventually a stage of relative stability and maturity that characterises the native speaker of a language.

In this setting, what is of interest for the linguist to address is "what constitutes knowledge of language", "how [it...] is acquired" and "how [it...] is put to use" (Chomsky 1986:3). According to Chomsky, the answer to what constitutes knowledge of language is "given by a particular *generative grammar*, a theory concerned with the state of the mind/brain of the person who knows a particular language" (ibid, emphasis my own). A generative grammar, another appealing technical apparatus at the disposal of the linguist that has been introduced by Chomsky, is an underlying system of knowledge that enables us to produce and comprehend linguistic strings. Again, the argument behind the introduction of generative grammars in linguistics seems compelling: if knowledge of language were a mere matter of reproducing the linguistic behaviour of others in the strict sense, we would normally only be able to use linguistic strings that we would have already encountered. However, language presents unlimited *productivity*, in the sense that its underlying system of rules can potentially generate an infinite number of novel linguistic strings that may carry an equally infinite number of meanings. This strongly suggests that the way in which we acquire a language is by developing a mental system of rules that can in effect generate all the grammatical strings of our language via the combinatoriality of these rules. Given the poverty of stimulus argument then, a certainly plausible scenario for the acquisition of language is that it

[2] I am citing Lenneberg as the scholar who is taken to have introduced the critical period hypothesis in linguistics. Even though the existence of this critical period is beyond doubt, its length and specifics are still subject to investigation (see, for example, Newport 1990, Pinker 1994).

gradually grows in the head during childhood as a generative system of rules through an innately specified mental capacity, which has been dubbed *Universal Grammar* in the Chomskyan tradition[3]. And effectively the way in which the child actually develops a knowledge of language is "on the basis of observation of what we may call *primary linguistic data*" (Chomsky 1965:25, emphasis in original), i.e. examples of language usage around him/her.

In this respect, since the generative grammar is developed in all likelihood unconsciously in the child's mind, it becomes the linguist's task to attempt to discover its content, suggesting in this way how speakers of a language manage to differentiate between grammatical and ungrammatical linguistic strings. Against the Chomskyan background then, the focus of enquiry for the linguist is shifted "from behaviour or the products of behaviour to states of the mind/brain that enter into behaviour" (Chomsky 1986:3). It is at this juncture that an important dichotomy of interest that Chomsky has expressed regarding the study of language in mentalist terms arises. In his collective work, Chomsky has put forth a distinction between linguistic *competence* and *performance*. According to him, theories of competence designate "the speaker-hearer's knowledge of his language", while performance theories deal with "the actual use of the language in concrete situations" (Chomsky 1965:4). Following this distinction, it seems that the focus of the researcher of language needs to be placed at the level of linguistic competence, with performance-related intuitions being ideally excluded from the picture. In this respect, in order to account for an individual's knowledge of a specific language, all the linguist needs to do is identify the underlying set of grammatically mandated generative rules that enable the native user of that language to differentiate between grammatically acceptable and unacceptable linguistic strings in it.

Naturally, the absolute competence/performance distinction that is put forth by Chomsky serves justified aims in his agenda for the scientific study of language. By identifying a body of generative rules that the language user comes to know or

[3] Even though the notion of Universal Grammar has been largely misinterpreted in the relevant literature (for further discussion of this point see Jackendoff 1994, 2002, Pinker 1994), I take it, following Chomsky, to correspond to the initial mental prespecifications "concerning the nature of language that the [newborn] child brings to language learning, [...an] innate schema (the general definition of 'grammar') that gradually becomes more explicit and differentiated as the child [actually] learns the language" (1965:27).

'cognize' – to use a less controversial term (Chomsky 1986:265-269) – without being interested in how this speaker/hearer will actually put this knowledge to use, we manage to distinguish the mental basis of our purely linguistic knowledge from related cognitive processing that is not exclusively linguistic, but which, interacting with the language faculty, makes linguistic usage possible. In this setting, competence is distinguished from actual linguistic performance, to study which "we must consider the interaction of a variety of factors, of which the underlying competence of the speaker-hearer is only one" (Chomsky 1965:4). Therefore, in principle, although somewhat artificially, "one might have the cognitive structure that we call 'knowledge of English' fully developed, with no capacity to use this structure" (Chomsky 1975:23). By sticking to theories of competence then, we are essentially delimiting the subject-matter of linguistics, forming a proper scientific domain of inquiry, that of I-language.

In this picture, in order to approach linguistic competence, the linguist is asked to address a speaker/hearer's grammar as a set of generative rules that can collectively enumerate all the sentences s/he will find grammatical and only those. To this effect, the notion of *grammaticality* is of great significance. Intuitively speaking, "strings of words that adhere completely to the syntactic and semantic rules of a language [i.e. what corresponds to competence in that language] are grammatical sentences of that language" (Marks 1967:196). In this respect, it seems that "acceptability judgments are the basic data that linguists rely on to formulate their theories" (Keller 2000:17). However, even though Chomsky concedes that "there is no way to avoid the traditional assumption that the speaker/hearer's linguistic intuition is the ultimate standard that determines the accuracy of any proposed grammar, linguistic theory, or operational test" (1965:21), he argues for a persistent dichotomy of interest between grammaticality and acceptability. From this perspective, "acceptability is a concept that belongs to the study of performance, whereas grammaticalness belongs to the study of competence" and is essentially "only one of many factors that interact to determine acceptability" (Chomsky 1965:11). In the same spirit of competence investigations then, grammaticality can be equally viewed as a language-intrinsic property that is based on the generative rules of the grammar of a language irrespective of other cognitive delimitations that

may lead a native speaker of a language to consider an utterance of a sentence unacceptable.

Against this background, in his famous example of discussing the notion of grammaticality, Chomsky suggests that (1957:15)

> the notion 'grammatical' cannot be identified with 'meaningful' or 'significant' in any semantic sense. Sentences (1) and (2) are equally nonsensical, but any speaker of English will recognize that only the former is grammatical.
> (1) Colorless green ideas sleep furiously.
> (2) Furiously sleep ideas green colorless.

This example clearly illustrates the central position Chomsky tends to assign to syntactic structure in his theoretical work. This tendency has been neatly termed 'syntactocentrism' by Jackendoff on a number of occasions (e.g. 1997, 2002) and is a cornerstone idea upon which the Chomskyan paradigm has been based. As far back as his *Aspects of the Theory of Syntax*, Chomsky paints a pretty specific picture of how generative grammars in his conception are to be approached (1965:15-16, emphasis my own):

> A generative grammar must be a system of rules that can iterate to generate an indefinitely large number of structures. This system of rules can be analysed into the three major components of a generative grammar: the syntactic, phonological, and semantic components. The syntactic component specifies an infinite set of abstract formal objects, each of which incorporates all information relevant to a single interpretation of a particular sentence. [...] The phonological component of a grammar determines the phonetic form of a sentence generated by the syntactic rules. That is, it relates *a structure generated by the syntactic component to a phonetically represented signal*. The semantic component determines the semantic interpretation of a sentence. That is, it relates *a structure generated by the syntactic component to a certain semantic representation*.

In this picture, syntax seems to be the 'base' component in the derivation of sentences. And even though the formalisation of Chomsky's theoretical ideas has been redefined more than once since the *Aspects* model, the claim for syntactocentrism has remained relatively intact in all versions of his theory. In this way, Chomsky still holds that "narrow syntax[4] is 'prior to phonology', in that the

[4] It should be noted that Chomsky uses the term syntax in two senses. In the *broad* sense, he takes syntax to correspond to "the study of symbolic systems, including whatever computational/

objects constructed independently by N[arrow] S[yntax] are mapped to phonetic form by a component of the [broad] syntax that we may call phonology" (in Stemmer 1999:399). Similarly, the same applies to meaning, in the sense that syntax is also considered to be 'logically prior' to the grammar's semantic component[5]. Without getting into much detail about the formal differences of the various Chomskyan theoretical expositions in the past 50 years or so – which I find irrelevant for my current purposes – it should be noted that, even in the most recent version of his theory – that is, the *Minimalist Program* (1995) – Chomsky still maintains that "syntactic structure is the sole source of generativity in the grammar" (Jackendoff 2002:111).

In this setting, our theory of linguistic competence seems to comprise a syntactic, a semantic and a phonological component, in a conception of syntax, semantics and phonology as abstract but language-internal and language-specific systems of knowledge. Given the mentalist stance that Chomsky advocates now, these systems have a direct counterpart in the cognitive architecture of the human mind, since, customarily, "linguistic competence [...] is conceived of as an autonomous and internally modular system of knowledge, which grows in the mind of every mentally intact human being" (Carston 1997:29). As Chomsky puts it in his 'Minimalist Enquiries', "the language L includes a cognitive system that stores information: roughly, information about sound, meaning, and structural organisation [which] performance systems access [...] and put to use" (2000b:90). This system, which is associated with the traditional Chomskyan sense of grammatical competence, then provides this information to the performance systems at mental 'interface levels', feeding information about sound to sensorimotor systems and

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representational systems we take to be internal to the mind/brain" (in Stemmer 1999:398). In the *narrow* sense, syntax is only "one part – call it NS – of the [broad] internal syntactic (computational-representational) system of FL [i.e. the Language Faculty, which] constructs syntactic objects that are mapped to 'phonetic form' (accessible to sensorimotor systems) and to 'logical form' (accessible to the systems of thought, conceptual-intentional systems)" (Chomsky, in Stemmer 1999:399). For ease of exposition, throughout this thesis, I will be using the term syntax to refer exclusively to narrow syntax, as I find the competing notion of a broad syntax more confusing than illuminating for the current purposes. This is because trivially "phonology, (narrow) syntax, and semantics/pragmatics each have a (broad) syntax, that is, a patterned organisation" (Jackendoff 2000:129).

[5] Along similar lines, Chomsky is often perceived to suggest that syntax is autonomous in contrast to semantics or phonology. However, as Chomsky clearly contends (e.g. in Stemmer 1999:400) that he has never argued for an autonomy of syntax thesis, I will refrain from attributing it to him, even though I believe that it is implicit in his collective work.

information about meaning to systems of thought, "where 'sound' and 'meaning' are understood in internalist terms, 'externalizable' for language use by the[se] performance systems" (Chomsky 2000b:91).

In this respect, what is of interest for the Chomskyan linguist to investigate is the contents of this competence system, stripped from the influence of its adjacent performance systems. In the mentalist picture of language, this is roughly equated with the investigation of what Chomsky calls the language faculty. And the argument not only for the existence, but also for the domain-specificity of such a mental organ is pretty straightforward[6] (Chomsky in Stemmer 1999:394, emphasis my own):

> In Gallistel's words [(1997)], in all animals learning is based on specialized "learning mechanisms", "instincts to learn" in specific ways, these being essentially "organs within the brain [that] are neural circuits whose structure enables them to perform *one particular kind of computation*" [...]; human language acquisition is instinctive in this sense, based on a *specialized 'language organ'*. In *R[eflections of] L[anguage* (Chomsky 1975)], the 'learning mechanisms' are called LT(O,D) ('learning theories' for organism O *in domain* D); one of them – the one that particularly concerns me – is LT (Human, Language), the initial state of the human faculty of language FL, the specialized 'language organ' that attains various states under the triggering and shaping effect of experience, e.g., the language L that Jones has.

This argument seems to be largely in line with the current state of affairs in cognitive science, which, for some time now, has turned to a *modular* view of mental architecture. As I will return to discuss in the next chapter in more detail, the modular view of the mind suggests that the mind is equipped with specialised modules that are both informationally encapsulated and responsible for specific sorts of computations[7]. In this respect, Chomsky is certainly justified in positing a dedicated mental structure which enables children to distinguish "linguistic materials from the rest of the confusion" (Chomsky, in Stemmer 1999:395) during their language acquisition.

Turning to the specifics of the language faculty now, an even more precise

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[6] For a fuller exposition of the current point see Chomsky (2000c).

[7] The argument for the existence of mental modules seems to be largely uncontroversial nowadays. However, as I will discuss in the next chapter there is still heated debate regarding the size and properties of modules on the one hand, and the existence of non-modular central processing systems on the other.

picture of it has been recently presented by Hauser, Chomsky and Fitch (2002). Following Chomsky in assuming that the study of I-language is "the primary object of interest for the study of the evolution and function of the language faculty" (2002:1570), the authors of this article distinguish between two conceptions of the language faculty. According to their argument, on the one hand, there is the faculty of language in the broad sense (FLB), which includes not only the competence system that underlies our knowledge of language, but also peripheral systems, such as the sensorimotor and thought performance ones, which interact with the competence system to make language usage possible. In this sense, it is FLB as a whole that comprises the systems that are both necessary and sufficient for our linguistic capacity and is, thus, responsible for our unique ability for language. On the other hand, there is the faculty of language in the narrow sense (FLN), which corresponds to "the abstract linguistic computational system alone, independent of the other systems with which it interacts and interfaces" (Hauser et.al. 2002:1571). In this conception, FLN is a component of FLB, but comprises solely "a computational system (narrow syntax) that generates internal representations and maps them into the sensory-motor interface by the phonological system, and into the conceptual-intentional interface by the [...] semantic system" (ibid).

Given now the infinite combinatoriality of syntactic structures, it is suggested by the authors that one of the defining features of FLN is its recursive capacity, which seems to be a unique attribute of the syntactic computational system, not shared by any other mental capacity both in the human mind and in the animal kingdom. Against this background, the authors propose that "FLN comprises only the core computational mechanisms of recursion as they appear in narrow syntax and the mappings to the interfaces" (Hauser et.al. 2002:1573). In an argument that is obviously akin to Chomsky's Minimalist view that I presented above[8], Hauser et.al. keep in their FLN only the aspects of the grammar that are also hypothesised in Minimalism to belong to the linguistic system that underlies competence. Other aspects of language, such as concept formation and motor output speed for example, which are in Minimalism attributed to peripheral performance systems, are also

[8] Even though Fitch et.al. (2005) explicitly state that their argumentation is not motivated by Minimalism in any straightforward sense, I tend to agree with the criticisms to the contrary raised by Pinker and Jackendoff (2005) and Jackendoff and Pinker (2005).

hypothesised here to be external to FLN, but still part of FLB. In this respect, Hauser et.al. claim that "one can profitably inquire into the evolution of FLN without an immediate concern for these limiting aspects of FLB" (2002:1571). And, within the same spirit, they argue that while the peripheral cognitive capacities that are included in FLB are shared between us and other animals, and, thus should have complex evolutionary stories, the ones included in FLN comprise only recently emerged cognitive capacities that are "unique to humans, and to language itself" (Fitch et.al. 2005:181) and which, unlike the more general properties of the FLB, were not derived as a response to evolutionary pressures.

In a sense, the idiosyncrasy of the computational system that the FLN is assumed to stand for and the claim that it did not emerge through any straightforward processes of natural selection, which renders "the status of FLN as an adaptation open to question" (Hauser et.al. 2002:1973), seem to echo Chomsky's general pessimism about the ability of evolutionary research to explain the emergence of human language. And this contention seems to be persistent in all of Chomsky's work. That is evident from at least as far back as the 70s when, criticising potential evolutionary scenarios for the emergence of language, Chomsky suggested that (1972a:67-68)

> it is almost universally taken for granted that there exists a problem of explaining the 'evolution' of human language from systems of animal communication. [... Recent] studies simply bring out even more clearly the extent to which human language appears to be a unique phenomenon, without significant analogue in the animal world. If this is so, it is quite senseless to raise the problem of explaining the evolution of human language from more primitive systems of communication that appear at lower levels of intellectual capacity.

As becomes apparent from this argument, Chomsky's pessimism regarding the question of how language evolved is closely connected to his claim that language has little to do with communication. In this respect, Chomsky considers communication to be only a peripheral function of our ability for language and thus rejects the idea that language should be studied on the basis of this function. As he recently put it (in Andor 2004:108),

> the traditional conception of language, going back centuries, is that it's a means for the expression of thought. Among biologists and

> paleoanthropologists and others it's been taken for granted for a long time that the primary function of language [...] is to create a symbolic world in which we can plan, interpret, act, think and so on and so forth. Communication is a peripheral aspect of this. That's a common view and it's my view as well. [...] just ask yourself, introspectively, how much of your use of language, your own use of language, is for communication. [...] It takes a tremendous act of will not to talk to yourself. Is that communication? Certainly not—it's thought. So at least statistically speaking, language is almost entirely non-communicative.

In this picture then, it is pretty obvious that Chomsky does not expect the study of human communication to be able to provide us with much input for the study of language.

Summing up this – necessarily brief – introduction to the Chomskyan turn in linguistics, it seems fair to conclude that in attempting to provide an answer to what knowledge of language is, Chomsky has been revolving around the questions of what is special about language, how we can isolate the aspects of it that are exclusive to our linguistic ability and make it uniquely available to the human species and, ultimately, how we can scientifically study these aspects from a mentalist perspective that will help us to eventually locate them in the human mind. However, as I will argue below, there are certain aspects of Chomsky's theorizing that can and should be reconsidered.

2.2 Evaluating Chomsky's claims

The arguments presented in the previous section illustrate the Chomskyan paradigm as a pretty concrete framework for the study of language. Indeed, the objective of this framework has been to create a proper domain of enquiry for linguistics and, given the popularity of the Chomskyan approach to language, it seems that it has succeeded to a great extent. Admittedly, this success is largely the outcome of the change of perspective of the linguist from the study of E-language to that of I-language, along with the quite plausible hypothesis that language grows in the head of the speaker/hearer as a generative system of rules that can enumerate all the grammatical linguistic strings that can exist in a specific language. Even though I share with many linguists a genuine respect towards Chomsky's pioneering work, I

nonetheless believe that some of his claims can be readdressed in the light of current developments in the study of mind and language. By turning to discuss some of them now I will essentially outline the perspective that I will adopt for the study of language in this thesis.

2.2.1 The idealisation of linguistic competence

It is customary in the literature on linguistic competence to assume that Chomsky's proposals point to the undebatable conclusion that "the goal of linguistic theory [...] is to describe the knowledge [of language], independent of (and logically prior to) any attempt to describe the role that this knowledge plays in the production, understanding, or judgment of language" (Schütze 1996:20). This conclusion stems directly from the Chomskyan hypothesis that linguistic competence is implemented in the mechanisms included in FLN, the mental structure that is exclusively dedicated to the acquisition and representation of specifically linguistic information and which exists independently of the various performance systems that put this linguistic information to use. This idea, however, is so deeply entrenched in the work of the contemporary Chomskyan linguist that it is sometimes difficult to see that it is only a working hypothesis about the nature of linguistic knowledge rather than a proven fact.

Interestingly, it seems that even Chomsky himself does not take this direction to necessarily be the only one that can be pursued in the discussion of linguistic competence (2000b:90, emphasis my own):

> The language L includes a cognitive system that stores information: roughly, information about sound, meaning, and structural organisation. Performance systems access this information and put it to use. Empirical questions arise at once: in particular, to what extent are the performance systems part of FL [i.e. the language faculty], that is, language-dedicated, specifically adapted for language? [...] A standard working assumption is that *performance systems are external to FL*. That is a *simplifying assumption*, not definitely known to be false, though *it may well be*, perhaps in important ways.

Then, in a footnote that accompanies this passage, Chomsky suggests how general cognitive processing might be able to affect the theory of linguistic competence: "Processing systems vary with language and language types, even for very young

infants, enabling them to sort out distinct languages in the data to which they are exposed" (2000b:140). Developing this argument further, there seems to be a direct way in which linguistic competence can be said to be affected by performance factors. If we take up the uncontroversial assumption that linguistic competence is developed through exposure to primary linguistic data and combine it with the assumption that the production of these data by the peers of an infant is directly affected by certain performance restrictions[9], it certainly becomes plausible that the development of linguistic competence as the infant grows up cannot but mirror in some way the performance restrictions that affect the structure, meaning and sound of the data from which the child acquires his/her knowledge of language.

In this setting, a fundamental question that arises for the study of knowledge of language has to do with the extent to which performance factors, even though external to FLN, can help us address issues of competence. Regarding this question, Chomsky seems to have a rather negative outlook. In his *Reflections on Language* then (1975), he might concede that "there are significant connections between structure and function" (1975:56) and even agree with Searle that "it is quite reasonable to suppose that the needs of communication influenced [language] structure" (1975:58), but he clearly expresses his doubts about the possibility that we can come up with any comprehensive account of how external pressures might have come to shape the formal properties of language. These doubts are certainly in line with the general pessimism that, as we saw above, Chomsky has expressed regarding our ability to account for the evolution of the language faculty as well as for the theoretical usefulness of connecting language with communication, which Chomsky thinks is "far too complex and obscure to merit attention in empirical inquiry" (Chomsky 2000a:70). Moreover, this pessimism seems to have become all the more solid through the years, with Chomsky eventually drawing a rigid line between form and function, as is evident in the following passage (Chomsky & Lasnik 1993, in 1995:18):

> It has sometimes been argued that linguistic theory must meet the empirical condition that it account for the ease and rapidity of

[9] This assumption seems only natural to make simply because our production of utterances is by definition the result of performance systems, i.e. cognitive systems that make the 'actual use of the language in concrete situations' possible.

> parsing. But parsing does not, in fact, have these properties. Parsing may be slow and difficult, or even impossible, and it may be in error [...] In general it is not the case that language is readily usable or 'designed for use'.

Regarding arguments of this sort, I tend to agree with Jackendoff that "there are good reasons[10] that Chomsky has made this shift [towards a more pervasive distinction between competence and performance], emanating from the character of his version of competence theory" (2002:33). From the perspective of this thesis, however, this argument looks largely counter-intuitive. While I defer the discussion of the 'character of Chomsky's version of competence theory' to the next section, I wish to now argue for the need of theories of competence to keep track of research on performance.

It may be true that the theory of linguistic competence under Chomsky's conception is merely required to "define the permissible structures in the language, without saying how those structures are produced in real time" (Jackendoff 2003:662), but in reality it should also be able to "lend itself to being embedded in a theory of processing", accounting in this way for "how the [...] knowledge that constitutes the competence theory is actually put to use" (Jackendoff 2003:663). After all, it is only reasonable to assume that there should be some direct connection between competence and performance, at least because it is impossible to anyone – linguist or otherwise – to "really have access to linguistic competence" (Meyer & Tao 2005:227). Thus, the only data that we, as linguists, can have about competence are the indirect ones we get from instances of language performance. In this respect, even if linguistic theory does not need to account for the 'ease and rapidity of parsing', it still needs to posit a body of knowledge that can justify the data that arise from our observations of language use.

Arguably, such a conclusion is largely in line with the original argument that Chomsky had put forth about the study of language back in the 60s (1965:18):

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[10] In my view, the most obvious of these reasons would be the demise of theories of generative semantics, according to which, "as the class of [meaning-related] 'grammatical' phenomena increased, the competence-performance dichotomy became correspondingly cloudy" (Newmeyer 1986:125). By arguing against them and eventually winning the arising debate, as I will also discuss in the next section, Chomsky would then promote syntactocentrism more rigidly, maintaining in this way an even more absolute distinction between competence and performance than he had originally put forth.

> The actual data of linguistic performance will provide much evidence for determining the correctness of hypotheses about underlying linguistic structure, along with introspective reports (by the native speaker, or the linguist who has learned the language).

By suggesting that language is not 'readily usable' or 'designed for use', however, Chomsky seems to have moved to the firmer position that the study of competence should not be connected with the study of performance. In this respect, Chomsky now argues that the analysis of large amounts of data of linguistic usage, as is customarily pursued, for example, in corpus linguistics, is "an odd way of studying the sciences" (in Andor 2004:98). This necessarily leaves grammaticality judgements as the sole medium the linguist has in theorising about linguistic competence. Regarding this practice, however, I cannot but agree with Ferreira when she suggests that "it would be good if generative grammarians relied on more than just grammaticality judgments when developing theories of structure, and it would also help if the methods for collecting those judgments were improved" (2005:377). That is because it is not only common practice nowadays for linguists to base their proposals solely on their own – and occasionally on their colleagues' or students' – grammaticality judgements, but it is also becoming increasingly obvious that judgements of grammaticalness can be gradient (e.g. Bolinger 1961, Morgan 1972, Cowart 1994, 1997, Bard et.al. 1996, Keller 2000, Sorace 2000) and may even vary significantly from one linguist to another or among linguists and non-linguists (e.g. Snow & Meijer 1977, Schütze 1996, Wasow & Arnold 2005).

Even so, on the grounds that s/he is studying competence in isolation from performance, it seems that the Chomskyan linguist still largely resists testing his/her theoretical claims against the wealth of experimental data that now exist with respect to linguistic performance. As Ferreira notes (2005:370),

> the empirical foundation for the M[inimalist] P[rogram] is almost exclusively intuition data obtained from highly trained informants (i.e., the theorists themselves). Data from other areas such as neurolinguistics, computational linguistics, and psycholinguistics were not taken into account at all, nor were any insights from the rest of the cognitive sciences.

This is, to my mind, a deficient strategy for the study of language, given the means that are available to science nowadays. That is because, even if we grant Chomsky

that language is to be studied as an abstract body of knowledge in the mind of the speaker without any solid input from his/her performance-based usage, it seems to me dubious that we can, in this way, have any sort of hard evidence, of the quality that experimental techniques provide us with, for or against the linguistic theory we are positing, let alone assume that our theory applies unequivocally to all the speakers of a particular language[11]. Furthermore, it may be the case that Chomsky's original argumentation suggested the absolute distinction between competence and performance as a fruitful way to investigate language, but it never claimed that this is the only way to proceed in it.

According to the classic Chomskyan argument (1965:3),

> linguistic theory is concerned with an ideal speaker-listener, in a completely homogeneous speech-community, who knows its language perfectly and is unaffected by such grammatically irrelevant conditions as memory limitations, distractions, shifts of attention and interest, and errors (random or characteristic) in applying his knowledge of the language in actual performance.

However, as Jackendoff suggests, the idealisation that is inherent to this argument started off as a 'soft' idealisation, one that was essentially "acknowledged to be a matter of convenience" for the linguist, who would hope to eventually "find a natural way to re-integrate the excluded factors" (2002:33) in his/her theory of linguistic competence. And in my view, this integration is currently considerably more possible to pursue than it was back then. Thus, although it is undeniable that the Chomskyan regime for the study of language has provided a genuinely prosperous ground for research in the field of linguistics, it is my contention that the abstraction of linguistic competence from the study of performance that it puts forth is neither necessary nor desirable anymore. For example, a good deal of psycholinguistic research tends to show that memory limitations – to use one of the categories that Chomsky excludes from the theory of linguistic competence – not only affect our everyday usage of language (e.g. Baddeley 1986, Hasher & Zacks 1988, Carpenter et.al. 1994, Daneman & Merikle 1996), but also play a crucial role in first language acquisition. For instance, as Pinker discusses (1995a:146, emphasis in original),

[11] For a similar criticism see Ristad (1993).

> the brain changes after birth, and these maturation changes may govern the onset, rate, and adult decline of language acquisition capacity. General changes in the child's processing abilities (attention, memory, short-term buffers for acoustic input and articulatory output) could leave their mark [in the course of language acquisition] as well. In chapter 5 of this volume [(Pinker 1995b)], I show how a memory retrieval limitation – children are less reliable at recalling that *broke* is the past tense of *break* – can account for a conspicuous and universal error pattern, overregularizations like *breaked* (see also Marcus et al. 1992).

Against this background, insofar as our theory of linguistic competence is a theory of I-language, as this is instantiated and developed in the mind of the speaker/hearer, such findings should have a direct bearing on theorising about competence.

Nevertheless, it becomes evident from the more recent Chomskyan claims that I have presented above that not only have no steps been taken to overcome the originally necessary idealisation, but also that the idealisation itself has grown to become considerably 'harder' than it originally was. In this respect, current research in linguistic competence remains largely unaffected by the inability of formal grammars under Chomsky's conception to conform in a straightforward way with the experimental findings of psycholinguistic research. And even though it may be the case that, since "scholars from both fields have decided they can do their work better independently rather than cooperatively" (Ferreira 2005:366), no immediate concern arises for the linguist or the cognitive psychologist, this dichotomy of interest essentially perpetuates the inability of the scientific community to provide more comprehensive and holistic answers to such fundamental questions as how in effect we develop linguistic competence.

Naturally, Chomsky's response to such a criticism would be that what is central to questions about competence in his conception is not how we end up having it, but rather what system of knowledge it actually underlies in the mind of the native speaker. And indeed that would be a valid argument, but to my mind it leaves fundamental questions about the nature of our linguistic competence unanswered. And crucially, these questions are by no means peripheral to the study of language, as they have to do with how we actually acquire knowledge of language and how we implement this knowledge in use; that is, issues that are even by Chomsky's definition central to the study of knowledge of language.

At least from the perspective of language acquisition, with which I will be only marginally concerned in this thesis, it seems to me reasonable to assume that children acquire language only gradually, at specific steps in their cognitive development, because their ability to develop full linguistic competence depends as much on their language acquisition device as it does on other related, yet not language-specific, cognitive systems, like the ones underlying memory, as Pinker argues in the above quotation. This ultimately points to the direction that "as long as researchers [...] allow children's performance data to bear upon conclusions concerning the child's language competence, then a coherent explanation that achieves Chomsky's (1965) third level of theoretical adequacy, that of *psychological reality*, may be achieved" (Bohannon & Bonvillian 1997:302, emphasis in original). And given the fact that the study of I-language, by definition, looks to 'characterise its properties in the context of psychology', this outlook should be central in current research in linguistics. A case in point is the acquisition of linguistic meaning. For example, with respect to *How Children Learn the Meanings of Words*, Bloom's recent study claims that (2000:10):

> word learning really is a hard problem, but children do not solve it through a dedicated mental mechanism. Instead, words are learned through abilities that exist for other purposes. These include an ability to infer the intentions of others, an ability to acquire concepts, an appreciation of syntactic structure, and certain general learning and memory abilities. These are both necessary and sufficient for word learning.

And even though Bloom eventually agrees that "while the learning of word meanings may be the result of general cognitive processes, [there are reasons to expect that] the development of syntax, phonology, and morphology may not be" (2001:1130), this does not mean that the knowledge of linguistic meaning needs to be excluded from the study of linguistic competence simply because it bears upon cognitive mechanisms that are not specifically designed for language. In order to incorporate our insights regarding this knowledge in our investigation of I-language, however, we have to be prepared to extend the notion of linguistic competence to include input from these mechanisms or even entertain the possibility that there is no purely grammatical core in language that remains unaffected by the pressure of certain performance systems.

I, for one, am currently inclined to accept only the extension proposal and not the latter idea, but insofar as Chomsky's version of competence is only a working hypothesis about the study of language to begin with, there is no *a priori* reason why linguists should not investigate alternative hypotheses of varying kinds to determine their degree of plausibility. It is my conviction, however, that if we keep our theory of linguistic competence bound by Chomsky's idealisation, we will never be able to investigate the holistic mental basis of language, which crucially depends on the interaction of the language faculty with peripheral cognitive systems such as the thought or sensorimotor ones, which put our linguistic knowledge to use. In this setting, we can either choose to stand by Chomsky, assuming a syntactic, semantic and phonological component in the faculty of language, but at the same time expressing a deep agnosticism regarding the linguistic properties of meaning and sound, as these seem difficult to pinpoint in isolation from the input of performance systems, or opt to investigate competence as a cognitively-based system of knowledge that enables us to engage in language usage, incorporating in our argumentation certain generalisations that can be made about the functioning of the language faculty in relation to the cognitive systems with which it interacts. The advantage of Chomsky's perspective may be that we can identify a core of our linguistic abilities, but this comes at the cost of disregarding related cognitive processing that may make a difference in our understanding of what knowing a language entails for the study of the mind as a whole.

Along these lines, I wish through this thesis to follow the constantly growing number of researchers who assume that our ability for language should not be studied in isolation from cognitive abilities that affect linguistic performance but are external to the FLN in Chomsky's conception. And I believe that the integration of performance factors, if properly pursued, can actually provide us with invaluable insights about the nature of linguistic competence itself. That is why I agree with Ferreira when she argues that (2005:378)

> it would be helpful if generative grammar paid more attention to what is happening in the rest of cognitive science. At the moment, the study of formal syntax in particular seems to be off in its own entirely separate world, which makes it very difficult to connect it to the broader enterprise of trying to understand human and other minds. The study of language should be at the core of human cognitive

science.

Clearly, there is currently a huge amount of experimental research bearing on the use of language, research that simply waits to be exploited at the theoretical level. In effect then, even though it may be the case that allowing for a significant deviation from the original Chomskyan regime for studying linguistic competence will lead us to include in our theory of I-language certain generalisations that pertain to cognitive systems that are customarily thought of as external to FLN or even FLB, if the theory that results from this move is more comprehensive than already existing accounts of I-language, I do not see why we should not at least entertain the possibility that following this line of argument can indeed enhance our understanding of what knowing a language realistically entails.

Against this background, even though I am in agreement with the argument that it is theoretically viable to maintain that the core of language is not 'designed for use' (see, for example, Fodor et.al. 1974 among others), I find it highly unlikely that, taken realistically, our knowledge of language as a cognitive capacity can be viewed in total separation from performance factors, like, for example, the ones that directly affect our ability for parsing, to take the case that Chomsky and Lasnik discuss. And this is hardly my own contention; there are various accounts based on Chomskyan foundations that argue for a more direct connection between the grammar and the parser, clearly a linguistic performance system (e.g. Berwick & Weinberg 1983, 1984, Phillips 1996, Jackendoff 2002). Similarly, outside of the Chomskyan paradigm the move towards a notion of grammatical competence that intrinsically relates to processing considerations is even more explicitly attempted by a wide range of linguists. A number of grammatical frameworks, like Head-Driven Phrase Structure Grammar (HPSG, Pollard & Sag 1994), precursors of Lexical Functional Grammar (LFG, Bresnan 1978, Bresnan & Kaplan 1982) along with LFG itself (Bresnan 2001, Dalrymple 2001), and Combinatory Categorial Grammar (CCG, Steedman 2000) present theories of syntax that are directly interpretable in terms of parsing, while even more radical frameworks, like Dynamic Syntax (Kempson et.al. 2001, Cann et.al. 2005), base their entire grammatical formalism on the dynamics of parsing.

In this setting, it is becoming increasingly obvious that even though the core

of the grammar can be thought to be autonomous from linguistic performance, as the Chomskyan theory of competence suggests, there are still certain ways in which pressures from the latter can be said to affect the former. Notably, in his *Language Form and Language Function* (1998, see also Newmeyer 1991, 2001), Newmeyer engages in a lengthy attempt to identify the extent to which *functional* explanations can be provided for certain constraints that are encoded in the grammar. And what functional refers to in this context is explanations that are based on constraints that have been imposed in the abstract system of linguistic knowledge for the facilitation of performance and for the purposes of all the more efficient communication between language users; that is, explanations of the type that Chomsky is sceptical about. In this setting, even though Newmeyer argues against certain functional appeals, he still agrees with functionalists that linguistic competence is likely to be affected by two performance related factors. On the one hand, following research on parsing[12], he suggests that "the demands of real-time processing may have 'left their mark' on grammars, in the sense that some grammatical features can be attributed to an accommodation of the grammar to the parser" (Newmeyer 1998:106). On the other, he considers the assumption that "grammatical structure is an iconic reflection of conceptual structure" (Newmeyer 1998:115) to be built-in in the standard generative theory. Hence, alluding to the Peircian notion of iconicity between form and content (see also Newmeyer 1992) and based on the vast amount of research that suggests that certain structural patterns of language are due to a corresponding conceptual structuring[13], Newmeyer concedes to functionalists that conceptual pressures can also be argued to have had an effect in the shaping of the grammar.

Of course, it might be the case that these "functional pressures on language design can operate only within certain very narrow confines established by the nature of linguistic competence" (Fodor 1981:285), but this should not deter us from investigating them as eagerly as we do formal grammars. And that is clearly because by assuming that performance may have an effect on competence, it does not

[12] See, for example, Bever & Langendoen (1971), Kuno (1974), Fodor (1978, 1984), Berwick & Weinberg (1984), Hawkins (1994) among others.

[13] See, for example, Greenberg (1963), Bolinger (1966), Jackendoff (1972), Traugott (1974), Berlin (1978), Haiman (1978, 1980, 1983, 1985a, 1985b), Givón (1979, 1980), Foley & Van Valin (1984), Hopper & Thomson (1984), Bybee (1985), Verhaar (1985), Lapointe (1986), Wierzbicka (1986), Langacker (1987a), Thompson (1988), Rijkhoff (1990), Croft (1991) among others.

necessarily follow that we need to abandon all the fundamental arguments that surround Chomsky's theory of competence, like the appealing ideas about "an internal system [i.e. the language faculty] that is part of our biological endowment" (Ludlow 1999:479) or even the positioning of generative systems of knowledge within it. On the contrary, what I wish to show through my argumentation is that by looking at theories of cognitive performance and especially at theories of linguistic communication, we may be able to expand our current understanding of the cognitive ability for language in important and interesting ways, regardless of Chomsky's pessimism with respect to such an enterprise.

2.2.2 The claim for syntactocentrism

Turning now to the specific Chomskyan version of grammatical theory, it is unquestionable that as a programme it has been the locus of massive and extremely detailed research, in all its forms of exposition ranging from *Aspects of the Theory of Syntax* to Minimalism. Even though I do not wish, for the purposes of this thesis, to directly question the validity of the specifics of the theories of syntax that Chomsky has proposed through the years, I believe that his persistent claim for syntactocentrism that has placed the focus of linguistic theory on syntactic explanation, unreasonably downplays the extent to which aspects of sound and especially meaning can be thought to contribute to theories of linguistic competence. As we saw above, one of the main tenets of all the versions of the Chomskyan paradigm is that 'syntactic structure is the sole source of generativity in the grammar'. And the syntactocentrism hypothesis becomes even more evident when we take into account that the central property that Hauser, Chomsky and Fitch (2002) assign to the FLN is the ability for recursion, an ability that admittedly applies solely to the level of syntax with respect to language.

Even so, the claim for syntactocentrism is nothing more than a hypothesis that Chomsky "explicitly assumed, without argument (Chomsky 1965)" (Jackendoff 2003:655), and is hardly the only option available to the linguist. For example, Chomsky initially contended that "in general, as syntactic description becomes deeper, what appear to be semantic questions fall increasingly within its scope" (1964:936). And it is arguments of this sort that led to the rise of intricate theories of

generative semantics (e.g. Postal 1970, Lakoff 1971), which exploited the idea that the level of Deep Structure in the Chomskyan analysis directly encodes meaning in the grammar. However, the years to follow would not only see the rise but also the eventual demise of theories of generative semantics (see Newmeyer 1986, Harris 1993, among others). During this period, Chomsky and his students argued against generative semantics and finally won what has remained in the history of linguistics as the 'Linguistic Wars'. This domination of Chomsky, however, came with an interesting twist: Chomsky would no longer hold that "Deep Structure [is...] the sole level that determines meaning (Chomsky 1972b)" and would turn his attention "not to meaning, but to relatively technical constraints on movement transformations (e.g., Chomsky 1973, 1977)" (Jackendoff 2003:654).

Against this background, the claim for syntactocentrism became all the more persistent in subsequent versions of the Chomskyan paradigm. However, it is still the case that the hypothesis of syntactocentrism has never been explicitly grounded. Even with respect to the proposal that syntax is a special part of FLN because the ability for recursion that it presents is unique to language, two counterarguments that Pinker and Jackendoff present sound to me particularly convincing. On the one hand, even though FOXP2 is generally thought to be "the most precisely identified of a number of genetic loci that cause impairments of language" (e.g. Dale et.al. 1998, van der Lely et.al. 1998, Stromswold 2001), none of the impairments that it causes "knock out or compromise recursion alone" (Pinker & Jackendoff 2005:218). On the other, the ability for recursion is not unique to the linguistic syntactic component of the human cognitive system, as Hauser et.al. suggest, but can be encountered in human visual cognition as well (Jackendoff & Pinker 2005:217-218).

Similarly, in contrast with the syntactocentric view, general research on language has shown that syntax is hardly the only component of the grammar that is generative, even if it is the only one that presents the ability for recursion. For instance, phonological investigations based on the original work of Liberman & Prince (1977) and Goldsmith (1979), among others, point to the direction that phonology can also "be thought of as having its own autonomous structure, in fact multiple structures or tiers" (Jackendoff 2003:655). Accordingly, a common – maybe even the only common – aspect of most theories of meaning, ranging from *Formal*

Semantics (e.g. Heim & Kratzer 1998, Chierchia & McConnell-Ginet 2000) to *Conceptual Semantics* (e.g. Jackendoff 1983, 1990, Pustejovsky 1995) and *Cognitive Grammar* (Lakoff 1987, Langacker 1987b, 1991, Talmy 2000) is that they "take meaning to be deeply combinatorial" (Jackendoff 2003:657). In this sense, as Jackendoff argues, current investigation of semantics seems to univocally point to the conclusion that "it is necessary to grant semantics an independent generative organization" (ibid).

Given the wide range of research that assumes phonology and semantics to have their own inherent organisation, I tend to agree with Jackendoff that there is no fundamental reason to expect our theory of linguistic competence to be absolutely syntactocentric. In this respect, I believe that this particular Chomskyan hypothesis is erroneous on the basis of two compelling reasons that Jackendoff excellently summarises. For one, even though the syntactocentric approach "is not formally impossible, it raises the question why syntax should drag around all [... the sound and meaning] features that it cannot itself assess" and which are "interpreted later in the derivation by the appropriate [phonological and semantic] components" (Jackendoff 2002:130). What seems natural to wonder in this picture is why the phonological and semantic components of the grammar receive their input from the syntactic component rather than the other way round; Chomsky at least does not provide any principled explanation why this should be so. The second reason is actually related to the first one and has to do with the implementation of our core linguistic knowledge in instances of language usage. Therefore, if we accept a syntactocentric architecture of the language faculty, all instances of language processing should have "a logical directionality proceeding outward from syntax in the middle", as in (3) (after Jackendoff 2003:663):

(3) sound ← phonology ← syntax → meaning

However, such a picture clearly contrasts with the logical directionality of language processing which seems to go consistently from left to right in language perception, as in (4a), and from right to left in language production, as in (4b) (after Jackendoff 2003:663):

(4) a. sound → phonology → syntax → meaning

b. sound ← phonology ← syntax ← meaning

Against this background, for the purposes of this thesis, I will assume that, even though there is a separate mental structure that is devoted to the syntactic component of language, it is hardly the only autonomous system of linguistic knowledge. That is why I am adopting right from the beginning Jackendoff's argument[14] (1997, 2002, 2003, 2006) for the existence of a *Parallel Architecture* for the language faculty that comprises three distinct domain specific and informationally encapsulated mental modules, each of which underlies "a formal system with its own proprietary set of primitives and principles of combination" (Jackendoff 1997:41) and corresponds to either the syntactic, phonological or semantic component of the grammar. Each of these modules in turn encodes information in a distinct format and this information is then combined via interface rules that establish correspondences between syntactic and semantic, syntactic and phonological as well as semantic and phonological structures. In this way, the unrealistic view of syntactocentrism can be abolished and the existence of autonomous generativity at both the phonological and semantic level can be straightforwardly incorporated in the study of language.

And since, for the purposes of this thesis, my interest in phonology is rather limited, what I want to focus on through my argumentation is the semantic component of linguistic competence. In these terms, adopting Jackendoff's argument for the parallel architecture can, in my view, open up new directions for the study of the language faculty, directions that Chomsky has traditionally been sceptical about. With respect to the prospects for a theory of meaning, Chomsky has generally taken an agnostic position. For example, in a recent interview (Andor 2004), he explicitly suggests that there is no existing theory, to his knowledge, that his paradigm could appeal to. And probably this is why his work has focused almost exclusively on the syntactic component of the grammar.

However, the explicit hypothesis that the semantic component of the grammar is logically dependent on the syntactic one is not as straightforward as Chomsky suggests. Especially in relation to semantics, there is by now a substantive

[14] The same argument lies also behind the formulation of the recent framework of Simpler Syntax (Culicover & Jackendoff 2005, 2006), which, however, I will not get involved with in this thesis.

body of research which suggests that syntax is not the sole base component of the grammar. Semantics can also play this role, simply because it undoubtedly "instantiates the thoughts that language expresses" and, in this respect, "syntax and phonology are the means by which thoughts are converted into overt expressions" (Jackendoff 2002:124). Therefore, it seems plausible for certain aspects of meaning to affect the syntactic organisation of language. In my view, this is only a natural consequence of the assumption that grammatical structure can be usefully seen as 'an iconic reflection of conceptual structure', as was noted in the previous section. And this assumption's significance may have been downplayed by Chomsky's insistence to not get involved with issues of meaning and their contribution to the grammar, but it has for long been undeniable that there is a fundamental connection between meaning and structure (e.g. Fillmore 1968a, 1968b, Gruber 1968, McCawley 1968, Vendler 1972, Jackendoff 1978, 1983, Grimshaw 1982).

What is important to stress at this point is that even though I do not endorse the Chomskyan claim for syntactocentrism, I still hold that the language faculty contains some specialised structure, a module, which controls syntactic behaviour on the basis of a generative system of syntactic rules. I may not agree with Chomsky that the grammar is syntactocentric, but I do not wish to go to the other extreme and suggest that syntax has no independent role in the grammar either[15]. I am only suggesting that semantics can have an effect on syntax as much as syntax can have an effect on semantics. And I believe that not assigning logical priority to either one of these two components over the other is a reasonable route to follow, especially if we take into account recent research on language acquisition. In this respect, there is by now a lot of experimental evidence supporting the idea that children acquire language by using both *semantic bootstrapping* (Grimshaw 1981, Pinker 1984) and *syntactic bootstrapping* (Landau & Gleitman 1985). As Gleitman discusses (1990:30),

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[15] This is an idea often expressed by some researchers in Cognitive Grammar. For the purposes of this thesis, however, I will follow the majority of researchers in mainstream generative linguistics in assuming that there is a dedicated syntactic component of the grammar, simply because it seems to me reasonable to make this assumption. Even so, I cannot commit to rejecting the 'unorthodox' view expressed by some cognitive grammarians, since I am not familiar with much of the research that takes place in it. That is why I leave an evaluation of this program for future research, choosing to reject its contention regarding syntax at this moment only for ease of exposition.

> the difference between semantic bootstrapping and syntactic bootstrapping [...] is that the former procedure deduces the structures from the word meanings that are antecedently acquired from the observation of events, while the latter procedure deduces the word meanings from the semantically relevant syntactic structures associated with a verb in input utterances. Note that although the hypothesized procedures are distinct, to hold that one of them is implicated in learning is not to deny that the other one is too. Quite the contrary. It is very likely that they operate in a complementary fashion.

Against this background, I think that it makes sense to not only differentiate between the syntactic and the semantic component of the grammar, but also, and more crucially, to allow them to interact in manners that do not posit a strict pattern of logical priority of the one over the other. Undoubtedly, future research may show that this is only a simplification of a more refined and intricate relationship between semantics and syntax, but I believe that the issue of logical priority is too central for the study of language to be accounted for by mere stipulation favouring the one over the other without clear argumentation, as Chomsky does.

Having argued for the extension of the notion of linguistic competence so that its study can include certain generalisations that are akin to performance and against the syntactocentric view that Chomsky has advanced through his work, I have differentiated myself from the aspects of the Chomskyan theorizing that I do not wish to incorporate in this thesis. However, as I noted right from the beginning of this chapter, the proposals that I wish to make fall squarely in the domain of I-language; that is, language as a system of knowledge in the mind of the native speaker. More specifically, through my argumentation I want to address certain aspects of what knowing linguistic meaning realistically entails. And investigating linguistic meaning from an internalist perspective certainly deserves particular attention in the current setting, since *contra* Chomsky, I do not *a priori* assume the logical priority of syntax over semantics.

2.3 I-semantics: the psychological study of meaning

Regardless of my points of disagreement with the Chomskyan paradigm, I strongly share Chomsky's belief that the focus of linguistic enquiry needs to be

placed on the cognitive system that underlies our unique ability for language rather than on the properties of language as an independent system that is external to the human mind. With respect to syntactic knowledge, which has been at the centre of Chomsky's theorizing, the mentalist outlook is pretty much the norm these days. In this respect, syntax is customarily defined as "the study of the part of the human linguistic system that determines how sentences are put together out of words" (Williams 1999:818). In the domain of semantics, however, things have been a bit more complicated.

As Jackendoff notes, "most research in semantics either is inexplicit about its stance or else professes E-semantics" (1996:540), that is studies meaning as "an abstract relation external to language users" (1996:539). This insistence of semanticists on externalist theories of meaning is largely due to the original motivation for the study of meaning in formal terms which had been initiated long before Chomsky argued for the study of I-language. This motivation can be located in the proposals that were put forth by the so-called *ideal language philosophers*, like Frege, Russell, Carnap and Tarski. As Recanati discusses (2004a:442), these pioneers

> were, first and foremost, logicians studying formal languages and, through them, 'language' in general. They were not originally concerned with natural language, which they thought defective in various ways; yet, in the 1960s, some of their disciples established the relevance of their methods to the detailed study of natural language (Montague 1974; Davidson 1984). Their efforts gave rise to contemporary formal semantics, a very active discipline developed jointly by logicians, philosophers, and grammarians.

Indeed, logicians started investigating meaning strictly from the perspective of formal languages of logic. In this respect, they clearly distinguished between the theory of meaning they had in mind from the theory of meaning as a mentalist and, thus, psychological construct. Right from his earliest work, for example, Frege would argue for "a sharp separation of the psychological from the logical, the subjective from the objective" (1884/1997a:90). It is in this sense that natural language was considered defective for the original logicians as it was typically thought to be a "mixture of the logical and the psychological" (Frege 1897/1997b:243) – a crucial point for my overall argumentation, to which I will return in the sixth chapter.

However, the implementation of formal principles of logic in the study of natural language would become all the more appealing in subsequent years and eventually formal semantics was incorporated in linguistics as a means of characterising meaning. Especially instrumental in this development was the foundational work of Montague, who explicitly argued for a close correspondence between formal and natural languages (1974:222):

> There is in my opinion no important theoretical difference between natural languages and the artificial languages of logicians; indeed, I consider it possible to comprehend the syntax and semantics of both kinds of language within a single, natural and mathematically precise theory.

This perspective is still considered to be at the foundation of semantic research today, while different techniques have been devised in an attempt to address in a mathematical precise way the aspects of language that were originally thought of as defective. Therefore, a plethora of logical tools are currently employed by the formal semanticist, whose main aim is to study meaning "abstracted away from those aspects that are derived from the intentions of speakers, their psychological states and the socio-cultural aspects of the context in which their utterances are made" (Cann 1993:1). In this respect, current research in linguistic semantics conforms to a large extent with the original Fregean argument that the task of logic is not the investigation of "minds and contents of consciousness owned by individual men" but rather "the investigation of *the* mind; of *the* mind, not of minds" (1918/1997c:342, emphasis in original). By definition then, the externalist perspective is almost univocally[16] adopted in the work of the formal semanticist, as Lewis also asserts in his seminal paper on 'General Semantics' (1970:19):

> My proposals will [...] not conform to the expectations of those who, in analysing meaning, turn immediately to the psychology and sociology of language users: to intentions, sense-experience, and mental ideas, or to social rules, conventions, and regularities. I distinguish two topics: first, the description of possible languages or grammars as abstract semantic systems whereby symbols are associated with aspects of the world; and second, the description of the psychological and sociological facts whereby a particular one of

[16] One possible exception to this is Discourse Representation Theory (e.g. Kamp 1981, Kamp & Reyle 1993), which can be interpreted in cognitive terms, even though further argumentation is needed to this effect (see, for example, Hamm et.al. 2006).

> these abstract semantic systems is the one used by a person or population. Only confusion comes of mixing the two topics. This paper deals almost entirely with the first.

Arguably, such a view of linguistic meaning is in complete disagreement with the Chomskyan proposal to study language as a cognitive capacity. Realising this, Jackendoff has been one of the few linguists to pinpoint the difference of perspective between the generativist and the formal semanticist (e.g. 1983, 1988, 1990, 1996, 2002, 2003), arguing for a theory of *conceptualist semantics*, where linguistic meaning is to be understood as a mind-internal representation, rather than as an abstract relationship between linguistic expressions and reality, as in Frege's conception of *bedeutung* (Frege 1892). However, Jackendoff's proposal to incorporate the study of meaning in the general study of I-language has not had much appeal in the circles of mainstream semanticists who still pursue research within the context of formal semantics and even explicitly connect their findings with the study of generative grammar (e.g. Heim & Kratzer 1998). In this respect, the semantic tendency towards realism is currently the norm in linguistics, especially since even the first scholars to get involved with the psychological study of meaning from the generativist perspective would eventually adopt the realist stance in their investigations. A characteristic example of this can be found in the case of Katz, who explicitly argued against the mentalist semantic stance that he had previously taken in favour of a realist perspective (e.g. Katz 1980, 1981, Katz & Postal 1991).

Even though I have no particular objection to express regarding the independent study of formal and realist semantics and especially its aim to recover necessary truths by means of an abstraction of language from its cognitive role, I still believe that formal semantics needs to be sharply distinguished from the study of meaning from the perspective of I-language in Chomsky's conception. It may be true that superficially both realist and conceptualist semantics may usefully utilize formal tools in their respective expositions, but the rationale of studying the former hardly converges with the motivation to study the latter. Therefore, I agree with Higginbotham, in principle, when he suggests that the adoption of the conceptualist perspective does not necessarily alter our "discussion of semantic phenomena, both lexical and combinatoric" (2003:681), but, in my view, that does not mean that realist semantics can be considered a psychological construct which forms a part of

an individual's I-language[17]. After all, as Soames argues (1991:579, see also Soames 1985, 1989),

> the questions about meaning asked in doing [realist] semantics are different from the questions asked in psychological theories of linguistic competence, or understanding. Thus, it should not be surprising that semantic theories cannot properly be regarded as psychological theories in Chomsky's sense.

Controversial though this might seem in relation to most research that is carried out in the field of semantics nowadays, the perspective I wish to take in my argumentation is akin to the one that Chomsky has repeatedly expressed regarding the mentalist study of meaning. For example, in a recent interview, he discusses his conception of meaning as follows (in Cela-Conde & Marty 1998:31-32, emphasis in original):

> To the best of my understanding, the study of mental aspects of the world leads us to postulate the existence of a variety of cognitive systems (language among them), which have their own properties and interact in various ways. [...] If semantics is understood to be the study of the relation of 'words/concepts and things', where 'thing' has some non-mentalistic interpretation, then there may be no such topic as the semantics of natural language. The analogy to formal arithmetic breaks down here, as it does in other respects. In contrast, if semantics is understood to be the study of relations of language (or concepts) to the outer and inner world, then there is such a topic; it is more or less on a par with phonetics, understood as a relation of (internal) linguistic elements to (external) motions of molecules in the air and the like, but involving no notion similar to *reference*, in its technical sense.

It is against this background that Jackendoff develops his theory of conceptualist semantics following the intuitively uncontroversial postulate that "people find sentences (and other entities) meaningful because of something going on in their brains" (2002:268). For the purposes of this thesis then, I wish to adopt Jackendoff's perspective for the study of meaning to its extreme, assuming that there is essentially

[17] As I will return to discuss this argument, which lies in the foundation of the present thesis, in more detail in the sixth chapter, I will leave it aside for now, merely assuming *de facto* that the study of linguistic meaning from a mentalist perspective needs to be pursued against a conceptualist background, which locates linguistic meaning in the mind of the individual speaker/hearer rather than in the objective world. As I will note in the sixth chapter, however, there are ways in which realist semantics have been argued to be psychologically real as well.

no clear-cut distinction between semantics and conceptualisation. Following Jackendoff's argument, I also contend that the desire of researchers to separate semantics from conceptualisation lies in their "fear that general-purpose knowledge and belief are a bottomless pit, and that in order to make the enterprise of semantics manageable it must somehow be restricted" (Jackendoff 2002:283). Along the same lines, I completely endorse Jackendoff's stipulation that "the seams of the mind must be determined empirically, not on the basis of our fears" (ibid), and, thus, wish to show through my argumentation that the notion of semantic meaning which formal and realist semanticists posit is largely irrelevant to the study of I-semantics and, by association, the study of the human mind.

Naturally, an unavoidable result of Jackendoff's (and, by association, my) proposal to investigate semantics in conceptualist terms is that, from this perspective, semantic knowledge necessarily ceases to be an exclusive property of the language faculty. As Chomsky also points out in the above quotation, to study meaning from a mentalist point of view we have to be prepared to investigate a variety of interacting cognitive systems, of which the language faculty is only one. This may ultimately mean that there is no special level of linguistic semantics, a possibility that Jackendoff welcomes, since by assuming that there is a single (not specifically linguistic) conceptual level which underlies our ability to acquire and use linguistic meaning, we essentially free the mind from "one more bit of work of evolution to do beyond evolving phonology and syntax" (Jackendoff 2002:283). Essentially though, this does not mean that there is no semantic component at all in the language faculty, but rather that the semantic content of the language faculty inherits its properties from some corresponding conceptual structure[18]. Again, as will become evident in my argumentation, I also agree with this perspective for the investigation of the semantics of natural language. Crucially, however, this perspective can be accommodated in our theory of I-language only if we extend the notion of linguistic competence in the way proposed in the previous section. And one of the central aims of this thesis is to show that it is essential to include non-specifically linguistic cognitive processing in our theory of linguistic meaning, if we aim at a psychologically realistic account of it.

[18] A similar point also seems to be expressed by Fodor (1998), but as will become evident in the sixth chapter, it is crucially different from the one that Jackendoff has in mind, and which I also adopt.

It should be clear by now that I wish to develop a psychological account of semantics, which necessarily contrasts with the formal semantic tradition that is so faithfully followed in linguistics these days. In doing so, I assume that the locus of semantics is thought and that, in this sense, linguistic semantics "studies the organisations of conceptualisation that can be expressed or invoked by language" (Jackendoff 2002:293). Regarding the particular organisations of conceptualisation now, I will very often address the correspondence of words and sentences to concepts and propositions, the mental counterparts of the linguistic code. To this effect, I assume the validity of a fundamental thesis in the study of cognition, that is, the hypothesis about a *Language of Thought* (Fodor 1975). The Language of Thought is a symbolic language, *Mentalese*, in which thoughts are represented. In this picture, thoughts are mental representations consisting of strings of concepts that roughly play the same relative role that words play for language. Therefore, the basic proposition that a linguistic string communicates can be viewed as a corresponding structured string of concepts in Mentalese. Although, as I will briefly note in chapter six as well, I do not agree with Fodor's externalism with respect to conceptual content, I will adopt his general idea about the existence of a symbolic mental language into which utterances translate during linguistic interpretation. That is because such a move greatly facilitates the discussion of the otherwise arbitrary nature of mental content, as it makes it possible to discuss it on the relatively solid basis of mental representations of conceptual contents.

2.4 Pragmatics and the study of I-semantics

Even though in his writings Chomsky clearly favours a cognitive approach to semantics, he is nonetheless sceptical about whether such an approach can indeed be pursued in reality. In his *Language and Responsibility* he explicitly expresses his pessimism as follows (1979:142):

> Why then raise the question of the possibility of a universal semantics which would provide a complete and accurate representation of every sense of each lexical item, and the rules which determine the meaning of expressions in which these items appear? There are, I think, good reasons to be skeptical about such a program. It seems that other cognitive systems - in particular, our systems of beliefs concerning

> things in the world and their behaviour – play an essential part in our judgments of meaning and reference, in an extremely intricate manner, and it is not at all clear that much will remain if we try to separate the purely linguistic components of what in informal usage or even in technical discussion we call 'the meaning of [a] linguistic expression'. I doubt that one can separate semantic representation from beliefs and knowledge about the world.

Indeed, entering the sphere of conceptualisation, it seems very difficult to separate semantic from world knowledge (see also Jackendoff 2002:284-293)[19]. And that is ultimately why Chomsky has always "assumed a kind of 'use theory of meaning' (influenced [...] by the later Wittgenstein and John Austin particularly)" (in Stemmer 1999:398), but remains largely agnostic with respect to this theory's specifics.

Admittedly, attempting to develop a 'use theory of meaning' crucially involves taking into account contexts of use, as *ordinary language philosophers*, including Austin and the later Wittgenstein, have for long been arguing for. Against this background, through my argumentation, I will specifically investigate the ways in which reasoning against a context can affect the conceptual representation of meaning. Of course, in the existing Chomskyan picture, pragmatics is excluded from the study of linguistic competence, as it stands for capacities that are neither language-specific nor attributable to the language faculty alone. However, if we take up the extension of the term linguistic competence that I argued for above, and allow for performance factors to have a bearing on our theory of competence, insofar as pragmatics can be shown to affect conceptual representation, then it should be included in our comprehensive theory of I-semantics. And in order to establish the relevance of pragmatic reasoning for the study of I-language, it is essential to show that it pervasively affects the ways in which we implement our conceptual knowledge in language usage in a manner that applies universally to all speakers of a language, under normal circumstances. This is ultimately the idea that I will pursue for the remainder of this thesis, proposing that pragmatic reasoning is so entrenched in our use of language that linguistic meaning is unequivocally the product of such

[19] At this point, I am following Chomsky in making this assumption largely for ease of exposition, since from a mentalist perspective "distinctions like 'logical/non-logical' and 'dictionary/ encyclopedia' seem impossible to draw, and don't appear to make any useful functional distinction in an account of the [...] mind" (Jackendoff 2002:293). However, I do need to acknowledge that many attempts have been made to separate linguistic from encyclopaedic information (for an overview, see Peeters 2000), creating a (vast) topic which I wish to investigate in future research stemming from this thesis.

reasoning, rather than an abstract representation of static semantic information in the corresponding component of the language faculty, as formal semantics seems to suggest.

Arguably, Chomsky's citation above seems akin to what Jackendoff calls a 'fear that general-purpose knowledge and belief are a bottomless pit'. And it seems that one of the main reasons for which Chomsky has remained sceptical about the possibility of investigating semantics from a mentalist perspective is his corresponding pessimism regarding the investigation of pragmatics as the mental capacity that provides meaning via inference against contexts, which customarily comprise beliefs and general world knowledge. As he characteristically notes with respect to the possibility of establishing the logical priority of pragmatic reasoning over syntactic configurations, for example (in Stemmer 1999:399-400):

> [...] any clarification of [...] intuitive ideas [about pragmatic reasoning] that I can think of yields computational systems of hopeless scope, compelling us to try to formulate what amount to 'theories of everything' that cannot possibly be the topic of rational inquiry [...]. A more reasonable approach, I think, is to take the operations to be 'autonomous' [...].That leaves us with manageable and coherent questions.

What is interesting in this comment is that it supports the intuition that pragmatic explanations might be lying behind some grammatical aspects but rejects them solely on the grounds that it is impossible to study pragmatics in a coherent way. And it is true that from this perspective syntax could at least in theory be usefully regarded as autonomous with respect to pragmatics, but the situation gets more complicated when we enter the semantic component of the grammar. With respect to it, if we take up the mentalist perspective, it seems impossible to isolate a purely linguistic level of semantic meaning that remains unaffected by the pragmatic considerations that permeate the organisation of conceptual content and its implementation in instances of language usage. That is why even Chomsky himself suggests that a proper understanding of the usage of language that pragmatics conventionally accounts for might even render the conception of "a semantics [...], based on a true reference relation between symbolic objects of L[anguage] and external objects" unnecessary for the study of natural language (in Stemmer 1999:398-399, see also Hornstein 1984), making it possible to contend that "natural language has only syntax and

pragmatics" (Chomsky 2000a:132). It is clear then that Chomsky is prepared to accommodate pragmatics in his general theory of language, but cannot see any straightforward way in which this line of argument can be pursued.

As Carston points out (2002a:1-2), Chomsky's pessimism about the possibility of studying pragmatics is also shared by a number of eminent scholars that have been involved with the study of language and the mind (e.g. Fodor 1983, 1986, 1991a, Davidson 1986). However, the cumulative research that has been pursued for some time now in the field of pragmatics suggests that it is all the more possible to engage in a systematic study of the human ability for pragmatic reasoning. As I will turn to show in the next chapter, with a point of departure located in Grice's groundbreaking work, modern pragmatics is being increasingly addressed from a mentalist perspective, with frameworks like Relevance Theory, which I will employ in my subsequent argumentation, explicitly developing cognitive accounts of pragmatic reasoning that can prove particularly useful in the discussion of knowledge of language and particularly knowledge of linguistic meaning. In this respect, it seems possible that by overcoming Chomsky's pessimism with respect to the scientific study of pragmatics, we may be able to address some aspects of meaning which he contends we cannot make much sense of at the moment.

Chapter Three

Pragmatics and Relevance Theory

As this thesis will essentially constitute an investigation of pragmatic intrusions in the semantics of language, I will at this point provide a review of the frameworks of linguistic pragmatics that I will base my argumentation on. In the first part of this chapter, I will present a brief historical overview of the field with special reference to Grice's work that is considered to have given birth to the study of mentalist inferential pragmatics as it is currently pursued. In the second, I will turn to Relevance Theory, the framework that I will employ for the purposes of this thesis, outlining its basic claims and discussing its appropriateness in the current setting as a psychologically realistic theory of pragmatic reasoning.

3.1 Linguistic pragmatics

The scholar that is credited with introducing modern pragmatics as a field of research in its own right is Morris, who, back in 1938, defined pragmatics as the "study of the relation of signs to interpreters", which along with syntactics that studies "the formal relation of signs to one another" and semantics that studies "the relations of signs to the objects to which the signs are applicable" outlines the shape of a theory of signs, i.e. semiotics (Morris 1938:6-7). However, in the years following Morris' pioneering distinction, the subject-matter of pragmatics proved notoriously difficult to practically delineate. A possible reason for this was the overwhelming fascination of linguists with semantic theories, which left pragmatics at a relative standstill, gradually leading it to be considered a 'wastebasket' of linguistic information and especially of semantics. Semanticists left to pragmatics phenomena they could not explain within semantic theory and this made the field inherently unstructured with respect to its specific goals and subject-matter. The need for "some order into the contents of this wastebasket" (Bar-Hillel 1971:405) was becoming increasingly apparent even among semanticists.

It was not until 1967 when Grice delivered his William James lectures that pragmatic theory is thought to have started shaping up as a discipline in its own right. Grice's work signified the beginning of a rather impressive outburst of ideas on how to engage in pragmatic research that pinpointed the development of various theories concerning the study of language use. In this respect, in the years to come, inferential pragmatics would be studied systematically in the spirit of the original Gricean theoretical claims that provided the setting within which theories in the field need to develop.

3.1.1 The Gricean revolution

As I have already suggested, Grice's philosophical contribution is fundamental with relation to the shaping of the domain of pragmatics. His landmark paper in this respect is considered to be his 'Logic and conversation' (1975), the primary publication from his 1967 lectures, in which Grice is thought to have presented "a masterful (if incomplete) program that showed how a regimented account of language use facilitates a simpler, more elegant description of language structure" (Horn & Ward 2004: xi). In this paper, Grice outlines his theory of implicature while illustrating a general framework in which his pragmatics operates. However, the implications of his research are far deeper than the actual program he proposes as it is to a great extent responsible for the demarcation of the questions that a theory of pragmatics is called to answer.

A fundamental distinction that Grice drew was that "between *what is said* [...] and *what is implicated*" by an utterance (1978:113, emphasis my own). In his account, Grice roughly equates the said part of an utterance with its semantic information or, as he calls it, the 'conventional meaning' of the lexical items making it up, and the implicated information it conveys with the pragmatically constructed meaning. In order to address this bulk of implicit information that is provided via pragmatic inference, he coined the term *implicature*, a term that corresponds to "a nonlogical inference constituting part of what is conveyed by S[peaker] in uttering [an utterance] U within context C, without being part of what is said in U" (Horn 1999:391). Generally, in the Gricean account, implicatures carry the meaning that is not explicitly communicated in an utterance, but rather inferentially recovered

through the interaction of the explicitly communicated meaning of an utterance with certain assumptions about the situation of utterance. Consider the example Grice himself uses in order to address the notion of implicature (1975:43):

> 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.*

It is expected that "A might well inquire what B was implying, what he was suggesting, or even what he meant by saying that C had not yet been to prison" (ibid). The answer to this is provided if A goes beyond the mere linguistic meaning of the words that make up B's response. Essentially, contextual information, of the type that C might be "the sort of person likely to yield to the temptation provided by his occupation, that C's colleagues are really very unpleasant and treacherous people, and so forth" (ibid), is needed in order for A to reach the overall meaning that B intended to communicate to him. Against this background, Grice generally distinguishes between two types of implicatures.

The first type involves *conventional* implicatures which are determined by the conventional meaning of the lexical items that carry them. A characteristic case of conventional implicatures can be located in the use of discourse connectives, like 'but', 'moreover' and 'therefore', as this is discussed in earlier work by Grice (1968). What these do is indicate speech acts like contrasting, adding and explaining through their conventional meanings (after Carston 2002a:107-108). For example, consider the utterances in (1) and (2) (after Bach 1999a:327):

(1) Shaq is huge *but* he is agile.
(2) Shaq is huge *and* he is agile.

In the Gricean tradition, the proposition that expresses the contrast between size and agility in (2) is neither part of what is said, that is, part of the utterance's explicitly expressed basic proposition, nor a semantic entailment of it; that is why (1) and (2) are truth-conditionally equivalent. The implicature of this contrast then is essentially dependent on the conventional meaning of the word 'but' and is, thus, dubbed a conventional implicature.

The second type of implicature identified by Grice, the one that has received

the most considerable amount of attention in the literature of pragmatics, involves a category of nonconventional implicatures, i.e. *conversational* implicatures. These are propositions that are inferentially retrieved through the interaction of what is said with the discourse context in which it is said. Conversational implicatures are, for Grice, inferences "connected with certain general features of discourse" (Grice 1975:45) and as such, they are "intended to contrast with terms like *logical implication*, *entailment* and *logical consequence* which are generally used to refer to inferences that are derived solely from logical or semantic content" (Levinson 1983:103-104, emphasis in original). In the Gricean picture, what is conversationally implicated can be identified on the grounds of how speakers rationally use language to achieve communication.

Towards this end, in 'Logic and Conversation', Grice attempts to lay down a model that describes the norms that orchestrate linguistic communication in general. In his approach, he suggests that people engage in communication following an overarching Cooperative Principle (1975:45).

> Grice's Cooperative Principle
> 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.

In his discussion of the principle, Grice posits a set of maxims that speakers are expected to attend to in order to achieve successful communication and goes on to identify two maxims of informativeness, two of truthfulness, one of relevance and four of clarity that, being more precise instantiations of the cooperative principle, provide a clearer characterization of what being cooperative entails in relation to linguistic communication (after Grice 1975:45-46):

> Maxims of Quantity:
> 1. Make your contribution as informative as is required (for the current purposes of the exchange).
> 2. Do not make your contribution more informative than is required.
>
> Maxims of Quality (Try to make your contribution one that is true):
> 1. Do not say what you believe to be false.
> 2. Do not say that for which you lack adequate evidence.
>
> Maxim of Relation:
> Be relevant.

Maxims of Manner (Be perspicuous):
1. Avoid obscurity of expression.
2. Avoid ambiguity.
3. Be brief (avoid unnecessary prolixity).
4. Be orderly.

As regards the Gricean maxims, Levinson suggests that "the imperative wording is meant to suggest neither moral imperative nor legal requirement, but rather a recipe-like rational mode of conduct to achieve one's conversational goals" (1999:144). And indeed, questions of rationality lie at the centre of Grice's work (a point also obvious in the collection of papers in Grandy & Warner 1986). Grice himself sees "talking as a special case or variety of purposive, indeed rational, behavior" (1975:47). Naturally, Grice acknowledges that his list of maxims might be incomplete and that there are, "of course, all sorts of other maxims (aesthetic, social, or moral in character), such as 'Be polite', that are also normally observed by participants in talk exchanges" (ibid), but focuses on these ones in his sketchy discussion of what talking as a rational activity entails. Based on this discourse model and discussing the observation or contravening of the maxims, he then investigates how these pragmatic aspects of communication are involved in the construction of conversational implicatures[1], with a view to accounting for how people construct implicated meaning.

Against this background, the significance of Grice's contribution to the scientific study of language and its use becomes clearer if we isolate the distinctions he put forth in his theory of implicature. And in his review of *Studies in the way of words* (1989), Strawson provides an excellent summary of just these distinctions (1990:155, emphasis in original):

> We are to suppose a certain sentence of a certain language L, uttered on a particular occasion. We can distinguish (1) the literal meaning (or meanings) of what is said, as determined by the syntax and lexicon of L (Grice's "timeless meaning(s) of the utterance-type"); (2) the same as (1), but with any lexical or referential ambiguities

[1] Since my interest in implicatures is rather limited in this thesis, this section presents only briefly the otherwise vast topic of conversational implicature. As I will also note in footnote 7, Grice further distinguished between particularized and generalized conversational implicatures within his theory, but due to space restrictions I am leaving the discussion of the specifics of these types of conversational implicatures aside here.

> resolved, the latter by reference to the circumstances of utterance[2]; (3) *what is said* in Grice's "favoured, and maybe in some degree artificial, sense of 'said'", which is the same as (2) with the exclusion of the implications conventionally carried by such conjunctions as 'therefore' and 'but' [...] etc.; (4) those implications of what is said which are conventionally carried by precisely such expressions; and (5) those further implications of what is said, the specification of which "falls outside the specification of the conventional meaning of the words used".

As is obvious, Grice's notion of what is said is here covered by (1), (2) and (3), while his understanding of what is implicated includes (4) and (5), conventional and conversational implicatures correspondingly.

As already noted above, the account of implicature within the discourse model that is outlined in 'Logic and Conversation' is considered to have provided a fundamental step towards the establishment of an agenda for the investigation of pragmatics. However, the importance of Grice's research towards this direction can be best viewed in the light of his overall contribution to the philosophy of language.

In this respect, apart from his theory of implicatures, Grice has also proposed a considerably influential theory of meaning (1957, 1969, 1982). In brief, Grice attempted to distinguish between linguistic meaning and speaker meaning, underlining the importance of recognizing intentions in instances of communication. As Bach suggests (1999b:359),

> Grice's concept of speaker's meaning was an ingenious refinement of the crude idea that communication is a matter of intentionally affecting another person's psychological states. He discovered that there is a distinctive, rational means by which the effect is achieved: by way of getting one's audience to recognize one's intention to achieve it.

Within this spirit, Grice differentiated between natural and nonnatural meaning, the latter being not conventionally communicated through the semantics of an utterance, but pragmatically inferred as part of the speaker's communicative intention. An example of nonnatural meaning that he provides in his original discussion of the topic can be found in the following case (Grice 1957:378):

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[2] Grice's understanding of what is said is thought to include some minimal contextual input, at least with respect to reference assignment and lexical ambiguity resolution. However, at least to my knowledge, Grice never developed a detailed account of how such processes are expected to take place.

> (3) That remark, 'Smith couldn't get on without his trouble and strife', meant that Smith found his wife indispensable.

On the grounds that verbal communication involves the recovery of not only linguistic meaning but crucially of speaker's meaning as well, nonnatural meaning becomes central in the discussion of linguistic communication. In this picture, the nonnatural meaning of an utterance can be defined as follows (Grice 1957:384):

> We may say that "*A* meant_{NN}[3] something by *x*" is roughly equivalent to "*A* uttered *x* with the intention of inducing a belief by means of the recognition of this intention."[4]

The communication of this induced belief constitutes a crucial part of the meaning of the speaker's utterance. And the potential hearer of an utterance is expected to construct it by recovering the speaker's intention behind it. This recovery, according to Grice, is pursued by resort to the same cognitive procedures that are involved in cases of non-linguistic communication, since speaker intentions of this type are not customarily encoded in an utterance (Grice 1957:387):

> Explicitly formulated linguistic (or quasi-linguistic) intentions are no doubt comparatively rare. In their absence we would seem to rely on very much the same kinds of criteria as we do in the case of non-linguistic intentions where there is a general usage. An utterer is held to convey what is normally conveyed (or normally intended to be conveyed), and we require a good reason for accepting that a particular use diverges from the general usage (e.g. he never knew or had forgotten the general usage).

What is evident in Grice's discussion is that the recognition of speaker's intentions and ultimately of intended meaning_{NN} is based on our ability to draw inferences against our background knowledge, at least in the sense that it contains our knowledge of what the 'general usage' of a word or phrase customarily conveys.

In this setting, even though the Gricean theory of nonnatural meaning has not been, as Levinson (discussing Walker 1975) suggests, "generally treated as having any connection with his theory of implicature" (1983:101), it seems crucial in illustrating the general contribution of Grice with respect to the formulation of the

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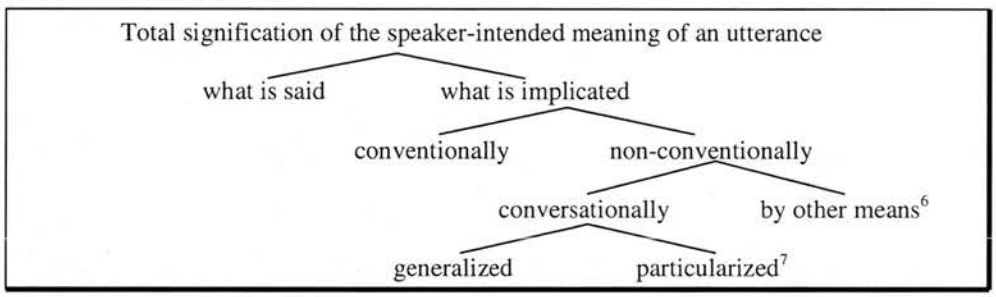
[3] Here the subscript NN denotes nonnatural meaning.

[4] As I will briefly return to note in the next section, Grice's definition of nonnatural meaning has been often revisited in the relevant literature, especially in relation to the nature of the intention(s) that it entails (e.g. Strawson 1964, Searle 1969, Schiffer 1972, Grice 1982, Levinson 1983).

domain of pragmatics. Indeed, I believe as well that the two theories should be seen "as a part of a single project" (Stalnaker 1989:526). Following Levinson, the connection between the two Gricean theories can be roughly identified as follows (1983:101):

> Obviously we can, given an utterance, often derive a number of inferences from it; but not all those inferences may have been communicative in Grice's sense, i.e. intended to be recognized as having been intended. These kinds of inferences that are called implicatures are always of this special intended kind, and the theory of implicature sketches one way in which such inferences, of a non-conventional sort, can be conveyed while meeting the criterion of communicated messages sketched in Grice's theory of [nonnatural] meaning.

In this respect, what seems to be the focus in examining inferred meaning in linguistic communication is how the hearer manages to construct the speaker-intended meaning, which, according to Grice, should become available through the foreseeable manipulation of the maxims by the speaker. Summing up, the table that follows schematically represents the theoretical distinctions Grice drew about the parts that collectively make up this very meaning[5] (adapted from Levinson 2000:13 and Carston 2002a:112):



[5] It has been argued by Saul "that Grice's characterizations of speaker meaning and conversational implicature are cast in very different terms – the former completely in terms of speaker intentions and the latter incorporating a good deal about the audience" (2002a:229). According to this view, the distinctions between what is said and what is implicated as they are put forth here provide an unsustainable understanding of how Grice intended his theoretical claims to be interpreted. However, as Saul also suggests (2002a:245) this particular understanding is generally the one that Grice is taken to have intended by Levinson (1983), Neale (1990) and Horn (1992), among others, and, thus, I take the account of the Gricean approach that I have presented here to be largely along the right lines.

[6] These means signify non-conventional, non-conversational implicatures which, as Neale suggests, Grice thought as derivable from the possible "aesthetic, social, or moral" maxims which he indicated exist but did not argue for in his work (1992:524).

[7] The most straightforward conversational implicatures that have arisen up to now in my discussion seem to be the ones that are dependent on inference over what is said in conjunction with the context in which an utterance is produced. These are dubbed *particularized* conversational implicatures by Grice and are to be distinguished from *generalized* conversational implicatures, which are largely

Naturally, this brief discussion of Grice's philosophical investigations cannot pay justice to the scope and depth of his work, but should suffice as a comprehensive introduction to it, at least for my current purposes. By this point, it seems obvious that his original proposals formulated a proper domain of enquiry for pragmatics. This can be roughly described as the study of speaker-intended meaning that is derived from inference over the discourse context in which an utterance occurs and is distinguished from the linguistic meaning of the words that make up the uttered sentence, which is, in this picture, the object of semantic investigation. In the Gricean tradition, linguistic pragmatics aims at exploring what is implicated by a given utterance, providing frameworks that discuss patterns of how intended inferences are communicated to and constructed by the hearer of an utterance. For this enterprise, semantic meaning, in the traditional sense of knowledge of the pure linguistic code, cannot be deemed adequate and the study of our communicative behaviour and the ways in which we manage to use language rationally becomes crucial.

Even though Grice's overall paradigm was far from complete, since, at times, Grice explicitly suggested his incapacity to deal with certain features of his proposals (as can be seen, for example, in his discussion of the maxim of relevance – see footnote 12 below), it is undeniable that his research laid the foundations upon which pragmatics theorizing was to be developed. In subsequent years, the pioneering work of Grice generated a variety of theories that remain central in the study of pragmatics up to these days. While many researchers still work in the Gricean picture presented above, on certain occasions, scholars have tried to extend and fine-tune Grice's theoretical claims, providing a number of so-called neo-Gricean accounts of pragmatics (e.g. Gazdar 1979, Levinson 1983, 2000, Horn 1984). Regardless of the variations these accounts present with respect to the original Gricean picture[8], what

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context-independent, as sometimes "the use of a certain form of words in an utterance would normally (in the *absence* of special circumstance) carry such-and-such implicature or type of implicature" (Grice 1975:56, emphasis in original). However, as I also noted in footnote 1 above, I am purposely leaving aside a detailed discussion of the vast topic of implicature due to space restrictions, as I will not be directly involved with it for the purposes of this thesis.

[8] For example, Carston (2005a) argues that Horn's reduction of the Gricean maxims to merely two (Q-Principle and R-Principle) and especially the formulation of his second one that aims towards the reduction of speaker's effort constitutes a considerable departure from the original Gricean regime. Along similar lines, both Carston (2002a) and Horn (2006) criticize a recent move by Levinson (2000), who, presumably contra Grice, argues that some (especially generalized) conversational implicatures can help determine truth-conditional content, which Grice is supposed to have viewed as part of 'what is said'.

they share is the same fundamental motivation that inspired Grice's work and more crucially his suggestion that we should examine human communicative behaviour from the standpoint of a set of maxims that speakers follow in order to be cooperative.

The overview of the Gricean approach to pragmatics that I have pursued here is crucial for the presentation of the framework that will be employed for the purposes of this thesis, since it provides the background against which it has developed. As will become evident in the outline that follows, Relevance Theory offers essentially a post-Gricean account of pragmatics, for it might be based on certain original Gricean assumptions with respect to pragmatics and communication, but departs considerably from the standard Gricean picture in fundamental respects.

3.2 The relevance-theoretic framework

As a framework, Relevance Theory (Sperber & Wilson 1986/1995, 1987a, 1987b, Wilson & Sperber 2004) has been received either with enthusiasm or with skepticism by researchers across a wide range of fields, since it provides a cognitive alternative to Grice's mainly philosophical approach to pragmatics. In *Relevance* (1986/1995), Sperber and Wilson took up Grice's central idea that communication involves not only a single level of coding and decoding, but also an inferential level that is essential in providing the interpreter with the communicator's intended meaning, and argue that previous theorizing about the ways in which communication takes place had been flawed, in the sense that it presented a cognitively unrealistic view of communication that was based on a code model for it[9]. According to this model, "a communicator encodes her message into a signal, which is decoded by the audience using an identical copy of the code" (Wilson & Sperber 2004: 607) and as long as the communicating parties operate normally "and the codes are identical at both ends, successful communication is guaranteed" (Sperber & Wilson 1995:4). However, this can hardly be contended as a realistic picture of communication.

[9] As Sperber and Wilson discuss, the code model of linguistic communication "is so entrenched in Western culture" (1995:6) that it has been more or less accepted as a fact rather than a hypothesis in the relevant literature (e.g. Jakobson 1960, Lyons 1977). Interestingly enough, even though Lyons entertains the possibility that the code model might be incomplete, he still argues that it should be adequate on its own to account for linguistic communication.

Largely due to Grice's work, it has been increasingly obvious that there is a gap between the decoded output, which in the case of linguistic communication is thought to be some semantic representation, and the propositions that are actually communicated by an utterance. Following this tradition, Sperber and Wilson argue that "this gap is filled not by more coding, but by inference" (1995:9) and implement in their work the Gricean proposal that comprehension is best viewed "as a process of inferential recognition of the communicator's intentions" (ibid), even though, as I will suggest in due course, their theory rests on the human ability to draw inferences more dramatically than Grice's original account.

Against this background, it would be a truism to suggest that Relevance Theory was originally motivated by the overall Gricean revolution that I outlined in the previous section. Indeed, as Wilson notes (1993:365),

> Relevance Theory rests squarely on Gricean foundations: Sperber & Wilson accept Grice's view that the goal of pragmatic theory is to explain how the hearer recognizes the overtly intended interpretation of an utterance; they acknowledge the importance of non-demonstrative inference in comprehension, and agree with Grice that general principles of communication play a major role in the inference process, though not, perhaps, in quite the way Grice thought.

In their approach, Sperber and Wilson attempt to account for the inferential level of communication not in terms of the social norms or maxims that speakers are expected to follow under the Gricean cooperative principle, but rather on the grounds of the cognitive processes that are involved in the interpretation of some communicative stimulus by some audience. Relevance Theory constitutes an investigation of how our cognitive mechanism makes successful communication probable rather than guaranteed and as such it readdresses communication as a cognitive exercise, moving from the mainly philosophical perspective of Grice to a more hands-on cognitive view of pragmatics. What it claims is that a communicated utterance raises expectations of *relevance*[10] which, in the technical sense that Sperber

[10] Interestingly, Wilson and Sperber begin their paper 'On defining 'Relevance'' (1986a), by discussing the Gricean postulation of a relation category among his maxims, a category that has proven notoriously difficult to account for, as Grice himself also acknowledged (1975:46):

> Though the maxim [of relation] itself is terse, its formulation conceals a number of problems that exercise me a good deal [...]. I find the treatment of such questions exceedingly difficult, and I hope to revert to them in a later work.

and Wilson assign to the term, "are precise and predictable enough to guide the hearer toward the speaker's meaning" (Wilson & Sperber 2004:607).

In this picture, Sperber and Wilson reformulate Grice's original claims about the role of reasoning in communication from a purely cognitive perspective. As they state in *Relevance* (1995:38),

> what is needed is an attempt to rethink, in psychologically realistic terms, such basic questions as: What form of shared information is available to humans? How is shared information exploited in communication? What is relevance and how is it achieved? What role does the search for relevance play in communication?

As will become apparent through my argumentation in chapters five and six, questions about information sharedness lie at the very foundation of the account of I-semantics that I am currently pursuing and in this respect it seems, even at first sight, that the relevance-theoretic framework would have a lot to say about this issue. Indeed, I believe that Sperber and Wilson's account can be straightforwardly employed in my discussion since it aims at psychological plausibility in ways similar to the ones that Jackendoff has suggested for the investigation of conceptualist semantics. And it is in this sense that the relevance-theoretic approach to the cognitive processing of communicative linguistic stimuli will prove beneficial for my current purposes.

At this point, it would seem unorthodox to continue this introduction to the relevance-theoretic framework by quoting one of its main adversaries, but I find this general comment about Relevance Theory essential in understanding its true nature. So, according to the concluding remark in Levinson's review of *Relevance*, it is suggested that "on the new paradigm, pragmatics (along with most of what is now considered semantics) disappears in a simple theory of general thought process" (1989:469). Although this was meant as a negative comment to the theory I believe that it provides an excellent characterization of what the theory involves. On the downside, it is true that Relevance Theory might depart from the study of pragmatics

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However, he never returned to analyse relevance in more detail. Naturally, interesting attempts to approach the notion of relevance have been made over the years both within the greater Gricean picture (e.g. Dascal 1977, Werth 1981, Koutoupis-Kitis 1982, Allwood 1984, Holdcroft 1987, Berg 1991) and outside of it (e.g. van Dijk 1979), but due to space restrictions I will not discuss these approaches here.

in its traditional setting, in the sense of a "collection of usage principles, accrued over decades of careful observation [of social behaviour], which give some substantial account of uncoded utterance-meaning" (ibid). However, as is evident in the vast literature on Relevance Theory, this does not compromise its predictive power in relation to Gricean theories when it comes to the explanation of phenomena in the traditional domain of linguistic pragmatics. From my perspective, Relevance Theory is essentially a theory of cognition and mental processing and as such it manages to shed light on how communication takes place through the particular use of our cognitive resources. Of course, by this statement, I do not wish to question those who take it as a theory of pragmatics proper, but rather to underline the cognitive nature of pragmatics that it puts forth in its premises. After all, the following statement seems to suggest that Sperber and Wilson share, at least to some extent, my understanding of the framework as primarily a cognitive theory (1995:32):

> Our aim is to identify underlying mechanisms, rooted in human psychology, which explain how humans communicate with one another. A psychologically well-founded definition and typology of communication, if possible at all, should follow from a theoretical account of these underlying mechanisms.

In effect then, the cognitive status of Relevance Theory directly links it to the mentalist outlook which I have suggested needs to be maintained in the study of I-language and, by association, I-semantics in the previous chapter. Essentially what differentiates Relevance Theory from traditional theories of pragmatics in Levinson's sense, is a methodological change of perspective. Relevance Theory takes a certain view of cognition as able to explain pragmatic phenomena, while more traditional approaches look into the phenomena themselves in order to provide certain generalisations about how we manage to communicate in a rational manner. As will become evident in my discussion, however, it is exactly this relevance-theoretic perspective that makes it genuinely useful in the discussion of important issues that arise in the study of conceptualist semantics.

3.2.1 The inferential nature of communication

As already stated above, one of the central points of the Gricean regime that has been further taken up in Relevance Theory is that human linguistic communication requires both the knowledge of some linguistic code and a general ability to draw inferences. Contrary to exclusively coded communication, which involves merely the coding and decoding of meaningful information, as is the case in the famous dance of the bees (von Frisch 1967), deliberate linguistic communication is an instance of inferential communication that "is achieved by producing and interpreting evidence" (Sperber & Wilson 1995:2) about the speaker's intentions for engaging in the communicative act. In this sense, utterance interpretation can be generally seen as an inferential process that "takes a set of premises as input and yields as output a set of conclusions which follow logically from, or are at least warranted by, the premises" (Sperber & Wilson 1987a:698).

In this setting, the set of premises in which the coded message of an utterance is computed can be roughly identified as the utterance's context. Within the spirit of psychological plausibility that motivated the development of Relevance Theory on the whole, context is defined as (1995:15-16)

> [...] a psychological construct, a subset of the hearer's assumptions about the world. It is these assumptions, of course, rather than the actual state of the world, that affect the interpretation of an utterance. A context in this sense is not limited to information about the immediate physical environment or the immediately preceding utterances: expectations about the future, scientific hypotheses or religious beliefs, anecdotal memories, general cultural assumptions, beliefs about the mental state of the speaker, may all play a role in interpretation.

Since a psychologically realistic portrayal of context is of fundamental significance not only for the relevance-theoretic framework, but also for my overall argumentation in this thesis, I will leave it aside at this moment, to return to it in more detail in the next chapter. This is mainly because the characterisation of context and the description of the processes that mediate its selection have received relatively limited attention after the first publication of *Relevance*, and a closer look at these important issues seems necessary for my purposes here.

However, one fundamental argument that I wish to underline at this point is

the idea that contexts consist of *assumptions*, i.e. "thoughts treated by the individual as representations of the actual world" (Sperber & Wilson 1995:2). In the light of the psychological plausibility that Relevance Theory aims at, this seems like a valid proposal. As Sperber and Wilson suggest (ibid), some authors (e.g. Dretske 1981) take background information to designate factual information that is by definition true. However, it is pretty straightforward from common experience that we can easily treat false assumptions as facts. It is widely known, for example, that ancient peoples believed the earth to be flat, an assumption that has been proven blatantly false in the course of history. Even so, most members of these communities would entertain this assumption as a fact. In this sense, it seems more promising to examine our mental information as a set of assumptions that the individual treats as factual, whether or not they are objectively true. Naturally, this realisation will lie at the foundation of my overall argumentation, as it seems to be comparable to Jackendoff's proposal that in developing a conceptualist account of semantics "it is necessary to thoroughly psychologise [...] the world" (2002:294) rather than assume that our mental representation of it comprises objectively true facts about it, as the externalist tradition seems to suggest.

In the same spirit, insofar as contexts for interpretation are more realistically viewed as psychological constructs of subjective assumptions about the world, Sperber and Wilson go on to suggest that our assumptions about the world can be highly idiosyncratic, even though we may share the same mental capacities (1995:16):

> Grammars and inferential abilities stabilize after a learning period and remain unchanged from one utterance or inference to the next. By contrast, each new experience adds to the range of potential contexts.

Indeed, taking an individual's assumptions about the world to be essentially personal seems like a reasonable route to follow merely because our "differences in life history necessarily lead to differences in memorized information" (ibid). However, endorsing this line of argument is not without its problems. By positing this view, Sperber and Wilson challenge a pretty strong tradition in the study of communication, a tradition that is attributed to notions like *common knowledge* (Lewis 1969) or *mutual knowledge* (Schiffer 1972). One of Relevance Theory's main

arguments against the code model (see especially Sperber & Wilson 1982, 1986/1995) is that it is based on an unrealistic conception of information sharedness which is roughly signified as knowledge that interlocutors share in between them and know they share. As Sperber and Wilson note (1995:18),

> within the framework of the code model, mutual knowledge is a necessity. If the only way to communicate a message is by encoding and decoding it, and if inference plays a role in verbal communication, then the context in which an utterance is understood must be strictly limited to mutual knowledge; otherwise inference cannot function as an effective aspect of decoding.

In this respect, if the code model stands, it is indispensable for the addressee of some communicative act to base his interpretation on some background information that is mutually known to both him and the communicator. However, if this background information is not ideally shared in the code-like manner that the term knowledge presupposes, but needs to be arbitrarily constructed instead, then "the code theory [of communication] must be wrong, and [...] we had better worry about possible alternatives" (Sperber & Wilson 1995:21).

Against this background, it seems necessary to briefly show why the notion of mutual knowledge is deemed psychologically unrealistic in the first place, before turning to Sperber and Wilson's alternative. To this effect, let us first see how it has surfaced in the study of communication. As I have suggested above, Grice first expressed the idea that identifying a speaker's meaning is dependent on some audience identifying the speaker's intention to communicate this meaning to it. In the Gricean story, the speaker who has an intention to induce some belief in her audience can be said to communicate it if this intention is recognized by the audience. Fine-tuning Grice's argument, Strawson suggested that comprehending an utterance "in all cases involves recognizing what may be called broadly an audience-directed intention *and* recognizing it as *wholly overt*, as intended to be recognized" (1964:459, emphasis my own). In effect, Strawson's suggestion poses an overtness requirement which has been generally accepted as a valid prerequisite in the discussion of communicative intentions. Therefore, a question that immediately arises is how this overtness requirement can be included in the discussion of intentions.

Strawson's answer to this question was to add to the communicative intention a third-order intention[11], according to which, the speaker communicating to some audience *A* "should not only intend *A* to recognize his intention to get *A* to think that *p*, but that he should also *intend A to recognize his intention to get A to recognize his intention* to get *A* to think that *p*" (1964:447, emphasis in original). In this respect, this meta-communicative intention would be an intention to have the communicative intention recognized by the audience. However, as Strawson foresaw when proposing this approach, and as Schiffer (1972) showed by expanding Strawson's examples, the third-order meta-communicative intention might be itself covert and for the audience to recognize it, it might need to entertain a fourth-order intention. According to Schiffer, further counter-examples can be devised, so that a fifth-order intention will be needed for the audience to recognize the fourth-order one and so on and so forth ad infinitum. Nevertheless, this infinity of intentions creates a problem because it puts forth a unrealistic picture of communication, since, "no psychologist would want to analyse an utterance as the realization of an infinity of intentions so understood" (Sperber & Wilson 1995:31). And it is at this point that the notion of mutual knowledge is proposed to come to the rescue. With respect to the infinite regress of intentions, Schiffer suggests, that it can be replaced by "a quite harmless regress of the sort involved in knowing one knows that p" (1972:30). The solution Schiffer proposes is "that a true communicative intention is not just an intention to inform the audience of the communicator's informative intention, but an intention to make the informative intention *mutually known* to the communicator and the audience" (in Sperber & Wilson 1995:31, emphasis in original). In this sense, the overtness of the communicative intention is guaranteed as both the speaker and her audience will know that the speaker has the informative intention at hand.

In Schiffer's picture, the existence of mutual knowledge can be presented as follows (1972, in Clark & Marshall 1981:17):

> A and B mutually know that $p =_{\text{def.}}$
> 1. A knows that *p*.

[11] This is a third-order intention because, in the first instance, there is the informative intention of the speaker, which is *p*; that is, a proposition in the Language of Thought (what Grice calls a belief). Then, intending to communicate that *p* corresponds as well to a mental representation, which, "from a psychological point of view, [is...] capable of being realized in the form of action" (Sperber & Wilson 1995:31). In this sense, the communicative intention is a second-order informative intention.

1'. B knows that *p*.
2. A knows that B knows that *p*.
2'. B knows that A knows that *p*.
3. A knows that B knows that A knows that *p*.
3'. B knows that A knows that B knows that *p*.
etcetera ad infinitum[12].

Regarding this approach, it has been often argued that it presents a processing irregularity that has grown to be referred to as the Mutual Knowledge Paradox, and which seems to be comparable to the problem of infinite regress involved in the identification of intentions in Strawson's scenario. This paradox arises with respect to "how an infinite regression of knowledge can be processed in a finite amount of time, which most people seem to be able to do in everyday conversation" (Lee 2001:22). As Clark and Marshall discuss (1981:15), this problem arises as a result of the foundational assumption of psychological models that in a finite amount of time only a finite number of mental operations can be carried out, even if this processing typically occurs very fast for certain tasks (e.g. Sternberg 1966, Townsend 1972). In this sense, it seems implausible for the mind to perform the infinity of computations mutual knowledge presupposes in its premises. Even so, this infinity of computations is inescapable in the context of mutual knowledge, since the speaker and the hearer "must make second-order assumptions about what first-order assumptions they share; but then they had better make sure that they share these second-order assumptions, and that calls for third-order assumptions" (Sperber & Wilson 1995:17) and so on and so forth. And if the assumption that they share this knowledge proves false anywhere in this series of computations then mutual knowledge cannot be guaranteed.

What would, then, help eliminate this paradox? Traditionally, a popular response to the problem is to argue that we do not need to check for mutuality of knowledge infinitely: Bach and Harnish (1979) suggest that we normally go to as far as third-order checks about the knowledge we share, Harder and Kock (1976) set the limit to approximately sixth-order checks and Kaspar (1976) to fourth or fifth-order ones. Such a line of argumentation, however, is clearly deficient as "by cutting off

[12] This definition of mutual knowledge is only representative of a variety of descriptions of what the term can be used to denote (e.g. Lewis 1969, Bennett 1976, Harman 1977, Cohen 1978, Kreckel 1981, Clark 1996, Lee 2001), but should suffice for my current purposes.

the statements beyond the first few levels, full mutual knowledge of [...a] referent will be impeded, making it impossible to guarantee felicitous definite reference[13]" (Clark & Marshall 1981, in Lee 2001:30). In turn then, in a series of publications (e.g. Clark & Marshall 1981, Clark & Carlson 1982, Clark et.al. 1983, Clark 1992, 1996), Clark and his colleagues propose that mutual knowledge is inductively inferred over the interlocutors' *common ground*, which is roughly derived from the interlocutors' evidence about their physical, linguistic and community membership co-presence as well as their assumptions about each other's states of mind regarding among others simultaneity of observation, degree of attention to particular stimuli, rationality in drawing conclusions, locatability of referents in previous discourse or the physical environment and recallability of such information (after Clark 1992, in Lee 2001:31).

In this account, the Mutual Knowledge Paradox is overcome as mutual knowledge is viewed as "a single mental entity instead of an infinitely long list of even more complex mental entities" (Clark 1992:34). In this respect, this account can be thought of as a psychologically-based working out of Schiffer's original argument which suggests that "the [infinite] regression [involved in the scenario of mutual knowledge] is quite harmless because a set of conditions can be defined within a finitely describable situation to infer mutual knowledge" (in Lee 2001:22). From Clark's perspective then, the notion of common ground can be seen as providing the set of conditions for inferring mutual knowledge. In this respect, mutual knowledge is inferred without the need for an infinite number of checks about knowledge itself, but rather via a finite induction schema operating on a more constrained properly selected common ground[14].

However, it is debatable that the regress involved in mutual knowledge is quite as harmless as Schiffer originally[15] suggested and as Clark seems to have taken

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[13] To a large extent, Clark and Marshall were primarily interested in the implications of the mutual knowledge hypothesis for the establishment of reference. However, Clark's contribution towards an account of mutual knowledge is generally considered to carry implications that go beyond the mere aim of 'guaranteeing felicitous definite reference'.

[14] Similar arguments to Clark's position have also been provided by Harman (1977) and Cohen (1978).

[15] In retrospect, even Schiffer himself admits that "mutual knowledge is from the point of view of psychological reality at best problematic [while...] at the same time something like it is needed" (1987:246).

up[16]. On the one hand, Clark's account might help resolve the original paradox, but creates a further paradox of its own concerning the ways in which common ground is established in the first place. As Lee puts it, "in invoking an induction schema to explain away a paradox, Clark and his colleagues have in fact invoked an *homunculus* (the little person in the head) to explain thinking" (2001:34) and since "the homunculus itself has to think, and *that* thinking has *not* been explained" (Haugeland 1981:4, in ibid, emphasis in original), extra argumentation is needed. On the other hand, the co-presence criterion that lies at the heart of Clark's approach does not suffice to account for all cases of communication. As Wilks argues, "only very special cases can fall under this description, and [...] not much communication requires assumptions about real co-presence" (1986:268). In this respect, even in the absence of direct evidence, we can often expect to have a mutual belief with our interlocutor. Similarly, as Blakemore discusses, some of the assumptions that are needed to be made during communication (1992:20),

> are not necessarily themselves part of the available observable data, but are supplied from memory [...]. This suggests that a speaker and hearer can guarantee that they have mutual knowledge only if they have access to contents of each other's memory. Obviously, the fact that it is impossible for anyone to have access to anyone else's memory does not prevent successful communication from taking place.

Against this background, Relevance Theory has right from its outset argued not only that there can be no guarantee in assuming mutuality of knowledge, but also that the very notion of mutual knowledge "is a philosopher's construct with no close counterpart in reality" (Sperber & Wilson 1995:38). As Sperber and Wilson discuss (1995:19-20, emphasis in original),

> by the very definition of mutual knowledge, people who share a mutual knowledge *know* that they do. If you do not *know* that you have mutual knowledge (of some fact, with someone), then you do not have it. Mutual knowledge must be certain, or else it does not

[16] In the light of the problems that I discuss here, Clark eventually replaced the term mutual knowledge with that of common ground in his writing, underlining in this way that his account is a psychological account rather than an analysis of the philosophical notion of mutual knowledge. However, in Clark's current account it is still suggested that "two people's common ground is, in effect, the sum of their mutual, common, or joint knowledge, beliefs, and suppositions" (Clark 1996:93). Therefore, as Lee also suggests, the problems of Clark's account still remain unresolved even in the new version of his approach (2001:39-40).

> exist; and since it can never be certain it can never exist.

This particular argument has often been endorsed in the relevant literature (e.g. Johnson-Laird 1982, Wilks 1986, Perner & Garnham 1988, Garnham & Perner 1990, Lee 2001) and has generated a number of attempts to readdress the issue of information sharedness from a more realistic perspective. And that is crucial, since even if we deny that mutual knowledge can really exist, it is undeniable that "some sharing of information is necessary if communication is to be achieved" (Sperber & Wilson 1995:38). What we should be after then is an alternative to mutual knowledge that would keep its primary function of information sharedness as a mediator in the communication process without perpetuating its psychological implausibility.

Against this background, the relevance-theoretic alternative suggests that, instead of being known, the assumptions that make up our mental representation of the world should be treated as being *manifest* to us and in communication *mutually manifest* between interlocutors. According to Sperber and Wilson, "to be manifest [...] is to be perceptible or inferable" and an assumption "is manifest to an individual at a given time if and only if he is capable at that time of representing it mentally and accepting its representation as true or probably true" (1995:39).

What is obvious from this definition is that a massive amount of assumptions are merely manifest to us at any given moment. In this sense, manifestness is a notion proposed to capture the fact that our cognitive abilities are designed in a way that enables us to mentally represent and entertain a vast number of assumptions in any arbitrary situation. The underlying question, however, is how we select among all these available assumptions the ones that we will actually employ in our mental processing at a given situation. To tackle this, Sperber and Wilson suggest that manifestness is a matter of degree. In contrast to knowledge, which by definition either exists or not, an assumption can be more or less manifest to you at some particular time, with "manifest assumptions which are more likely to be entertained [being essentially...] more manifest" (ibid). As Sperber and Wilson shrewdly note (1995:40),

> human cognitive organization makes certain types of phenomena (i.e. perceptible objects or events) particularly salient. For instance, the

> noise of an explosion or a doorbell ringing is highly salient, a background buzz or a ticking clock much less so. When a phenomenon is noticed, some assumptions about it are standardly more accessible than others. In an environment where the doorbell has just rung, it will normally be strongly manifest that there is someone at the door, less strongly so that whoever is at the door is tall enough to reach the bell, and less strongly still that the bell has not been stolen.

For the time being, I will leave aside the discussion of how some assumptions might be (or become) more manifest than others at a given moment, as the notion of relevance that Sperber and Wilson propose in their framework, and which I will return to present in the following sections, plays a significant role in this. Instead, I want to focus on the light that the notion of manifestness sheds on the problems that accounts of mutual knowledge present.

In this respect, manifestness seems to be psychologically more useful than knowledge primarily because it manages to capture the fluid nature of assumptions. According to the relevance-theoretic approach, the manifest assumptions that form the basis upon which some communicative stimulus is interpreted are individualistic, situation specific and thus not necessarily objectively true, but merely accepted as true. In contrast, a known fact is static, by definition objectively true and applicable invariably across situations. In this respect, the notion of manifestness brings into play a whole new set of assumptions which mutual knowledge in the strict sense cannot accommodate. Reproducing an example Sperber and Wilson use in their argumentation (1995:40) you might have never entertained the assumption that Noam Chomsky and Julius Caesar have never had breakfast together, but this assumption is surely manifest to you and that is why you can now entertain it. Within the same spirit, there are countless assumptions that you do not have, facts that you do not know, but that are manifest to you in the sense that you can create a mental representation of them.

Against this background, a weaker notion of knowledge, according to which mentally unrepresented information, of the type exemplified above, can be assumed to be part of an individual's background beliefs, seems necessary. And indeed, as Sperber and Wilson assert, "it is generally accepted that people have not only the knowledge that they actually entertain, but also the knowledge that they are capable

of deducing[17] from the knowledge that they entertain" (ibid). But again the notion of manifestness goes further than this and straightforwardly accommodates the fact that we can spontaneously entertain assumptions that are not even "inferable at all from previously held knowledge and assumptions" (Sperber & Wilson 1995:41). For example, a mosquito might be flying in the same room you are in and yet, not having paid any attention to it, you may have no knowledge of it or assumptions about it, but still the fact that it is there near you is manifest to you and can trigger your mental processing once it catches your attention.

From this perspective, Relevance Theory suggests that what has customarily been thought of as factual knowledge, where factual stands for assumptions that we merely accept as facts about the world, constitutes only a part of our total cognitive environment. According to Sperber and Wilson, the *cognitive environment* of an individual can be defined as "the set of all the [assumptions...] that he can perceive or infer: all the [assumptions...] that are manifest to him" (1995:39). In this respect, "an individual's total cognitive environment is a function of his physical environment and his cognitive abilities [and as such] it consists *not only* of the [assumptions...] that he is aware of, but also *all the [assumptions...] that he is capable of becoming aware o*f, in his physical environment" (ibid, emphasis my own).

This definition of a cognitive environment gives Sperber and Wilson the ability to generalize about mutuality in ways that knowledge, as customarily perceived, fails to do. A cognitive environment is individualistic in the sense that it includes a number of assumptions, already existing or potential, that can vary from person to person both in content and strength. However, some of these assumptions[18] might be manifest in two people's cognitive environments, in which case their cognitive environments intersect. Of course, the fact that people share parts of their cognitive environments is due to the realisation that "they share physical

[17] Even though this goes beyond my immediate purposes here, an interesting discussion of this idea, and especially of the necessity of a deducibility condition that Relevance Theory endorses for the inference of a previously mentally unrepresented belief so that it is included in an individual's belief system, can be found in Sperber and Wilson (1990:183-184).

[18] For the time being, I will assume that it is virtually the same assumption that exists in the cognitive environments of two or more individuals. However, as I will return to discuss in chapter five where I will begin tackling the issue of mental content similarity among individuals, the actual assumption in the mind of A cannot be exactly the same as the one in the mind of B; it merely needs to be adequately similar to it.

environments and have similar cognitive abilities" (Sperber & Wilson 1995:41). In this respect, we can make useful generalizations about the assumptions that are jointly manifest to two people. For instance, when I have a meeting with my supervisor in his office, we "share a cognitive environment which consists of all the facts made manifest to [us...] by [our...] presence in this room [and] one of these facts is the fact that [we...] share this environment" (ibid). So, when it is manifest to both me and my supervisor that we share some part of our cognitive environment at that point we can be said to have, in relevance-theoretic terms, a *mutual cognitive environment*. We may not need to entertain all the possible assumptions that are manifest to us both, like for example the fact that his computer's screensaver is a picture of his garden, but all these assumptions are *mutually manifest* to us and can be involved in our mental processing if needed. In this respect, if we need to construct an assumption about Ronnie's screensaver in the process of our communication, its mutuality will be established by means of the following pattern, in which indefinitely more – mutually manifest – assumptions can equally be constructed (after Sperber & Wilson 1995:42):

> (4) It is manifest to Stavros and to Ronnie that the computer's screensaver is a picture of Ronnie's garden.
> (5) It is manifest to Stavros and to Ronnie that it is manifest to Stavros and to Ronnie that the computer's screensaver is a picture of Ronnie's garden.
> (6) It is manifest to Stavros and to Ronnie that it is manifest to Stavros and to Ronnie that it is manifest to Stavros and to Ronnie that the computer's screensaver is a picture of Ronnie's garden.

In contrast to the infinity of checks required for mutual knowledge now, assumptions about manifestness are deemed more psychologically realistic (ibid):

> The more complex assumptions of type (4)–(6) get, the less likely they are actually to be made. However, in such a series, assumption *n* does not have to be actually made by the individuals it mentions for assumption *n+1* to be true. There is therefore no cut off point beyond which these assumptions are likely to be false rather than true; they remain manifest throughout.

Admittedly, the notion of mutual manifestness has faced considerable criticism over the years (e.g. Bach & Harnish 1987, Gerrig 1987, Gibbs 1987a, 1987b, Hinkelman 1987, McCawley 1987, Garnham & Perner 1990). The main

argument against it is the contention that, by implementing mutual manifestness in the place of mutual knowledge, Sperber and Wilson seem to be "'sneaking' mutual knowledge in the back-door of their theory and have adopted a framework for describing verbal communication which depends crucially on the very concept they wish to abandon" (Gibbs 1987a:718). At first sight, it is true that the notion of mutual manifestness looks suspiciously similar to that of mutual knowledge. However, investigating it more closely, it becomes pretty obvious that this similarity is only superficial. As Davies discusses (1987:717),

> a claim of mutual manifestness unfolds into an infinite series of manifestness claims, each of which is a claim that an individual is capable of mentally representing a state of affairs. The truth of an infinite list of manifestness claims does not, of course, require that anyone should be capable of simultaneously mentally representing infinitely many states of affairs. So, mutual manifestness escapes a claim of psychological implausibility analogous to that levelled against mutual knowledge.

It should be clear from the discussion up to now that an assumption can be mutually manifest without being mutually known or even entertained[19]. Let us now see why an account based on mutual manifestness should be considered superior to accounts of mutual knowledge or mutual beliefs.

Much like in the mutual knowledge scenario, where the series of checks of the type 'A knows that B knows that A knows that B knows ... that *p*' is untenable, an account based on a weaker notion of shared beliefs is again based on a corresponding series of checks of the type 'A believes that B believes that A believes that B believes ... that *p*'. The underlying problem here is again how we can identify with certainty what someone else believes in. As Garnham and Perner suggest (1990:179), "assumptions about knowledge or, indeed, about other mental states [as beliefs are], are often mistaken". And even though they then go on to argue that Sperber and Wilson's "proposal to replace knowledge by manifestness does not solve the problem of how mutuality is established" (ibid), it can be argued that it does exactly that. That is because assumptions about manifestness are not equivalent to

[19] Here I am referring to certain accounts that aim at psychological plausibility by suggesting that the processing irregularity that comes with notions of mutual knowledge can be overcome if we suppose that mutuality is established with respect to beliefs rather than knowledge (e.g. Wilks & Bien 1983, Wilks 1986, Brown 1995, Lee 1998, 2001).

assumptions about mental states, like knowing or believing, but are essentially assumptions about the availability of some mental representation to someone's cognitive resources. In other words, mutual knowledge and shared belief involve belief representation whereas mutual manifestness involves a psychological disposition for belief representation. I can assume that the screensaver on Ronnie's computer is manifest to us both, because we both operate employing similar cognitive resources. I may be wrong in assuming that Ronnie believes, and a fortiori knows, that his computer's screensaver is a picture of his garden, because his computer might have been hacked and messed with when he was away. But I would be right in assuming that he can see what I can see because we are in the same room and I would be right in assuming that he can assume that I can see it too. He might not need to go through this train of thought, but if he does the mutuality of manifestness can be established, and the infinity of checks will be overcome, for the fact that it is manifest to us both that *p* will be itself manifest to us both, and we will not need to infinitely make further assumptions that it is, as seems needed with alternative accounts.

Therefore, mutual manifestness is proposed by Sperber and Wilson to constitute what Lewis (1969) calls a 'basis for common – or mutual – knowledge' (1995:284); that is, the basis against which information sharedness during communication is established. Ideally, this shared information would be mutual knowledge between interlocutors and there is no doubt that in their minds it might be represented as assumptions they believe they mutually know. In reality, however, as "assumptions of mutual knowledge are never truly warranted" (ibid), this information is practically only taken to be mutually known, believed or accessed with the evidence upon which this mutuality is established being provided by assumptions of manifestness. After all, communication is a risky enterprise and even though we are normally confident about the information our interlocutors will base their interpretations on, that does not mean we never make mistakes in this process. Conversely, if somehow the thesis of mutual knowledge is established, miscommunication can only occur because "the mechanisms of verbal communication are sometimes improperly applied" (Sperber and Wilson 1995:16-17), as both the code and premises for interpretation are identical between the

speaker and the hearer, an idea that this thesis fundamentally opposes. Against this background, Relevance Theory takes the more plausible route that there is nothing occasionally wrong with the mechanisms that underlie our ability for communication, but rather that they "at best make successful communication probable, but do not guarantee it" (ibid).

The reason why I have dedicated such a relatively large part of this introduction to the relevance-theoretic framework to the discussion of manifestness is that the proposals surrounding it constitute a cornerstone of Relevance Theory, upon which the whole framework is developed. In my view, the attack against the mutual knowledge hypothesis and the positive theory of mutual manifestness that stems from it clearly underline the individualistic perspective about mental content that Relevance Theory adopts in its premises. In this respect then and since for the purposes of this thesis I am aiming at an internalist account of meaning, it seems that, alongside this individualistic perspective, the underlying claims of psychological plausibility that surround the notion of manifestness will prove to be particularly useful throughout my argumentation.

Returning to the discussion of communication now, and given that the mutual knowledge scenario was proposed as a solution to the problem of infinite regress that the recognition of intentions involves in the communicative setting, the relevance-theoretic alternative of mutual manifestness should be directly employable in a realistic description of the intentions involved in communication. In this setting, the informative intention of the communicator is defined as an intention "to make manifest or more manifest to the audience a set of assumptions I" (Sperber and Wilson 1995:58). Correspondingly, the communicative intention is addressed within the relevance-theoretic framework as an intention "to make it mutually manifest to audience and communicator that the communicator has this informative intention" (Sperber & Wilson 1995:61). In the light of Strawson's overtness requirement now, Sperber and Wilson suggest that communication should be seen as a direct result of *ostension*. According to them, ostensive behaviour is the behaviour that "makes manifest an intention to make something manifest" (Sperber & Wilson 1995:49). So, for example, if Caroline is waving at me while pointing to her new book, it should become manifest to me that she wishes to direct my attention to it. Naturally, from all

the potential assumptions that are merely manifest to me at that moment, her ostensive behaviour gives me evidence that she intends to make manifest (or more manifest) to me certain assumptions about the book at hand. Against this background, I am effectively asked by Caroline to retrieve from memory and construct anew some assumptions that will help me identify her informative intention. If now I do not notice that Caroline is waving at me, her communicative intention will most likely not become manifest to me, so I will fail to attribute to her the intention to make me think that her book is finally out. Therefore, as Sperber and Wilson, rightly in my view, suggest, once I notice her ostensive behaviour I will recognize her communicative intention and automatically engage in cognitive processing with a view to identify the belief that her informative intention wants to induce in me (How? The relevance-theoretic answer to this question will be provided in the next sections). Since then, unlike the mutual knowledge scenario, the mutual manifestness one is clearly psychologically plausible, it can provide a straightforward and, more importantly, realistic account of the computations involved in the recognition of intentions in instances of communication. And it is in this setting that Sperber and Wilson manage to concretely delineate the cases of communication that pragmatic theory is required to account for. These cases are identified within the relevance-theoretic framework as cases of *ostensive-inferential communication* (Sperber & Wilson 1995:63):

> Ostensive-inferential communication
> The communicator produces a stimulus which makes it mutually manifest to communicator and audience that the communicator intends, by means of the stimulus, to make manifest or more manifest to the audience a set of assumptions I.

With respect to this view of communication, however, Relevance Theory has received some pretty heated criticism (e.g. Mey & Talbot 1988, Mey 1993, Harvey 1999). As Mey and Talbot characteristically discuss (1988:746),

> communication cannot be restricted to what people intend to communicate. People communicate more than they intend. Sperber & Wilson's model crucially rests on the exclusion of precisely this.

According to Sperber and Wilson now, "communication should be distinguished from covert forms of information transmission", as, in general, "one tends to think of

communication as something done overtly: either your behaviour makes it clear that you are communicating, or else you are not truly communicating at all" (1995:30). This seems to me like a valid proposal against the Gricean background that delineated the subject matter of pragmatics. As I have already shown above and as Sperber and Wilson also note (2002:3, emphasis my own):

> Pragmatic studies of verbal communication start from the assumption (first defended in detail by the philosopher Paul Grice) that an essential feature of most human communication, both verbal and non-verbal, is the expression and recognition of intentions [...]. On this approach, pragmatic interpretation is ultimately an exercise in metapsychology, in which the hearer infers the *speaker's intended meaning* from evidence she has provided for this purpose.

What becomes clear from this remark is that Mey and Talbot's criticism should not concern Relevance Theory alone, but rather the whole Gricean foundation upon which the study of pragmatics is based, as it was Grice who originally placed the focus of attention specifically on the ways in which deliberately communicated information is constructed by the audience of a communicative act. In this respect, I will also assume, for the purposes of this thesis[20], that what we are interested in when examining the pragmatics of linguistic communication is ultimately the construction of speaker-intended meaning.

Having addressed ostension to some extent, I will now turn to discuss inference in communication as this seems to be interwoven with ostension from the relevance-theoretic perspective. According to Sperber and Wilson, "inferential

[20] Even though I am aligning myself with the original Gricean argument, I believe that the relevance-theoretic framework should have a lot to say about the construction of information that is not part of the communicator's informative intention. For one, according to Sperber and Wilson, "unintentionally transmitted information is subject merely to general cognitive rather than specifically communicative constraints" (1997:150) and, as will become evident in my subsequent discussion, the notion of relevance that they put forth in their approach certainly provides interesting directions towards the establishment of such general cognitive constraints. What is more, Wilson and Sperber have also on occasion distinguished between *comprehension* and *interpretation*, suggesting that it is comprehension that signifies "the process by which a speaker's intended meaning is recovered", while interpretation subsumes comprehension in that it deals with the "recovery not only of the intended message, but also of any further information, not necessarily specifically intended by the speaker, which the hearer may derive from the utterance on his own account" (1985:51). Following the general pragmatic tradition and especially the Gricean legacy, for the purposes of this thesis, I will use the two terms interchangeably to refer to the recovery of information that has been intentionally communicated. Nevertheless, I believe that the distinction of the two processes is real and constitutes a fruitful topic for investigation within Relevance Theory; one that I am particularly interested in pursuing in future research.

communication and ostension are one and the same process, but seen from two different points of view: that of the communicator who is involved in ostension and that of the audience who is involved in inference" (1995:54).

Against this background, the account of communication that Sperber and Wilson argue for relies on inference quite dramatically, even more so than the original Gricean account does. As Origgi and Sperber suggest, "Gricean communication could result from a partial change of function of what might have been, at an earlier stage, a strict code" while in the relevance-theoretic approach "human verbal communication is never a matter of mere decoding" (2000:161). In this respect, from the relevance-theoretic perspective, the addressee needs to employ his general inferential abilities in order to recover the speaker's informative intention, inferring it based on the evidence of her communicative intention (Sperber & Wilson 1995:53):

> A piece of coded behaviour may be used ostensively – that is, to provide two layers of information: a basic layer of information, which may be about anything at all, and a second layer consisting of the information that the first layer of information has been intentionally made manifest. When a coded signal, or any other arbitrary piece of behaviour[21], is used ostensively, the evidence displayed bears directly on the individual's intention, and only indirectly on the basic layer of information that she intends to make manifest.

Consequently, as Papafragou exemplifies, "in order to comprehend 'It's hot in here' on one salient interpretation, the hearer needs to construct complex inferences about the speaker's intentions (and conclude that the speaker implies that she wants the hearer to open the window)" (2002:56).

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[21] This seems like an appropriate place to point out an important difference between the relevance-theoretic and the Gricean account. In his theory of 'Meaning', Grice was interested in differentiating between natural and nonnatural meaning and thus distinguished between cases of 'showing' some natural sign that carries some (conventional) meaning on its own and cases of 'saying' something with a view to 'induce a belief' to the audience 'by means of the audience recognising this intention'. Against this background, Sperber and Wilson propose that "there are not two distinct and well-defined classes, but a continuum of cases of ostension ranging from 'showing', where strong direct evidence for the basic layer of information is provided, to 'saying that', where all the evidence is indirect" (1995:53). In this sense, Relevance Theory suggests that even natural signs can be used ostensively, in which case they also fall into the same treatment of inferential communication that pragmatics should aim at describing. So, even though it might be philosophically interesting to differentiate between natural and nonnatural meaning, from a psychological point of view this distinction carries no practical significance as it is essentially ostension that causes some behaviour to be treated as communicative by some individual (for further elaboration, see Sperber & Wilson 1986/1995, Wharton 2003a, 2003b).

Regarding the inferential construction of the speaker's informative intention by the hearer, Sperber and Wilson identify three mechanisms that have been traditionally considered to come to play (1982:61):

> One to determine the context involved in the comprehension of an utterance, a second to determine the content on the basis of the context and of the linguistic properties of the utterance, and a third to draw the intended inferences on the basis of the content and the context.

The model of interpretation that Relevance Theory proposes then, seems to be based on the hearer's ability to select some contextual background against which he will infer the speaker-intended explicitly communicated proposition(s) as well as implicated assumptions. Even though I will not be directly concerned with the construction of implicatures for the purposes of this thesis, in the chapters that follow I will investigate more closely the first two mechanisms involved in the interpretation process in turn. What seems important to stress at this point, however, is that Sperber and Wilson's account puts considerably more weight on inference than Grice had originally envisaged in his theory of implicature. So, for example, while Grice suggested that inferential processes operate on the overall output of the decoding process, i.e. the basic proposition that provided by the semantics of language, Sperber and Wilson advocate that inference pervasively affects the decoding process as well and is essential for the recovery of 'what is said'. In this respect, the relevance-theoretic approach to human communication suggests that (1995:176)

> the coded communication process is not autonomous: it is subservient to the inferential process. The inferential process is autonomous: it functions in essentially the same way whether or not combined with verbal [or generally code-based] communication.

In this setting, Sperber and Wilson go on to characterize spontaneous inference as this is employed in the interpretation process. To this end, they address comprehension as involving non-demonstrative inference. Contrary to demonstrative inference, non-demonstrative inference is not a failsafe process, much like communication that is not always successful as the code model would falsely predict. According to Sperber and Wilson, "non-demonstrative inference, as spontaneously

performed by humans, might be less a logical process than a form of suitably constrained guesswork" (1995:69). In this sense, when we interpret an utterance, we essentially form and confirm hypotheses about the meaning that has been communicated to us.

In *Relevance*, Sperber and Wilson address spontaneous inference to a great extent, as they argue that "pragmatic theory in general is condemned to vagueness if it says nothing more about the inference processes involved in comprehension than that they are non-demonstrative, a purely negative characterization" (1995:70). Therefore, they describe a detailed view of how non-demonstrative inference effectively operates, proposing two rather controversial claims on the matter.

Initially, they suggest that deductive rules play a crucial role in non-demonstrative inference and attach to it a dedicated deductive device "which can automatically compute the full set of contextual implications of a given assumption in a given context" (Sperber & Wilson 1987b:740). As they discuss, this may go against the general view that sees little if any relation between implicature, a clear case of non-demonstrative inference, and deductive logic (e.g. Bach & Harnish 1979, de Beaugrande & Dressler 1981, Brown & Yule 1983, Leech 1983, Levinson 1983), but can be proven beneficial as "the deductive processing of information has much of the automatic, unconscious, reflex quality of linguistic decoding and other [modular in the Fodorian sense] input systems" (Sperber & Wilson 1995:83). Traditionally, spontaneous inferences of the kind that is common in our interpretation of utterances have been viewed, "following Grice, [...as] a probabilistic and inductive procedure" (Gibbs 1987b:564), since a formal deductive logic of the kind that customarily generates entailments would not provide the conclusions we realistically arrive at in interpreting utterances.

This brings us to the second claim that Sperber and Wilson make regarding non-demonstrative inference with a view to adequately constrain the deductive device they put forth. Admittedly, if the deductive device "were equipped with a standard logic, it would derive an infinity of conclusions from any given set of premises [...and] its operations would therefore never come to an end" (Sperber & Wilson 1987a:702). In order to avoid this result, Sperber and Wilson suggest that introduction rules are not available to the deductive device that is employed in

spontaneous inference, as they provide trivial conclusions that are not useful in comprehension. In this picture, the comprehension system has access exclusively to elimination rules that yield non-trivial logical implications, of the sort that will be described in the next section.

Naturally, the specifics of the deductive device that Sperber and Wilson put forth and to which this brief description cannot do full justice, and especially the ban of introduction rules from it, have been widely discussed in reviews of the framework (e.g. Gazdar & Good 1982, Hinkelman 1987, Macnamara 1987, Russell 1987, Seuren 1987, O'Neill 1988, Politzer 1990, Travis 1990). However, due to space restrictions, I will refrain from discussing these particular criticisms here. Instead, I will accept the general outlook Sperber and Wilson adopt with respect to non-demonstrative inference. After all, for my current purposes, what I wish to focus on is not so much the device that produces inferences, but rather the factor that, according to Sperber and Wilson, generally coordinates the inferential process.

In this respect, what Sperber and Wilson view as orchestrating non-demonstrative inference is the search for relevance, in the technical sense in which they use the term. In order to understand relevance as it is defined in the framework, it is essential to view it as "a potential property not only of utterances and other observable phenomena, but of thoughts, memories, and conclusions of inferences" and generally of "any external stimulus or internal representation which provides an input to cognitive processes" (Wilson & Sperber 2004:608). Within this picture, it makes sense to explore relevance as a cognitive property of assumptions and inputs to mental processing to begin with, moving on to its specific implications for communication later on.

3.2.2 Relevance and cognition

In their account, Sperber and Wilson are explicitly not "trying to define the ordinary and rather fuzzy English word *relevance*", but rather explore "a psychological property – a property involved in mental processes – which the ordinary notion of *relevance* roughly approximates, and which it is therefore

appropriate to call by that name using it in a technical sense[22]" (1987a:702, emphasis in original). As already suggested, Sperber and Wilson are interested in relevance as a property of cognitive input to mental processing. This input might be of many kinds, namely a stimulus that is processed in order to be perceived, an utterance that is processed in order to construct its meaning and so on and so forth. Now what makes an utterance or a general input to our cognitive environment relevant depends on a balance of cognitive effects and processing effort[23] (Wilson & Sperber 2004:609):

> Relevance of an input to an individual
> a. Other things being equal, the greater the positive cognitive effects achieved by processing an input, the greater the relevance of the input to the individual at that time.
> b. Other things being equal, the greater the processing effort expended, the lower the relevance of the input to the individual at that time.

In this setting, the notion of processing effort should be pretty self-explanatory in cognitive terms. It should be seen as a psychological conception, which essentially addresses the size and the relative difficulty of the computations that are involved in the cognitive processing of some stimulus. Within Relevance Theory, the notion of processing effort is of course directly linked to the deductive device that is responsible for producing inferences, since "processing more information in the same context, or the same information in a larger or less accessible context, involves greater effort" (Sperber & Wilson 1987b:742). As Wilson and Sperber discuss in more detail in an early paper (1985:59),

> the amount of processing required to derive the contextual

[22] It is crucial to differentiate the sense that Sperber and Wilson assign to 'relevance' from the ordinary use of the word as this can lead to a misunderstanding of the technical meaning that the term carries for relevance theorists. Such misunderstandings are evident in various criticisms that Sperber and Wilson have received regarding the appropriateness of using the term relevance in their framework (e.g. Gazdar & Good 1982, Clark 1987, Levinson 1987, McCawley 1987, Morgan & Green 1987, Berg 1991, Gorayska & Lindsay 1993).

[23] As Giora notes, "Sperber and Wilson's relevance notion is akin to Kasher's rationality principle". (1997:18) Following Grice, Kasher (1976) has underlined the role of rationality in purposive communication, suggesting even that "Grice's maxims [...] should be based on a general rationality principle – given a desired end, one is to choose that action which most effectively, and at least cost, attains that end, *ceteris paribus* – rather than a principle of conversational co-operation presupposing that talk-exchanges have accepted purposes or directions" (in Tennant 1977:87). In turn, Relevance Theory also purports to provide an account of rationality in communication, albeit based on some specific cognitive generalisations.

> implications[24] of an utterance in a context [...] largely depends on two factors. The first is inferential, and could be measured in terms of the number of steps some automaton would have to go through in deriving all the contextual implications of the utterance in the context. [...] The second factor is non-inferential, and could be measured in terms of the number of steps some automaton would have to go through in accessing the context itself.

As will become more obvious in the following sections, the notion of processing effort is fundamental in the relevance-theoretic approach to the on-line computation of ostensive stimuli.

With respect to cognitive effects[25] now, this is a term that Sperber and Wilson have used in articles after the original publication of *Relevance* (1986) and which stands for "contextual effects in an individual" – that is, "changes in the individual's beliefs" (Sperber & Wilson 1995:265). Sperber and Wilson suggest that an input provides contextual (cognitive[26]) effects when it manages to non-trivially[27] alter our cognitive environment, either by modifying the status of some existing assumptions in the context of processing, which corresponds to strengthening or contradicting and erasing them, or by providing contextual implications, i.e. new conclusions

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[24] As I will clarify shortly, a contextual implication is a non-trivial conclusion derived through the deductive device after the unification of a newly impinging stimulus with the context.

[25] In contrast to the definition of relevance that I quoted above, I have purposefully omitted the characterisation of cognitive effects as *positive* from my current discussion, since I will not take it up in my argumentation. This idea is a recent addition to the relevance-theoretic framework (Sperber & Wilson 1995) that aims to capture the generalisation that "information which leads only to false beliefs should not be treated as relevant, however much it may seem so to the individual processing it" (Higashimori & Wilson 1996:113). Nevertheless, I find this particular argument to be in conflict with the individualistic character of Relevance Theory, which, as I have argued above, clearly suggests that it is the hearer's assumptions about the world that have a bearing in the interpretation process rather than the actual state of the world. Similarly, following Jucker, I also find it hard to see how we can connect the assessment of relevance to an objectively true state of affairs when, "in many cases, neither speaker nor addressee will have access to [it]" (1997:116). Clearly, if we accept that objective truth matters in the assessment of the relevance of an assumption, then we must somehow account for the ways in which this objective truth is cognitively available to an individual, engaging in an enterprise which, as this thesis aims to show, is psychologically unrealistic. I should note, however, that I suspect the argument behind the use of the positive characterisation of cognitive effects to not actually relate to the truth of the deduced conclusions *per se*, but rather to the optimisation of the mechanism that produces correct inferences. Even so, as I find this point unclear in Sperber and Wilson's analysis, I will leave it aside for the purposes of this thesis.

[26] The two terms have been used interchangeably in the relevance-theoretic literature.

[27] In the relevance-theoretic picture, a processed input generates a cognitive effect only if it modifies the context, i.e. the set of already existing assumptions used in its processing, in a non-trivial way. If it is merely added to this set of assumptions it does not produce a cognitive effect, since "relevance is achieved when the addition of a proposition to a context modifies the context in a way that goes beyond the mere incrementation of that context with the proposition itself and all its logical implications" (Wilson & Sperber 1986b:55).

deductively inferred from the unification of the input with a context. Essentially, Relevance Theory views the achievement of large cognitive effects as a goal the addressee has in interpreting some communicative stimulus (Wilson & Sperber 1985:53):

> The goal of the interpretation process as we see it is not merely to classify the utterance (as a certain type of speech-act, for example), nor to integrate it with previous utterances in a text (via a causal chain, for example), but to work out the logical consequences of adding it to a pre-existing stock of beliefs and assumptions to which the hearer has access.

Against this background, the larger cognitive effects some input processed against a context has for an individual, the more relevant it is deemed, other things being equal.

In a more formal description of the notion of contextual effect, Sperber and Wilson give the conditions under which processing some input provides contextual effects (1995:286, emphasis in original):

> Let **C** be a context and **P** a set of new premises. Let *Conclusions of* **P** be the set of conclusions deducible from **P** alone, *conclusions of* **C** the set of conclusions deducible from **C** alone, and *Conclusions of* **P** *U* **C** the set of conclusions deducible from the union of **P** and **C**. Let two assumptions with the same content but with different strengths count as two different assumptions. Then the contextualisation of **P** in **C** has no contextual effect if and only if the two following conditions are met:
>
> (i) *Conclusions of* **C** is a subset of *Conclusions of* **P** *U* **C**;
> (ii) the complement of *Conclusions of* **C** with respect to *Conclusions of* **P** *U* **C** is a subset of *Conclusions of* **P**.
>
> If conditions (i) and (ii) are not both met, then the contextualisation of **P** in **C** has some contextual effect.

In this description and on the grounds that the two conditions are not met, the first one is intended to capture the strengthening and contradiction of assumptions the second contextual implications.

Additionally, the above quotation also suggests that both the assumptions against which cognitive effects are produced and these cognitive effects themselves can be of varying strengths. This can be seen as a direct consequence of the intuitive claim that "factual assumptions are entertained with greater or lesser confidence" in

the sense that "we think of them as more or less likely to be true" (Sperber & Wilson 1995:75). With a view to account for the diversity in the strength of some assumption, Sperber and Wilson posit a functional view of it, which contrasts with the purely logical alternative that would essentially assign to each assumption a probabilistic value derived from its logical confirmation against available evidence. Within the relevance-theoretic picture, the strength of an assumption is provided functionally as "a result of its processing history" and constitutes "a property comparable to its accessibility" in the sense that "a more accessible assumption is one that is easier to recall" (Sperber & Wilson 1995:77) and, thus, a stronger one. Against this background, in the relevance-theoretic framework, the strength of a given assumption is best viewed as a comparative rather than a quantitative measure[28].

Along the same lines, the assessment of relevance does not necessarily end in an absolute numerical outcome in a scale ranging from irrelevance to absolute relevance. Again, characterisations of degrees of relevance can be best viewed as comparative measures that mirror the relative cognitive value an input can have for an individual. In other words, the processing effort spent in processing an input and the effects it helps achieve can make it more or less relevant to an individual at some given moment. According to Sperber and Wilson, this perspective gives relevance considerations a psychological dimension that is indispensable in a realistic account of cognition and communication. More specifically, as they argue, "even where an objective numerical scale exists, it does not follow that some internal analogue of it is used in mental comparison", as is obvious in the case where "a suitcase feels heavier the longer it is carried" without actually gaining weight (Sperber & Wilson 1995:80). In the same respect, even if an objective numerical scale were to be proposed for the assessment of relevance, there is no guarantee that the mind would operate in total harmony with it. In effect, this makes relevance a cognitive rather than a formal property[29]. Conversely, processing effort and cognitive effects should

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[28] This particular distinction is discussed by Sperber and Wilson in the context of Carnap's treatise of subjective probability (1950), according to which, a "*comparative* concept is one that figures in comparative judgements" of the type "some things feel warmer than others" while a *quantitative* one is "one that figures in numerical comparisons" (in Sperber & Wilson 1995:80) (ibid).

[29] Of course, contrary to Sperber and Wilson's argument against this, there have been attempts to address relevance quantitatively. Such formal accounts include the ones explored by Poznanski

be viewed as non-representational dimensions of mental computations. In this respect, regardless of whether or not they are actually mentally represented, they do exist and mediate mental processing. What essentially matters then in this picture is how the mind assesses its efforts and the effects they produce from the inside[30].

After addressing the notions of processing effort and cognitive effect as well as the way in which Relevance Theory seeks to characterise relevance in mental computation, I wish to now turn to a fundamental generalisation that Relevance Theory makes regarding the functioning of our cognitive system. According to Sperber and Wilson, the notion of relevance that they propose in their framework has direct implications for both the organisation of human cognitive resources and the way in which mental computations take place. Therefore, it is suggested that relevance considerations do not only play a central role in the way that our cognitive system works, but ultimately orchestrate its operation in important respects. This is spelled out in the First or Cognitive Principle of Relevance (1995:260):

> Cognitive Principle of Relevance
> Human cognition tends to be geared to the maximization of relevance.

Following from the description of relevance I have outlined above, the notion of *maximal relevance* can be defined as the achievement of "the greatest possible effects for the smallest possible effort" (Wilson, in Higashimori & Wilson 1996:112). It follows then from the first principle of relevance that the human cognitive system essentially functions automatically aiming at maximal relevance.

Naturally, in order to comprehend the true nature of the relevance-theoretic proposal for a cognitive tendency to maximal efficiency, it seems necessary to elaborate a bit more on how this idea surfaced in the relevance-theoretic framework. Following research in the domain of evolutionary psychology, Sperber and Wilson argue that the current state of human cognition is essentially an adaptation that has evolved through Darwinian processes of natural selection, much like other corresponding biological systems. In their attempt to justify their cognitive principle

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(1990), Blutner (1998), Merin (1999) and van Rooy (2001, 2003).

[30] This makes the question of how to practically describe cognitive effects and processing effort largely a matter of neuroscience (for an interesting proposal of how neuroscience can address this see Sperber & Wilson 1995:130-131).

then, Sperber and Wilson, quite convincingly in my view, allude to the way in which biological mechanisms work (1995:262, emphasis in original):

> We can expect that the structure, placement and mode of operation of a muscle will *tend* to minimise the energy costs of performing the bodily movement it is its function to produce. Similarly, we can expect to find a *tendency* towards maximal efficiency in the design of cognitive mechanisms.

In this sense, mental processes can be said to operate fast and effectively simply because the mind tends to allocate its cognitive resources in a relevance-boosting manner. Against this background, it seems reasonable to assume that human cognition ultimately tends "to be geared to the maximisation of the cumulative relevance of the inputs it processes" (Sperber & Wilson 1995:261). Under the quite common assumption in cognitive science (e.g. Barkow et.al. 1992, Hirschfeld & Gelman 1994) that the human cognitive system is the result of the interaction of many specialised mechanisms[31], Sperber and Wilson suggest that the cognitive tendency towards maximal relevance results from the way in which these "various sub-mechanisms are articulated with one another, and [...] the resources of the system are shared among them" (1995:262). In this respect, the cognitive principle of relevance is nothing more than a viable hypothesis about the evolution of the human mind into an all the more efficient mechanism through processes of natural selection.

It goes without saying that the cognitive principle of relevance lies at the heart of the overall framework. Therefore, I will repeatedly return to it in the course of this thesis, discussing its implications in more detail. And effectively, a basic argument that I want to support in this work is that Sperber and Wilson's definition of relevance, "together with the assumption that human cognition is relevance-oriented, yields new insight into the focusing of attention, the choice of a particular representation for a given phenomenon, and the organisation of memory" (Sperber & Wilson 1987a:703). Regarding the focusing of attention, the cognitive tendency for maximal relevance predicts that evolutionary pressures have most likely enabled us to automatically attend to particular stimuli that are expected to provide us with large cognitive effects. As Sperber argues, this could be straightforwardly accounted for as

[31] These mechanisms can be suggested to be treated as modules in a quasi-Fodorian use of the term, as I will return to discuss towards the end of this chapter.

follows (2005:66):

> Imagine a species investing more and more in cognition, monitoring in a more and more fine-grained way more and more aspects of the environment, constructing an ever richer memory, and achieving this by use of an ever greater variety of perceptual and conceptual modules. The result would be a kind of attentional bottleneck: only very few of the available inputs could be treated attentionally, and only very limited background information could be brought to bear on the treatment of these inputs. This bottleneck would in turn create a strong and constant selective pressure for optimising the choice of inputs to be processed [...]. Such a selective pressure should result in the evolution of a variety of traits contributing to an optimal allocation.

Similarly then, the allocation of our memory resources should correspondingly have evolved in a way that would be conducive to an all the more efficient processing of cognitive stimuli. And even though Sperber and Wilson do not have a fully worked out theory of memory to propose, there are still certain interesting generalisations that can be made about memory, if we follow the cognitive principle of relevance (Sperber & Wilson 1996:532):

> In general, relevance theory predicts that memory will tend (both from the phylogenetic and the ontogenetic point of view) to be organized in a relevance-boosting manner. Relevance-theoretic analyses of a particular cognitive process, say, of the retrieval of implicature from a given utterance, imply that some particular pieces of information are chunked together, thus making the analysis vulnerable to experimental techniques (e.g., priming) used in memory and categorization research.

Having examined the role of relevance in cognition and presented the claims that the relevance-theoretic framework makes with respect to cognitive processing, I believe that I have justified to some extent the cognitive nature that I suggested above to lie at the basis of the theory itself. However, the implications of this particular outlook to cognition are far-reaching not only for the study of cognition, but also for the study of communication and especially linguistic communication, an area Sperber and Wilson were eager to apply their ideas to.

3.2.3 Relevance and communication

In their discussion of communication, Sperber and Wilson adopt the same

(cognitive) notion of relevance as a balance of effort and effect in relation to communicative stimuli. Of course, as I also noted above, Relevance Theory mainly addresses ostensive-inferential communication, and it is with respect to it that Sperber and Wilson formulate their Second or Communicative Principle of Relevance, which links ostensive communication to the cognitive consideration of relevance that was presented in the previous section (1995:158):

> Communicative Principle of Relevance
> Every act of ostensive communication communicates a presumption of its own optimal relevance.

According to this principle, the audience of ostensive-inferential communication automatically presumes the optimal relevance of the input it is provided with. In this respect, Sperber and Wilson go on to define this presumption as follows (1995:270):

> Presumption of optimal relevance
> a. The ostensive stimulus is relevant enough to be worth the addressee's effort to process it.
> b. The ostensive stimulus is the most relevant one compatible with the communicator's abilities and preferences.

In the overall picture of Relevance Theory, the communicative principle of relevance should be seen as deriving directly from the cognitive one. As Sperber and Wilson characteristically argue (1995:262-263),

> the tendency towards maximisation of relevance must be strong enough overall to help guide human interaction. [...T]he Second, Communicative Principle of Relevance is grounded in the First Principle, and in the further assumption that the First Principle does indeed make the cognitive behaviour of another human predictable enough to guide communication.

In this sense, by assuming that human cognition is geared towards maximal relevance, it seems justifiable to suggest that an addressee will treat an ostensively communicated stimulus as at least relevant enough for it to be worth his processing effort, merely because if that was not the case his relevance-oriented cognitive system would not even pay attention to the communicative stimulus. Therefore, as ostensive communicative stimuli seem to pre-empt attention, they should come with a manifest guarantee that they will provide some adequate cognitive effect to be

worth the effort expended to compute them. Accordingly, as a central goal of communication is to understand and be understood, "it is in the communicator's manifest interest both to do her best and to appear to be doing her best to achieve this [...] goal" (Sperber & Wilson 1995:268), otherwise the audience's relevance-oriented cognitive system would again not necessarily pay attention to every communicative stimulus, as it automatically seems to do.

What Sperber and Wilson argue for with their second principle is that when we compute some input that has been ostensively communicated to us, we automatically do so under the presumption that it will be relevant to us, yet optimally and not maximally relevant. This brings us to a crucial distinction that needs to be drawn at this point, i.e. the one between *optimal relevance* that applies to the processing of ostensive stimuli and maximal relevance that as discussed before is seen as governing cognition. Optimal relevance can be defined as the search for adequate cognitive effects with no unjustifiable processing effort expenditure and is to be contrasted with maximal relevance that, as we saw above, signifies the search for the greatest possible effects for the least effort. This is a fundamental distinction in the relevance-theoretic framework, one that is largely responsible, as Wilson discusses (in Higashimori & Wilson 1996:112), for the explicit exposition of the Cognitive Principle of Relevance in the second edition of *Relevance* (1995). One point of confusion with the original text of *Relevance* (1986) was that various scholars (e.g. Hinkelman 1987, Wilks 1987) mistook Sperber and Wilson as suggesting that it is maximal relevance that guides communication[32]. However, solidly differentiating maximal from optimal relevance should set this criticism at rest. In this sense, for Relevance Theory, the comprehension of an ostensive stimulus is essentially an automatic cognitive procedure orchestrated by the need to minimize effort in the search for a satisfactory outcome, which in the case of utterance interpretation would of course be the construction of the speaker-intended meaning.

[32] A potential pitfall in the interpretation of *Relevance* and especially its first edition, where the distinction between maximal and optimal relevance was not underlined through the use of the cognitive principle of relevance, relates to the notion of *optimal processing* that Sperber and Wilson use and which should not be equated to optimal relevance, as optimal processing is described as the way to achieve maximal relevance (Sperber & Wilson 1995:144). In all fairness though, it seems that the choice of terminology in this case can easily lead to confusion, as has happened in the case of Levinson (1987) and Smith (1987) who, according to Sperber and Wilson (1987b:745), conflate optimal relevance with optimal processing.

Moreover, it should be noted that even if the communicative principle of relevance suspiciously resembles a Gricean-style principle (a point made, among others, by Adler 1987, Morgan & Green 1987, Recanati 1987a), it is not meant to provide a guide the communicator needs to follow in order to engage in successful communication, as Gricean maxims are thought to do. What is crucial at this point is that, from the relevance-theoretic perspective, when engaging in communication we do not consciously follow or have to know that we follow the communicative principle of relevance, as some scholars (e.g. Bach & Harnish 1987, Morgan & Green 1987) seem to take the relevance-theoretic account to suggest. As Sperber and Wilson clearly put it (1995:162),

> the [communicative] principle of relevance, by contrast [to Gricean maxims], is a generalization about ostensive-inferential communication. Communicators and audience need no more know the principle of relevance to communicate than they need to know the principles of genetics in order to reproduce. Communicators do not 'follow' the principle of relevance; and they could not violate it even if they wanted to. The principle of relevance applies without exception: every act of ostensive communication communicates a presumption of relevance.

In the same spirit as the cognitive one, the second principle of relevance addresses communication from a cognitive perspective, indicating what ostensive-inferential communication *necessarily* involves in its premises. Therefore, what it predicts is that when, for example, you engage in verbal communication, once the hearer of your utterances recognizes your communicative intention, he will *always* treat your utterances as optimally relevant; that is, as providing rich cognitive effects, which partially mirror the intrinsic meaning of your informative intention, for no unjustifiable processing effort. Naturally, there is a chance that the meaning he constructs may not reflect the meaning we originally intended to communicate, in which case miscommunication takes place. Even so, this is not a problem facing the presumption of optimal relevance or the general relevance-driven comprehension mechanism, but rather a problem facing you in your choice of utterance or your hearer in his choice of context. In the relevance-theoretic framework, relevance considerations are proposed to guide our mental processing in a prescribed way irrespective of whether or not its results will be the anticipated ones. Clearly, in most

cases the results will indeed be the anticipated ones but, as I also noted at the very beginning of my introduction to the framework, the psychological plausibility of the relevance-theoretic account lies precisely in its ability to suggest how successful communication among individuals is probable rather than guaranteed, as the code model falsely predicts.

As I suggested earlier in this chapter as well, Relevance Theory essentially provides a hypothesis about the way in which our cognitive system manages to operate efficiently; a hypothesis that I find particularly convincing, and upon which further conclusions can be drawn about how we manage to communicate rationally[33]. Summarising the underlying idea behind Relevance Theory, it seems sensible to suppose that the human mind has evolved into working in an efficient way, showing a tendency to minimise cost as much as possible in return of getting the most effective possible outcome during its computations. In turn, this tendency provides reasons to further suppose that we always process communicative stimuli assuming automatically that the communicator, operating rationally, expects us to easily recognise her informative intention and, thus, has devised her stimulus accordingly.

Given the two principles of relevance, a certain picture of how audiences process a communicative stimulus seems to emerge within the relevance-theoretic framework. Therefore, in the section that follows, I will turn to present the relevance-theoretic scenario for the comprehension procedure, addressing it specifically with respect to verbal communication, as it is the interpretation of utterances that will provide the backbone of my argument in my discussion of context selection and meaning that will follow this introduction to pragmatics and Relevance Theory.

3.2.4 Relevance and verbal communication

According to Sperber and Wilson, it is not the case that all communicative stimuli communicate equally strong sets of assumptions that the communicator intends to induce to her audience. As they further discuss (Sperber & Wilson 1995:59),

> when the communicator makes strongly manifest her informative

[33] For a detailed discussion of the relevance-theoretic implications with respect to rationality, see Allott (2002, 2007).

> intention to make some particular assumption strongly manifest, then that assumption is strongly communicated. An example would be answering a clear 'Yes' when asked 'Did you pay the rent?' When the communicator's intention is to increase simultaneously the manifestness of a wide range of assumptions, so that her intention concerning each of these assumptions is weakly manifest, then each of these assumptions is weakly communicated. An example would be sniffing ecstatically and ostensively at the fresh seaside air.

Against this background and given also that "spoken utterances in one's own native language automatically impinge on the attention[, ...since] if they are distinctly audible, it is almost impossible to filter them out as background noise" (Sperber & Wilson 1995:153), it seems natural to assume that verbal communication "gives rise to the strongest possible form of communication" (Sperber & Wilson 1995:60). That is clearly because, in contrast to 'sniffing ecstatically and ostensively at the fresh seaside air', an ostensively communicated utterance "enables the hearer to pin down the speaker's intentions about the explicit content of her utterance to a single, strongly manifest candidate, with no alternative worth considering at all". In this respect, the case of linguistic communication, on which a large part of the relevance-theoretic literature, including this thesis, focuses, can be used to exemplify Sperber and Wilson's proposals regarding the on-line processing of ostensive stimuli during their interpretation by the addressee of a communicative act.

Therefore, within the overall spirit of psychological plausibility that has motivated the exposition of Relevance Theory in the first place, Sperber and Wilson suggest that there is a specific procedure that is followed in the comprehension process. In the case of interpreting an utterance then, the hearer is expected to entertain certain hypotheses about its intended meaning following a prescribed path (Wilson & Sperber 2004:613):

> Relevance-theoretic comprehension procedure
> a. Follow a path of least effort in computing cognitive effects: Test interpretive hypotheses (disambiguations, reference resolutions, implicatures, etc.) in order of accessibility.
> b. Stop when your expectations of relevance are satisfied.

As the comprehension procedure outlined here has not only been a point of confusion for some critics of the relevance-theoretic framework (e.g. Adler 1987, Bach & Harnish 1987, Hinkelman 1987, Seuren 1987, Wilks 1987), but will also be

extensively used in my overall argumentation, it seems necessary to present the argument that lies behind its exposition in a bit more detail.

So, bearing in mind that the hearer always processes an utterance as optimally relevant, Relevance Theory predicts that he will stop processing it when his interpretation provides satisfactory cognitive effects. Now, a set of cognitive effects will be deemed satisfactory by the hearer only when it substantiates the informative intention of the speaker[34]. In other words, the hearer is predicted to stop processing an utterance when his derived interpretation is assumed by him to be the one that the speaker intended him to arrive at[35]. And he will stop at the first interpretation that he finds satisfactory with respect to his expectations of relevance[36], since any other

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[34] Of course, this is merely the point where spontaneous automatic inferential comprehension stops. The possibility of further processing is always an option at the disposal of the hearer, but that should not be thought of as part of the comprehension process *per se*. A clear example of this idea could be put forth with the comprehension of, say, a lecture on Relevance Theory. The lecturer's intention in this case would be for the hearer to understand the basic tenets of the framework; yet, the hearer himself might go even further and entertain the differences between Relevance Theory and the Gricean Paradigm, which he came across in a previous lecture. The identification of such differences, even if they are correct overall, might not be part of the informative intention of the lecturer as such and, thus, should not be treated as ostensively communicated by her. In this respect, the hearer does not construct them during the comprehension process, but rather identifies them indirectly through further processing of the communicative stimulus and its cognitive effects.

[35] Of course, in instances of miscommunication, the hearer may well construct some meaning that he takes to be speaker-intended, but which the speaker did not actually intend him to arrive at. It should be clear by now that cases like this do not compromise the predictive power of the relevance-theoretic account, but rather underline its psychological plausibility, since, as I have repeatedly noted above, it aims at showing how successful communication is probable rather than guaranteed. Conversely, however, the hearer might also be unable to derive enough cognitive effects to substantiate the speaker's informative intention, in which case he will not be able to establish the relevance of her communicative stimulus in any of his accessible contexts, and again miscommunication will occur. In instances like this, the computation of cognitive effects by the hearer is again, following the current scenario, predicted to be done along the same path of least effort, but will necessarily stop when the hearer's expectations of relevance are abandoned – a point to which I will return in more detail in my discussion of context selection in the next chapter.

[36] Here it should be noted that a hearer's expectations of relevance might be more specific with respect to "how [an...] utterance will be relevant to him (what cognitive effects it is likely to achieve)" (Wilson & Sperber 2004:615). So, to take an example that Sperber and Wilson discuss, "if I tell you I am unhappy, I will almost certainly make you wonder why", a question which you are justified to assume that I intended to raise and which you will most likely expect the rest of my utterance to answer (1995:207) – such cases can be explained in the relevance-theoretic framework through the manipulation of assumption schemas that an utterance can create for the hearer, as I will return to show in the next chapter. In addition to this, it would also be reasonable to assume that a hearer's expectations of relevance are also directly affected by the amount of effort that he is prepared to spend when processing a stimulus. For instance, as Blakemore suggests, a hearer might be "prepared to put more effort into extracting information from a remark made in a lecture than [...]he would into the interpretation of a remark made during a leisurely chat over dinner" (1987:20). Finally, as I will return to discuss in more detail in chapter five, following the argumentation of Sperber (1994b), relevance theorists also suggest that a hearer's expectations of relevance "may be more or less sophisticated" (Wilson & Sperber 2002:605) with respect to the presumption of optimal relevance itself.

possible interpretation further on the path of least effort, even if more relevant in terms of providing more cognitive effects, would not be optimally relevant as the communicative principle of relevance predicts[37]. Accordingly, while accessing hypotheses about the overall meaning of an utterance, the hearer will do so automatically presuming that this information will be constructed without unnecessary effort expenditure. This along with the tendency of the human cognitive system towards maximal efficiency – that is, getting best possible outcome in the *least costly* manner – should straightforwardly justify the proposal for a path of least effort. Admittedly, an alternative strategy, which would have the hearer entertain all possible interpretations and then select among them the most appropriate one, does not seem like a plausible option (Carston 1988a:59):

> [Individuals] don't process each possibility [e.g. interpretation hypothesis], assess its relevance and then take it on or discard it. They don't have the processing resources to do this (for every phenomenon in their environment) apart from which such a practice would involve enormous and wasteful expenditure of energy.

Having identified the strategy by which, according to Relevance Theory, the hearer of an utterance tests his interpretive hypotheses, it seems equally important to also address the three subtasks that he performs in order to construct the speaker-intended meaning on the whole[38] (Wilson & Sperber 2004:615):

> Subtasks in the overall comprehension process
> a. Constructing an appropriate hypothesis about explicit content (explicatures) via decoding, disambiguation, reference resolution, and other pragmatic enrichment processes.
> b. Constructing an appropriate hypothesis about the intended contextual assumptions (implicated premises).
> c. Constructing an appropriate hypothesis about the intended contextual implications (implicated conclusions).

According to Sperber and Wilson, each of these subtasks has a direct bearing on the operation of the deductive device that they put forth in their account of inference and is indispensable for the comprehension of an utterance. More specifically, (b), with

[37] This argument is due to Dan Sperber who pointed this out to me in personal communication.
[38] These subtasks directly correspond to the three mechanisms that I presented when I was discussing inference above; that is, the mechanism that determines the context, the one that determines the content, and the one that draws the intended inferences (Sperber & Wilson 1982:61).

which I will deal in more detail in the next chapter, is responsible for the detection of the speaker-intended contextual assumptions that will enter the memory of the deductive device as premises against which the utterance's explicit content and implicatures will be constructed by the hearer. In turn, (a) and (c) are necessary for the construction of the utterance's meaning in terms of identifying its explicit content and calculating its implicatures respectively. And since I will not address implicatures[39] in my argumentation, I will focus on the subtask in (a) instead. As I have already suggested above, *contra* Grice, Relevance Theory claims that inferential pragmatic processes play a vital role not only in the construction of implicatures but also in the recovery of an utterance's explicit content as well. In this respect, according to relevance theorists, linguistic decoding provides the interpreter with an incomplete logical form that needs to be pragmatically enriched in order to gain full propositional content. On the analogy of implicature then, Sperber and Wilson (1995:181-183) name the propositions that are derived from the development of an utterance's encoded logical form *explicatures*. As I will return to discuss in the sixth chapter[40], the specific arguments that lie behind the exposition of the notion of explicature will constitute the basis upon which my discussion of conceptualist meaning will unfold.

Regarding this picture now, one crucial feature of the relevance-theoretic account is that it does not take the subtasks involved in the interpretation of an utterance to be sequentially ordered. As Wilson and Sperber argue, "the hearer does not *first* decode the logical form, *then* construct an explicature and select an appropriate context, and *then* derive a range of implicated conclusions" (2004:615, emphasis in original). Naturally, this observation has direct implications for the way

[39] For the sake of concreteness, it should be noted that the relevance-theoretic account of implicature departs in interesting ways from the Gricean approach to them. For one, the Gricean category of conventional implicatures is replaced in Relevance Theory by the notion of *procedural* encodings, which do not constitute implicatures at all, but rather "pointers to the pragmatic inferences the hearer is to carry out" (Carston 2002a:161). Then, even though, much like in the Gricean account, it is non-demonstrative inference that generates implicatures in the relevance-theoretic framework as well, relevance theorists do not uptake Grice's distinction between generalized and particularized conversational implicatures, positing instead "a continuum of cases from the very frequent to the one-off" (Carston 2002a:142). Finally, within Relevance Theory implicatures can vary in strength. Therefore, an utterance can be said to communicate a strong implicature, if its comprehension essentially depends on the recovery of this implicature, or correspondingly an array of weak implicatures.

[40] There I will not only provide a more detailed description of explicature, but will also examine in detail the notion of development of the logical form that Relevance Theory argues for.

in which Relevance Theory takes the comprehension process to actually progress. In contrast to the Gricean picture, where inference operates on "what is said" to generate the appropriate implicatures, but only after this is recovered by the hearer, the relevance-theoretic account suggests that an utterance's communicated meaning is simultaneously assessed at both the explicit and the implicit level, with inference playing an instrumental role in the overall process. In this picture, while an utterance unfolds[41], "interpretive hypotheses are made rapidly, on-line, and in parallel" (Carston 2002b:139) by a mechanism of *mutual parallel adjustment* of explicatures and implicatures that essentially "mediates inferences from logical form to communicated propositions" (ibid). To use a well-worn example (after Sperber & Wilson 1998:192-195), if Mary responds to Peter's invitation to go to the cinema by uttering 'I'm tired', Peter is probably expected to eventually derive the implicature that 'Mary doesn't want to go to the cinema'. Given his automatic presumption that Mary's utterance is optimally relevant to him, Peter is predicted, in the relevance-theoretic scenario, to follow a path of least effort while constructing interpretative hypotheses about Mary's informative intention. And in this case, his expectations of relevance are even more specific in that they reveal to him what cognitive effects he should be looking for in his interpretation of Mary's utterance[42]; that is, an answer regarding his invitation to go to the cinema. In order for Peter to construct the intended implicature, however, he crucially needs to adequately enrich Mary's utterance; that is, "Mary must be understood as saying something stronger than that she is tired *tout court*" (Sperber & Wilson 1998:194). It is in this sense that the comprehension mechanism is, in effect, a mechanism of mutual parallel adjustment, since the expectation of a particular cognitive effect may essentially alter the accessibility of candidate interpretative hypotheses for Peter. In this respect, it seems reasonable to assume that the comprehension system engages in a process that may customarily involve "several backwards and forwards adjustments of content [i.e. of explicatures and implicatures] before an equilibrium is achieved which meets the system's current 'expectation' of relevance" (Carston 2002b:139).

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[41] On the basis of experimental research on parsing and disambiguation, Relevance Theory (e.g. Sperber & Wilson 1995:204-208, see also Wilson and Sperber 2002, 2004) crucially advocates that inferences about interpretive hypotheses are effectively drawn *while* the utterance unfolds in real time, and not after its explicit content is pinned down, as Grice is customarily thought to suggest.

[42] For the argument behind this observation see footnote 37 above.

Against this background, it seems that Relevance Theory has a pretty detailed story to tell about the actual on-line comprehension process, as the account that it offers does not only carefully articulate the various processes that are involved in utterance interpretation, but also specifically delineates how these processes interact and proposes a specific strategy that is automatically followed by all hearers in constructing an interpretation. Clearly then, the relevance-theoretic arguments are bound to carry significant implications about the ways in which language is used in communication and, thus, should have a lot to contribute to the project that I have undertaken for the purposes of this thesis. Of course, that is crucially because the relevance-theoretic framework on the whole has right from its emergence been aiming at psychological plausibility, which correspondingly constitutes one of my basic objectives throughout my argumentation.

3.2.5 Relevance and psychological plausibility

As I have suggested more than a few times already, the most appealing characteristic of Relevance Theory is that it aims at a psychologically realistic picture of cognition and communication, an objective which I also share for the purposes of this thesis. At this point, I would like to substantiate this claim, by briefly presenting some experimental evidence that seem to support the basic tenets of the relevance-theoretic framework. After all, as Wilson and Sperber themselves assert, being a cognitive psychological theory, Relevance Theory "has testable consequences [...] and is open to confirmation, disconfirmation, or fine-tuning in the light of experimental evidence" (2004:625).

According to Wedgwood, "perhaps the most unpalatable part of Relevance Theory to many formal linguists [...] is the impression that it fails to constitute a useful analytical tool, because it fails to make falsifiable predictions" (2005:50). As I have already pointed out above, Sperber and Wilson view processing effort and cognitive effects as internal cognitive measures that cannot be assessed externally in a straightforward way. In this respect, even though I agree with Wedgwood (2005:50-52) that this realisation should not jeopardize the framework's overall predictive value, since several other theoretical assumptions endorsed in linguistics, like the Chomskyan hypothesis about a mind-internal grammatical knowledge, are

equally unfalsifiable, I would like to underline the progress that has been made in experimentally testing the predictions of Relevance Theory.

In this setting, Van der Henst and Sperber suggest that "a general theory is testable not directly but through consequences it implies when it is taken together with auxiliary hypotheses" (2004:141). And indeed, since its formulation and especially in recent years, various experiments have been conducted with a view to assess the validity of certain relevance-theoretic predictions. Therefore, Relevance Theory has been successfully employed in the explanation of the Wason Selection Task (Sperber et.al 1995, Hardman 1998, Girotto et.al. 2001, Sperber & Girotto 2002), while using relational reasoning tasks, Van der Henst, Sperber and Politzer (2002) have offered experimental evidence for the view that people follow considerations of relevance in the way that they draw conclusions from a set of premises. Accordingly, Relevance Theory has been also proven reliable in accounting for the ways in which we tend to either round up the time or not when we are asked for it, as shown in a speech production experiment conducted by Van der Henst, Carles and Sperber (2002). Moving on to mainly psycholinguistic experiments, the relevance-theoretic claim that pragmatic processes are also involved in the recovery of what is said by an utterance has been further substantiated through experiments conducted by Gibbs and Moise (1997) as well as Nicolle and Clark (1999). Along similar lines, measurements of the reaction times of participants in a variety of experiments involving scalars (e.g. Noveck 2001, Papafragou & Musolino 2003, Bott & Noveck 2004, Breheny et.al. 2006) support Relevance Theory in its prediction that the pragmatic enrichment of logical connectives involves an increase of processing effort.

It should be obvious, from this – necessarily sketchy – overview of a representative amount of experimental research pursued against the relevance-theoretic background, that the theory itself can suggest fruitful experimental research in the area of cognitive processing. Admittedly then, its cognitive nature contrasts to "most pragmatic research [that] has been carried out in a philosophical or linguistic tradition, which places a higher priority on theoretical generality and reliance on intuitions than on the need for experimentation[43]" (Wilson & Sperber 2004:627-628).

[43] Conversely, Saul (2002b) argues that Grice did not aim at providing a psychologically realistic

And effectively that is why I will be employing Relevance Theory in my argumentation throughout this thesis, as I believe that it can even practically shed more light into the mysteries of the mind and its processes, which make our cognitive ability for language possible.

Indeed, the cognitive outlook of the relevance-theoretic framework should make it appealing for the investigation of I-language, since, from the relevance-theoretic perspective, pragmatic reasoning can be addressed as a specialised cognitive capacity that has evolved into a property of the human mind. In this respect, Sperber and Wilson have also made certain specific proposals about the mental basis of pragmatic reasoning, in contrast to Grice, who "was rather non-committal on the source of pragmatic abilities and their place in the overall architecture of the mind" (Sperber & Wilson 2002:8). And from my current perspective, these proposals should be are particularly interesting, since by locating pragmatics in the mind it should be easier to then characterise its relation to other mental systems like the language faculty.

3.2.6 Relevance and mental architecture

In this final section of my introduction to Relevance Theory, I would like to turn to the proposals that Sperber and Wilson have made regarding the instantiation of inferential pragmatic reasoning in the human mind. As I have already hinted on various occasions both in this and in the previous chapter, most current research in neuroscience seems to pay respect to the view that the mind comprises a set of specialised modules. Along these lines, with respect to the discussion of the place of pragmatics in the overall cognitive architecture, a natural point of departure is the *Modularity of Mind* Hypothesis (Fodor 1983), in which Fodor elaborates on the existence of modules in the mind, providing a detailed characterisation of their properties.

According to the Fodorian argument, "the mind is not a seamless, unitary

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account of inferential pragmatics as relevance theorists take him to in their criticisms of his ideas. Even if that is true, it merely makes the relevance-theoretic framework all the more appropriate for the psychological study of I-language. And indeed, there is some recent experimental evidence that people may be only 'moderately Gricean' when they engage in linguistic communication, as, for example, they do not faithfully observe the maxim of quantity (Engelhardt et.al. 2006).

whole whose functions merge continuously into one another; rather, it comprises – perhaps in addition to some relatively seamless, general-purpose structures – a number of distinct, specialised, structurally idiosyncratic modules that communicate with other cognitive structures in only very limited ways" (Garfield 1991:1). These modules are then hypothesised to provide the central processing mechanisms with some input – as well as collect from them some output – that is related to the specific computation that they are designed to perform. In this sense, modules are, under Fodor's conception, fast and frugal, domain-specific and informationally encapsulated mental structures that are triggered automatically and serve as input and output systems that deal with some specialised aspect of mental processing.

Even though Fodor went to great lengths in his description of modules, he expressed a profound pessimism regarding the treatment of central processes, as is apparent from his "First Law of the Non-existence of Cognitive Science", according to which, "the more global [...] a cognitive process is, the less anybody understands it" (Fodor 1983:107). Interestingly, this seems to be the place where cognitive pragmatics had originally been argued to belong to by the proponents of Relevance Theory. Hypothesising the existence of central processes, it seems natural to assume that they are able to simultaneously access different sorts of modular input in order to compute it. After all, as Fodor discusses, if the mind comprises modules that are domain-specific, there also need to be some mental structures that cut across cognitive domains. Fodor's exemplar case for the implementation of global central processes was scientific hypothesis formation and confirmation, but as Carston, echoing Sperber and Wilson, argues, "clearly utterance interpretation is also a global process, albeit a much quicker, more spontaneous one, than scientific theorizing; in principle, information from virtually anywhere about virtually anything may have a bearing on the interpretation of an utterance" (2002a:2). Against this background, central processes can be usefully explored as the domain of cognitive pragmatics[44], since they make cross-computations over a variety of modular input, against an arbitrary set of assumptions that constitute the context of processing and with a view to achieve a certain goal, like the construction of an utterance's communicated meaning. With respect to the relationship of pragmatic processes with the grammar

[44] A view that, as Chametzky notes (1992:67), has been also endorsed by a number of researchers (e.g. Hornstein 1986, Sadock 1986, Farmer and Harnish 1987).

and by extension with the language faculty now, Wilson and Sperber originally suggested that the cognitive reality that underlies the two mental capacities makes it necessary to draw a sharp distinction between them (1986c/1991:583):

> Grammar and pragmatics are alike in two respects: they fall within the domain of cognitive psychology, and they have to do with language. Apart from that [...] they have virtually nothing in common. Grammar is a special-purpose modular system: pragmatics is not a modular system at all. There are no special-purpose pragmatic principles, maxims, strategies or rules; pragmatics is simply the domain in which grammar, logic and memory interact. Modular grammatical processes offer little direct insight into the nature of non-modular pragmatic processes.

In this setting then, Relevance Theory was originally formulated partially as a response to Fodor's pessimism regarding the identification of the ways in which central mental processes operate. In this respect, Sperber and Wilson's account of non-demonstrative inference was originally seen as a theory of central processes that mediate pragmatic reasoning and receive their input from a variety of modules, like the grammar, which, in the case of utterance interpretation, is responsible for decoding the utterance into its logical form. Appealing though it might have been, however, this original picture was eventually abandoned by relevance theorists.

Like most foundational theories of its kind, the Fodorian picture of modularity has been criticised on a number of occasions, right from its emergence. One aspect of it that has been the locus of much of this criticism is the pessimism that it expresses with respect to central processes. As Carston observes, a number of scholars[45] seem to contend that "central systems are far more structured than Fodor thinks" (1997:30). In this respect, various alternatives to Fodor's view concerning the degree to which the mind is modular have been investigated in the relevant literature. On a popular alternative that is based on evolutionary considerations, it is proposed that the mind is massively modular (e.g. Tooby & Cosmides 1992, Sperber 1994a, 1996, 2001, Pinker 1997, Gallistel 2000, Carruthers 2006a, 2006b), with central processes being also modular to a great extent. Naturally, in this context, the notion of a module varies from Fodor's original conception. Arguing for a looser

[45] With respect to this criticism, see, among others, Schwartz and Schwartz (1984), Cosmides and Tooby (1987, 1994), Sperber (1994a, 1996), as well as a number of the commentaries that accompany Fodor's 'Précis of the *Modularity of Mind*' (1985).

understanding of modularity, Sperber suggests that "one cannot both appreciate the role of modularity in biological systems and ask for a precise and rich definition of what a module is, or insist that a genuine module should resemble some prototype", since in "insist[ing] that a module should be defined in a narrow and rigid way, [one is...] ignoring the evolutionary dimension of modularity" (2005:54). From Sperber's perspective, cognitive modularity should be seen as a special case of the greater biological modularity (e.g. Wagner & Altenberg 1996, Schlosser & Wagner 2004), which is based on the idea that complex organisms are made up of specialised subsystems that "may differ from one another functionally, structurally, ontogenetically, and phylogenetically", as each of them has evolved to respond to different natural selection pressures. Therefore, the plausibility of the massive modularity scenario crucially rests on the assumption that, much like biological organs, cognitive modules come in different sizes and formats and do not necessarily share all the properties of the Fodorian prototype module; yet they are still domain-specific mental structures responsible for some dedicated processing, which they conduct in a fast and frugal way. In this conception then, as Tooby and Cosmides argue, "our cognitive architecture resembles a confederation of thousands of functionally dedicated computers (often called modules) designed to solve adaptive problems" (1995:xiii).

Given the evolutionary plausibility of the massive modularity scenario[46], relevance theorists have recently adopted a different position regarding the positioning of pragmatics in the human mind. Departing quite substantially from the original Fodorian view they adhered to at the outset of Relevance Theory, Sperber and Wilson currently opt for a more modular approach to pragmatics (Sperber 1996, 2000, Sperber & Wilson 2002, Sperber 2005, Wilson 2005). More specifically, in 2002, Sperber and Wilson argued for the case that "relevance-guided inferential comprehension of ostensive stimuli is a human adaptation, an evolved sub-module of the human mind-reading ability" (2002:21). In order to make better sense of this change of perspective, it seems necessary to briefly summarise the rationale behind it, following Sperber and Wilson's argumentation (2002). As we have seen in the

[46] Naturally, this account of modularity has also been criticised on a number of occasions (see, for example, Samuels 1998, Fodor 2000, among others). However, as I think that a complete evaluation of this research program goes beyond my immediate purposes here, I will leave it aside at this stage.

overall discussion of pragmatics up to now, it seems reasonable to view pragmatic interpretation as "an exercise in metapsychology, in which the hearer infers the speaker's intended meaning from evidence she has provided for this purpose" (Sperber & Wilson 2002:3). From this point of view, the comprehension of communicative stimuli by definition involves the hearer's ability to attribute intentions to the speaker, an ability that is customarily referred to in the relevant literature as *mindreading* or *theory of mind*[47]. Regarding this ability, there seems to be a relative consensus among researchers that it depends on the operation of a specialised and dedicated mental module (e.g. Leslie 1987, 1992, Fodor 1992, Sperber 1994a, Baron-Cohen 1995, Bloom 2000, 2002). In this setting and "given the complexity of mind-reading, the variety of tasks it has to perform, and the particular regularities exhibited by some of these tasks, it is quite plausible to assume that it involves a variety of sub-modules" (Sperber & Wilson 2002:12). Among such sub-modules, like the Eye Direction Detector (Baron-Cohen 1995), which is responsible for attributing mental states to others by following their direction of gaze, Sperber and Wilson suggest that there exists a specialised module that is dedicated to the comprehension of ostensive communicative stimuli and especially linguistic utterances. And that is because "verbal comprehension presents special challenges, and exhibits certain regularities, not found in other domains" (Sperber & Wilson 2002:5). While in most ordinary cases of mindreading, standard general procedures for intention attribution[48] might be deemed adequate, in the case of verbal comprehension the situation is much more complicated: given the greatness of the gap between sentence and speaker meaning[49] and the necessity of contextualising the former in order to construct the latter, there is practically no limit to the meanings that can be communicated verbally – a point akin to Chomsky's argument about language's unlimited productivity that I presented in the previous chapter. This essentially means that while in most cases intention attribution is "greatly facilitated

[47] Premack and Woodruff (1978) coined the term 'theory of mind' in this context, to refer to "our ability to explain, predict, and interpret behaviour in terms of mental states, like *wanting, believing,* and *pretending* (in Leslie 2000:1235, emphasis in original).

[48] Sperber and Wilson discuss in their argument two such procedures, the rationalisation approach – or theory-theory – (e.g. Davies & Stone 1995a, Carruthers & Smith 1996) and the simulation theory (e.g. Davies & Stone 1995b), and show how both are inadequate to account for the construction of speaker meaning in cases of verbal communication.

[49] The 'greatness of the gap' that I refer to here will be discussed in even more detail in the sixth chapter.

by the relatively narrow range of possible actions available [and, thus, attributable] to an agent at a time", in the instance of linguistic communication there are no *a priori* "limitations on the semantic complexity of speakers' meanings" (Sperber & Wilson 2002:11), which on its own makes the inferential comprehension of utterances considerably more complex than other ordinary instances of mindreading[50]. In this respect, if we take into account the cognitive tendency that humans have for maximal relevance (and, thus, cognitive efficiency) along with the exploitation of this tendency in ostensive communication that the relevance-theoretic framework puts forth in the form of the communicative principle of relevance, we can see how the relevance-based comprehension procedure (the path of least effort) can provide us with a relatively "fast and frugal heuristic" (Gigerenzer et.al. 1999) that can be thought to be automatically implemented in the operation of a dedicated comprehension sub-module of our 'theory of mind' mental module. And what triggers the functioning of this sub-module in this picture is ostensively communicated stimuli – with utterances being the most common instances of them.

A question that immediately arises at this point has to do with the way in which "people, including young children, spontaneously use [the relevance-based comprehension procedure...] in communication and comprehension, and expect their audience to use it as a matter of course" (Sperber & Wilson 2002:21). One possible answer to this could be that young children actually learn this procedure, during their cognitive development, as the most efficient way of comprehending utterances. However, this hardly seems like the most plausible route to follow, given both the evolutionary story that lies behind the relevance-theoretic framework and the ability of very young children to engage in inferential communication while they still lack the ability to pass the first-order false-belief tasks that are customarily used in the general study of mindreading. Rather, it seems more probable that, much like our ability for general mindreading, our tendency to engage in comprehension following the path of least effort has a strong genetic component, and crucially one that applies

[50] On top of this argument, Sperber and Wilson also suggest that verbal comprehension is typically more complex than ordinary cases of mindreading since "there are always several levels of metarepresentation involved in inferential comprehension, while in regular mind-reading a single level is generally enough" (2002:12, see also Grice 1989, Sperber & Wilson 1986/1995). As I will return to examine this aspect of metarepresentations in the fifth chapter, I did not include this argument in the main body of the current discussion for ease of exposition.

to our comprehension of ostensive stimuli much earlier than our general mindreading ability emerges. As Sperber and Wilson discuss, the "relevance-guided inferential comprehension of ostensive stimuli is a human adaptation, an evolved sub-module of the human mind-reading ability" with which all individuals are genetically endowed (ibid), precisely because it can be argued to have evolved in response to natural selection pressures for all the more efficient comprehension of ostensive stimuli.

I believe that this view of pragmatics in the wider context of mental architecture is a promising alternative to the original view, and one that clearly binds well with the aim of relevance theorists to provide a psychologically realistic account of pragmatic reasoning. As I will further show in the fifth chapter it makes a lot of intuitive sense to assume that the pragmatic reasoning involved in language usage occurs fast and automatically, sharing in this way some of the properties of modular processes in the original Fodorian picture. Even so, it is certainly beyond my immediate concerns here to evaluate it properly, so for the purposes of this thesis I will more or less adopt it, since I am convinced by the more detailed argumentation presented with respect to it by Sperber and Wilson.

3.3 Concluding remarks

Having presented an overview of the basic tenets of Relevance Theory, I believe that this is a good point to connect the relevance-theoretic approach to pragmatics with the rationale behind the investigation of I-semantics that was put forth in the previous one. And in order to do that, it is necessary to first clarify what I take pragmatics to mean in the Chomskyan background for the study of I-language.

In this respect, it is most common in pragmatic literature to locate Chomsky's interest in pragmatics in his identification of a pragmatic component inside his theory of linguistic competence. According to this conception, Chomsky distinguishes between *grammatical competence*, i.e. the knowledge of linguistic form and meaning, and *pragmatic competence*, which corresponds to the "knowledge of conditions and manner of appropriate use, in conformity with various purposes" (1980:224). In this setting, it seems indeed to be the case that there is a linguistic pragmatic competence consisting of "the principles underlying a speaker's choice of

a particular syntactic or referential option in a context and the principles underlying a hearer's understanding of it" (Prince 1988: 166-67). So, for example, native speakers of a language know that passives are more appropriately used in different contexts than actives and produce or interpret utterances accordingly. Similarly, as Kasher[51] discusses (1994), speakers also have a tacit knowledge of speech act types in their native language and again the way in which they use utterances to perform a particular speech act reflects this underlying knowledge.

However, this is not the notion of pragmatics that I wish to address in my argumentation. What I want to focus on is best mirrored in the following argument that Chomsky recently put forth (2000a:132, emphasis my own):

> As for semantics, *insofar as we understand language use*, the argument for a reference-based semantics [...] seems to me weak. It is possible that natural language has only syntax and pragmatics [...]. In this view, natural language consists of internalist computations and performance systems that access them *along with much other information and belief*, carrying out their instructions *in particular ways* to enable us to talk and communicate, among other things.

As far as I understand Chomsky's statement in this citation, it seems to me to be referring to a conception of pragmatics of the type that relevance theorists advance in their account; that is, a performance system "which receive[s] input from the linguistic performance mechanisms (the parser), perceptual sources (the senses) and conceptual sources (memory), and deliver[s] interpretations (explicit and implicit content)" (Blakemore 2002:23). In this sense, Sperber and Wilson's comprehension module enables us to efficiently interpret an utterance during verbal communication, since it does not only 'access information and beliefs' that will make up the context against which an utterance's cognitive effects will be inferentially computed, but also processes linguistic input 'in a particular way', i.e. following a path of least effort.

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[51] It should be noted that the system comprising the knowledge of speech act types is only one of the systems that Kasher posits in his overall theory of pragmatic competence (1991a, 1991b, 1991c, 1994). In this theory, Kasher builds on Chomsky's idea by suggesting that pragmatic competence should be viewed as "independent of communication" (1991c:135), in much the same way as linguistic competence is independent of linguistic performance. However, without going into much detail, which I find unneeded for my current purposes, I tend to agree with Carston, who has on a number of occasions (e.g. 1997, 1999, 2002a) argued that Kasher's theory is not a theory of competence in the Chomskyan sense at all, as all the systems that it puts forth, with the exception of the one underlying knowledge of speech act types, bear upon behaviour, and thus performance, rather than the knowledge that underlies it.

Naturally, this module is – as I also repeatedly hinted in the previous chapter – a system of *cognitive performance*, rather than specifically linguistic performance, as its domain is ostensive stimuli in general, but this should not compromise its usefulness in the discussion of language use for communicative purposes.

Turning now to the relationship between relevance-theoretic pragmatics and the language faculty, as I already discussed above, Sperber and Wilson initially contended that grammar and pragmatics apply at different levels of mental computation, the first being a modular system responsible for the decoding of an utterance and the latter describing how central inferential processes contextually enrich this decoded content. In the current picture endorsed by them, however, relevance-based pragmatics is also attributed to an automatically triggered and fast, albeit 'flexible and context-sensitive' – in the sense of Sperber (2005), comprehension module. What seems important to clarify with respect to this change of perspective is that it does not by any means signify a retreat to a code model of pragmatics. Rather, "what has been dropped is the earlier assumption of a necessary connection between codes and modules" (Carston 1997:51). In the new version, much like other cognitive systems, the ostension processor is considered to be an inferential module, but it is still thought to operate on the output of linguistic decoding, which again belongs to the domain of operation of the grammar.

Therefore, even in the new scenario, Relevance Theory still holds that the grammar, and more specifically the semantic component of it, is a module in the Fodorian sense that feeds the comprehension inferential module with some decoded – albeit, schematic and subpropositional – meaning which the latter then develops via processes of pragmatic enrichment into a full proposition. Against this background, it seems to me that relevance theorists follow the common practice of linguists in assuming that there is some linguistic semantic content that can be identified in isolation from conceptualisation. Admittedly, this conflicts with the concluding argument of the previous chapter; that is, Chomsky and Jackendoff's contention that, in studying conceptualist semantics, it proves impossible to separate linguistic meaning from world knowledge. That is why, in my subsequent argumentation, I will eventually challenge the relevance-theoretic assumption that the semantic component of the grammar provides the comprehension module with anything even remotely

meaningful, and counterpropose that it generates semantic representations only in conjunction with the inferential processor itself. In this way, I intend to show that the notion of semantics in abstraction from contextualisation plays no role in the psychological explanation of knowledge of linguistic meaning. Necessarily this will lead me to suggest that the inferential processor, a system of cognitive performance, is essential for the efficient functioning of the language faculty's semantic component, blurring in this way the competence/performance distinction as that was originally put forth by Chomsky. Nevertheless, as I argued in length in the previous chapter, this might not be as undesirable as it looks at first sight, since it might lead us to comprehend what knowledge of linguistic meaning realistically entails.

Before I turn to these important issues, however, I will first discuss how contexts are selected during utterance interpretation. This is essential for my argumentation, given that Chomsky's basic worry regarding the 'possibility of a universal semantics' is, as I noted in the previous chapter, that it would necessarily involve the interaction of the language faculty with "other cognitive systems – in particular our system of beliefs concerning things of the world and their behaviour – which intervene in our judgments of sense and reference in an extremely intricate manner" (1979:142). Against this background, it seems to me that the relevance-theoretic framework can be usefully implemented in dealing with this worry, since, by assuming that (some of) our beliefs about the world constitute the context against which an utterance is produced or interpreted[52], we may be able to develop a theory

[52] One fundamental issue that arises here has to do with the implications that the relevance-theoretic account carries with respect to the production of utterances. Arguably, much like hearers select contexts in which to interpret an utterance, speakers produce utterances which they plan against contexts as well. In this respect, it seems natural to assume that speakers also use their mind-reading abilities in predicting how their utterances will be interpreted by their audience, and, therefore, plan them accordingly – a point that will become clearer in my subsequent argumentation. Undoubtedly, interesting generalisations about the role of relevance in language production seem to follow directly from the relevance-theoretic account. For example, the communicative principle of relevance predicts that hearers compute utterances automatically assuming that they are 'the most relevant ones compatible with the communicator's abilities and preferences', which effectively suggests that for speakers to be rational, they need to plan their utterances to match their audience's expectations of relevance. However, a detailed relevance-theoretic account of language production seems to be currently absent from the relevant literature (although, for interesting comments, see Van der Henst, Carles & Sperber 2002, Carston 2005a, 2005b, Padilla Cruz 2005, Assimakopoulos 2006a, Purver et.al. 2006, Cann et.al. in press, Pouscoulous et.al. in press, among others). Naturally, due to the magnitude of such an enterprise, I will leave it aside in my current discussion, hoping to return to it in future research. That is why in my overall argumentation here I will in most cases follow the tendency of Relevance Theory to focus on the hearer rather than the speaker. Even so, as I will also return to point out in the conclusion of this thesis, it seems to me that certain aspects of the relevance-theoretic

of semantics that manages to overcome Chomsky's agnosticism with respect to the intervention of *intentionality*, i.e. rather simplistically, our ability to have beliefs about things in the world, in the internalist study of meaning.

account of pragmatic reasoning can be implemented in the discussion of language production in much the same way as they can be seen to mediate the interpretation of utterances.

Chapter Four

Context and context selection

Having established the background of pragmatics against which this thesis will develop, it seems essential at this point to turn to the defining feature that makes us call some mental processing pragmatic in spirit. Since pragmatics is commonly referred to as "the study of meaning which is derived from context" (Trask 1999:124), its incorporation in the overall mentalist picture of I-semantics that I am currently pursuing should essentially aim at exploring whether and how the relevance-driven comprehension module mediates the development and use of some linguistic code whose meaning might vary across contexts. For the time being, however, I will leave this variation of meaning, which has been at the centre of focus of pragmatic theorizing, aside, to return to it in the sixth chapter. Instead, in this chapter I will deal with the nature of context in cognitive terms in an attempt to identify its place and significance in the overall picture of I-language.

It is undeniable that the notion of context has been fundamental in the study of pragmatics; yet, it has received minimal attention in relation to its significance. As Wilson and Sperber discuss (1985:51),

> it is universally agreed that context plays an important role in the interpretation of utterances. On the question of what context is, what role it plays in interpretation, and how it comes to play that role, there is much less general agreement: in fact, these questions are rarely raised or discussed at length.

Generally speaking, regardless of some attempts to describe what contexts are, there is a relative consensus in the idea that there is "no clear way to reduce the vagueness [of the concept of context] at the moment" (Bar-Hillel 1970:80). Similarly, as Goodwin and Duranti more recently note (1992:2), "it does not seem possible at the present time to give a single, precise, technical definition of context, and eventually we might have to accept that such a definition may not be possible". Naturally, this is largely due to the fact that the term context is used in a variety of fields ranging from

linguistics to social anthropology and artificial intelligence, and carries distinctive meanings for each of them[1].

However, in the current setting it seems that some solid identification of what context is needs to be put forth. After all, as Levinson discusses, a central "difficulty facing th[e] definition or scope for pragmatics is that it calls for some explicit characterisation of the notion of context", and "unless one wants to claim that context is whatever (excluding semantics) produces inferences", this characterisation seems required (1983:22). Hence, in this chapter, I will provide a relevance-theoretic account of context, essentially building on the original proposals of Sperber and Wilson regarding the topic. Naturally, the basis for my argumentation will be their underlying idea that a context is "a psychological construct, a subset of the hearer's assumptions about the world [...] that affect[s] the interpretation of an utterance" (Sperber & Wilson 1995:15). Following from this definition, there seem to be two main aspects that need to be addressed in the investigation of context from a relevance-theoretic perspective. On the one hand, we have the realisation that contexts are *psychological* constructs, i.e. they have some tangible cognitive substance. On the other, we have the proposal that contexts are *constructed* during the interpretation process rather than given in advance of it.

4.1 A cognitive description of context

In the tradition of linguistics, it seems that the overwhelming fascination with formal semantics, which I underlined in the second chapter, has led most theorists of meaning to embrace a *Platonic* approach with respect to context. From this perspective, the strategy to be followed for its investigation should be akin to the one put forth by Lewis in his seminal paper on 'General Semantics' (1970): "in order to say what context of utterance *is*, we will first ask what a context *does* in the course of semantic interpretation, and then find something that does that in a way that comports with our semantic theory" (Roberts 2004:198, emphasis in original). In this sense, Platonists are more interested in "the precise conditions under which context [...] contributes to the meaning of sentences (or utterances)" (Andler 2000:280)

[1] Only within social anthropology, for example, Goodwin and Duranti (1992) identify eight distinctive traditions that shape "current work on the social analysis of context" (Tracy 1998:4).

rather than in what it actually is. In contrast, relevance theorists "feel an obligation to take a stand on what context materially consists in, on what stuff it is made of – not a source of concern for the Platonist, who is content to regard it as a warehouse of meaning" (ibid). In this respect, Relevance Theory suggests that the context should not be restricted to only these background assumptions that minimally affect an utterance's semantic interpretation[2], but rather treated as a unitary whole comprising all the assumptions that enter as premises the deductive device which generates inferences regarding an utterance's meaning.

Naturally, a bit more needs to be said about the nature of the assumptions that can make up a context for interpretation. For one, as I noted above, we need to think of contexts as having some solid cognitive substance. Therefore, it is necessary for the hearer to be able to mentally represent the assumptions that will form his context for utterance comprehension, since, by definition, it is only conceptual representations that can enter the deductive device that Sperber and Wilson put forth in their account. In this sense, an actual context for interpretation will comprise assumptions with some determined propositional content that, as I will discuss in due course, may be either retrieved from memory or constructed on the fly during the interpretation process. This essentially suggests that, in relevance-theoretic terms, a context should be viewed as a subset of a hearer's total cognitive environment, which will comprise assumptions that should be manifest to the hearer, that is, assumptions that the hearer is capable of 'mentally representing and accepting as true or probably true' at a given moment.

Additionally, from the individualistic perspective that Relevance Theory adopts, contexts should be thought of as comprising subjective assumptions about the world since, as Sperber and Wilson assert, it is these assumptions "rather than the actual state of the world, that affect the interpretation of an utterance" (1995:15). Recall the flat earth example I provided in the previous chapter before the discussion of manifestness. Similarly, people of previous generations shared the belief that the earth was the centre of our solar system, a belief that has actually proven to be false

[2] As I will discuss in more detail in the sixth chapter, this distinction comes with respect to frameworks that try to keep the extra-linguistic contextual input to the proposition expressed by an utterance to a minimum. In contrast to them, Relevance Theory assumes that contextual intrusions occur rather catholically on both the explicit and the implicit side of utterance interpretation.

in the course of history. Even so, our ancestors would treat this belief as representing the reality and could even bring it forth in the context of their actions, otherwise Galileo might not have been brought to trial for supporting heliocentrism. Nevertheless, even though this idea sounds intuitively correct, it is not the only option available for the treatment of context. Discussing the relevant literature, Penco (1999) differentiates between two predominant conceptions of context that have been put forth in it. These are in turn attributed to Kaplan (1989a), who argues for an 'objective' or 'metaphysic' (ontologic) notion of context, and to McCarthy (1993), who develops a 'subjective' or 'cognitive' (epistemic) theory of it[3]. Against this background, Relevance Theory can be seen to endorse the latter view. Crucially, if we aim at psychological plausibility, it makes sense to follow the subjective route in our description of context. After all, as Penco shrewdly observes (1999:280, emphasis in original)

> the objective context is, most of the times, the context we *recognize* as objective. We know both that there is some objective reality and that we might get it wrong. To describe an objective context as such, independent of a cognitive one, is therefore a risky enterprise. Any attempt to define it in an absolute way is misleading, because it takes a description - given always inside some theory or cognitive context - as an objective unrevisable description. Objectivity is always a result of our interaction, not a datum.

Interestingly, such a view is not appealing only to the relevance-theoretic framework, but to the paradigm of conceptualist semantics as well. For example, as Jackendoff discusses, our conceptual representation of the world is "essentially personal" (2002:330) and, in this respect, "objectivity is understood as an ideal we aspire to achieve" (2002:332) rather than a given.

Within the same spirit of psychological plausibility that calls for a conception of context as a set of subjective assumptions about the world, it seems reasonable to also try and "distinguish between actual situations of utterance in all their multiplicity of features, and the selection of just those features that are culturally and linguistically relevant to the production and interpretation of utterances (see e.g. van Dijk 1976:29)" (Levinson 1983:22-23). Therefore, even though there are, in a sense,

[3] Even though both conceptions of context I refer to have been developed with a view to provide a formal setting for the treatment of context, here I am merely interested in their conceptual basis.

a number of features that make up the actual situation in which an utterance is produced or interpreted, the cognitive outlook of Relevance Theory makes it interested only in the ones that specifically affect the production and interpretation process. In this respect, in the literature on pragmatics several attempts have been made to isolate general contextual characteristics "over and above universal principles of logic and language usage" (Levinson 1983:23). For instance, Lyons (1977) proposes that the context is definable in terms of the speaker and addressee's social role and status, their spatial and temporal location, the formality level of the conversation, the style of the linguistic medium, the subject-matter of the exchange and the linguistic register, while Ochs (1979) correspondingly lists the setting, the behavioural environment, the linguistic context and the extrasituational context[4]. However, as Ochs notes, "even an observer who has access to a setting and the talk that occurs within it may nonetheless not have access to all the phenomena that participants are utilizing as context for their talk" (1979:2). Indeed, according to Blakemore (1992:23), merely identifying overarching features that make up the situation in which an utterance is interpreted and, thus, distinguishing between different types of context, such as discourse, social or physical context (e.g. Leech 1983, Allan 1986, Ariel 1990) does not necessarily mean that we can pinpoint the contextual assumptions that will actually be used by a hearer in his interpretation of an utterance. That is why Relevance Theory does not restrict the context "either to the immediate physical environment or to the immediately preceding text or discourse", but rather defines it "in psychological terms as a subset of the hearer's beliefs and assumptions about the world" (Blakemore 1992:18). From the relevance-theoretic perspective then, the context for interpretation is realistically viewed as a unitary whole, comprising only the hearer's manifest assumptions that actually enter the memory of the deductive device as premises in the inferential processing of a newly communicated utterance.

Up to this point, I have substantiated to some extent the relevance-theoretic argument that contexts should be realistically treated as sets of subjective

[4] These accounts are only representative of a wide variety of approaches to context that aim at defining it through a set of parameters that apply to every linguistic act, irrespective of the specifics of each situation in which the act takes place. Other characteristic examples include Hymes' SPEAKING account (1974) and Halliday's distinction between field, tenor and mode (1985).

assumptions about the world that are brought to the foreground of cognitive processing during the interpretation of an utterance. Against this background, however, one important question that immediately arises concerns the actual way in which these assumptions are brought to the foreground of attention so as to be used as premises in the inferential process. And with respect to this question, Relevance Theory offers an innovative perspective that challenges traditional accounts of context in fundamental respects.

To begin with, as Sperber and Wilson notice, in the tradition of linguistics, "it is generally assumed that the context is determined in advance of the comprehension process" and "the assumption explicitly expressed by an utterance is seen as combining with a context present in the hearer's mind at the start of the act of the utterance" (1995:132). Clearly though this assumption is not compatible with the picture of psychological plausibility that Relevance Theory aims at, as can be shown by a series of examples that Sperber and Wilson discuss (1995:133-135), and which I will briefly reproduce next.

To this effect, consider the case of Peter addressing the utterance in (1) to Mary:

(1) *Peter*: I'm tired.

Now, it shouldn't be too extravagant to imagine a (probably familiar) situation where Mary would interpret Peter to mean that he is too tired to cook dinner for the two of them. In this respect, Mary might respond to Peter as follows:

(2) *Mary*: I'll make the meal.

In this case, the context in which Peter will interpret Mary's response should not need to include much more than the assumption that he explicitly expressed in the first place, i.e. 'Peter is tired', and his intended implicature, i.e. 'Peter wishes Mary would cook dinner', combined with which Mary's utterance would yield the contextual implication[5] in (3):

[5] Notably, in my current discussion, I will oversimplify the set of assumptions that I will take to be included in the context that Peter utilises in interpreting the respective utterances produced by Mary, for ease of exposition. Of course, his train of thought will most likely lead him to use a number of relating contextual assumptions to reach the intended interpretation, but that is not important for the

(3) Mary will do what Peter wishes (that is, cook dinner).

Accordingly, imagine another possible version of the dialogue:

(4) (a) *Peter*: I'm tired.
(b) *Mary*: The dessert is ready. I'll make the main course.

Here, the context of interpretation is not merely restricted to the assumptions that have been explicitly expressed or implicated in previous discourse. Mary's utterance calls Peter to include in his context of comprehension further assumptions, like, for instance general encyclopaedic information[6] about dinners ('Dinner is a meal', 'A meal consists of at least a main course and a dessert'), which is needed for the implication in (3) to be deduced. Through these examples, Sperber and Wilson show that the context for interpretation can indeed be thought to be 'given in advance of the comprehension process' at times, since all that Peter needs to utilise as a context in the aforementioned cases are the assumptions explicitly expressed or implicated by the preceding utterances in a discourse along with encyclopaedic information attached to the concepts that make up these assumptions.

However, this characterisation of context is by far too restrictive in terms of psychological reality. This can be shown through one further example that Sperber and Wilson ask us to consider. So, imagine the version of the exchange in (5):

(5) (a) *Peter*: I'm tired.
(b) *Mary*: The dessert is ready. I'll make an osso-bucco.

In order for Peter to comprehend Mary's utterance in this scenario, he needs to include in his context of interpretation the assumption that 'An osso-bucco is a main course'. However, this assumption has been neither explicitly expressed or implicated nor is it part of the encyclopaedic information attached to the concepts included in the assumptions that have been explicitly expressed or implicated up to that point. It is essentially an assumption included in the encyclopaedic information attached to the concept of osso-bucco, which is being introduced in Mary's utterance

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point that I am pursuing here.

[6] At this stage, I am loosely referring to background assumptions that are attached to a concept as a concept's encyclopaedic information. I believe that such a loose characterisation should be adequate for my current purposes, even though I will eventually return to discuss the relevance-theoretic view of conceptual content in more detail in the sixth chapter.

for the first time. It is at this point then, that Sperber and Wilson show that the context for utterance interpretation cannot be realistically viewed as 'determined in advance of the comprehension process', but should be seen as dynamically changing *during* the interpretation of an utterance.

Against this background, Relevance Theory suggests that contexts are determined on-line via possible expansions of an initial context. Naturally, the argument for the existence of this initial context should be empirically straightforward (Sperber & Wilson 1995:138):

> Consider someone about to process some new information. He still has in mind some of the assumptions he has just been processing. People do not come to the processing of new information with a 'blank mind'; they have some kind of short-term memory store (or several such stores, or devices functionally equivalent to short-term memory stores) whose contents are simply never erased, at least when the individual is awake.

In the relevance-theoretic setting (Sperber & Wilson 1995:139-140), the initial context is thought to comprise the set of assumptions that are present in the memory of the deductive device at the end of the previous deduction; that is, its cognitive effects and the contextual assumptions that provided the premises against which these were generated. This set constitutes the immediately given context in which the newly communicated utterance will begin to be processed; a context that can then be extended if required. And effectively this context "can be expanded in three main directions" (Sperber & Wilson 1987a:703).

The first direction is through the addition of "assumptions used or derived in preceding deductions" (ibid). According to Sperber and Wilson, "the interpretations of some earlier utterances (as well as other items of information and thoughts [... the individual] may have been attending to in the immediate past)" (1995:140) might not be included in the memory of the deductive device at the beginning of the interpretation process, but should still be kept in some other short-memory store, which would make them easily accessible for potential expansions of the initial context, a tendency that is "introspectively and experimentally well established" (ibid). And as Sperber and Wilson point out, the need for the existence of such auxiliary short-memory store(s) should be pretty straightforward. So, when we simultaneously attend to two different cognitive tasks, like talking on the phone

while watching television, we seem to be perfectly capable of "switching back and forth between two quite different contexts", which strongly suggests that "the memory of the deductive device is not the only short-term memory store available" to us (1995:139).

Regarding the second direction in which the initial context can be expanded concerns the addition to it of "chunks of information taken from the encyclopaedic entries of concepts already present in the context or in the assumption being processed" (Sperber & Wilson 1987a:703). This should be quite straightforward from the discussion of (4) and (5) above, where specific encyclopaedic information regarding dinners and osso-bucco needs to be retrieved from long-term memory to the memory of the deductive device for the intended cognitive effects of Mary's corresponding utterances to be yielded by Peter.

Finally, the third direction for context expansion that Relevance Theory identifies comes with the addition to the initial context of "input information about the perceptual environment" (ibid). According to Sperber and Wilson, it is undeniable that while we are awake we constantly, yet unconsciously, monitor our immediately observable physical environment. This monitoring should provide us with assumptions about our environment, which are stored in "specialised short-term perceptual memory stores" (Sperber & Wilson 1995:141). From these stores, some of our perceptual assumptions might then be easily transferred to the memory of the deductive device, as can be customarily shown in the case of deixis. Therefore, in our familiar case of the dialogue between Peter and Mary, Peter should be able to locate the referent of Mary's 'this' in (6b) rather effortlessly (after Sperber & Wilson 1995:141):

(6) (a) *Peter*: I'm tired.
(b) *Mary* (holding up a piece of veal): If you are tired, I'll cook this.

Having identified the directions in which the immediately given context at the beginning of an utterance's interpretation can be extended, it seems necessary to turn to the actual way in which contextual expansions should be thought to take place. In this respect, Sperber and Wilson observe that "in much of the literature it is explicitly or implicitly assumed that the context for the comprehension of a given utterance is

not a matter of choice; at any given point in the verbal exchange, the context is seen as uniquely determined" (1995:132). What this view suggests then is that contextual extensions take place automatically and in every direction during the interpretation of an utterance. However, by continuing to cite some further examples of the dialogue between Mary and Peter, as these are presented by Sperber and Wilson (1995:135-137), I wish to now show that this scenario is again psychologically unrealistic.

In this respect, consider another potential version of the Peter and Mary's exchange, as this is illustrated in (7):

(7) (a) *Peter*: I'm tired.
(b) *Mary*: The dessert is ready. I'll make the speciality of the Capri restaurant.

In order for Peter to interpret Mary's utterance in this case, he needs to augment the context by further accessing the encyclopaedic information associated with the Capri restaurant. Once he recalls that its speciality is osso-bucco he will be able to further access the encyclopaedic information linked to osso-bucco and retrieve the assumption that it is a main course, which will in turn provide him with the intended contextual implication in (3). In this scenario then, the context needs to include a second layer of encyclopaedic information, that is, information that is attached to the concepts that make up the encyclopaedic assumptions of the corresponding concepts that make up the assumption explicitly expressed by Mary. And if context expansions are automatically made towards every direction, then it follows that this second layer of encyclopaedic information would customarily need to be retrieved for every concept included in the encyclopaedic assumptions linked to Mary's explicatures and implicatures. Similarly, a third layer of encyclopaedic information will need to be added to the context, for Peter to interpret Mary's utterance in (8b):

(8) (a) *Peter*: I'm tired.
(b) *Mary*: The dessert is ready. I'll make the speciality of that restaurant next to where John lives.

Here, Peter's context for interpretation will need to include the encyclopaedic assumption that 'John lives next to the Capri restaurant', for it is this assumption that will make available the assumption that 'The Capri restaurant's speciality is osso-bucco', which will finally provide the assumption that 'Osso-bucco is a main

course'; the assumption that is necessary for Peter to reach Mary's intended contextual implication in (3).

It should be clear that by following this line of argument, the context will soon need to expand so much that eventually all the assumptions that Peter can retrieve from memory might be required for the interpretation of a single utterance. Naturally, this is psychologically undesirable, since, as I also noted in the previous chapter, the mind can only perform a finite number of mental operations in the limited time that the interpretation of an utterance usually takes place. Even more importantly, given the effort that would be expended so that Peter can include in his context for interpretation the whole volume of his memorised information, "this method of context formation would lead to a[n enormous] general loss of relevance" (Sperber & Wilson 1995:136). What this effectively suggests is that contexts for interpretation should not be thought of as 'uniquely determined at any point during a verbal exchange'. Rather, as Sperber and Wilson counterpropose, it is more realistic to think of contexts as being *selected* during the interpretation process (Sperber & Wilson 1995:137-138):

> We assume that a crucial step in the processing of new information, and in particular of verbally communicated information, is to combine it with an adequately selected set of background assumptions – which then constitutes the context – in the memory of the deductive device. For each item of new information, many different sets of assumptions from diverse sources (long-term memory, short-term memory, perception) might be selected as context. However, this is not to say that any arbitrary subset of the total set of assumptions available to the organism might become a context.

Given the argumentation provided so far, this should seem like a reasonable route to follow in the description of contexts for interpretation. As Sperber and Wilson show even more extensively (1995:137-151), the ways in which the context is extended might vary significantly from occasion to occasion, which essentially renders the traditional idea that extensions of the initial context occur automatically towards every direction psychologically untenable. However, in suggesting that contexts are actually selected during the interpretation process, Relevance Theory is called to additionally provide an account of how this selection actually takes place. And as Chiappe and Kukla suggest, the provision of such an account "is not a side issue, [but

rather...] a *central* issue, [since...] what is at stake is nothing less that an explanation of how our inferences during verbal communication manage to be rational" (1996:530, emphasis in original).

4.2 Context selection

The proposal that contexts are actually selected during the interpretation process is actually one of the central innovations of Relevance Theory with respect to the study of communication, and a cornerstone argument in the exposition of the relevance-theoretic inferential account (see especially Sperber & Wilson 1982, 1986/1995, Wilson & Sperber 1985). After all, as I also noted in the previous chapter, Sperber and Wilson view the inferential comprehension of utterances to be the result of the parallel operation of three mechanisms: "One [...that] *determine[s] the context involved in the comprehension of an utterance*, a second [...that] determine[s] the content on the basis of the context and of the linguistic properties of the utterance, and a third [...that] draw[s] the intended inferences on the basis of the content and the context" (Sperber & Wilson 1982:61, emphasis my own). At the end of the previous section I showed that "the assumption that [...] encyclopaedic extensions are automatically made for every concept and in every case leads to absurdities" (Sperber & Wilson 1995:140). At this point, I want to investigate in more detail how contexts for interpretation are effectively selected, expanding on certain remarks that have already been put forth by relevance theorists. And I believe that a more comprehensive approach to context selection is currently needed, since scholars have often criticised Relevance Theory for not providing a convincing account of how contexts are constructed (e.g. Chiappe & Kukla 1996, Pietarinen 2005), while, despite its significance in the overall framework, context selection has not received equal attention to other topics of pragmatic interest in the relevance-theoretic literature, with most proposals regarding it found mainly in the original publication of *Relevance*.

4.2.1 Context selection and relevance

Since the notion of relevance put forward by Sperber and Wilson is offered as

a solution to the problem of how to control inferences, and context selection is performed by one of the three mechanisms that are responsible for the generation of inferences, considerations of relevance should carry significant implications for context selection. Indeed, within the relevance-theoretic framework, what is customarily considered to orchestrate the actual selection of contexts is in effect the search for relevance in its technical sense (as is suggested, among others, by Sperber & Wilson 1982, 1986/1995, Wilson & Sperber 1985, Blakemore 1987, Carston 1988a, Blass 1990, Assimakopoulos 2003, Kempson 2003). Let us now substantiate this claim a bit further. According to Wilson and Sperber, "the range of possible extensions [of an initial context], and the order in which they take place, will be determined by the organisation of the hearer's memory and the retrieval processes involved" (1985:56). What seems imperative, then, would be to investigate the relevance-theoretic predictions with respect to the organisation of memory and the processes involved in the retrieval of contextual assumptions.

Following the general literature on memory, Sperber and Wilson suggest that "the smallest units which can be transferred from encyclopaedic memory to the memory of the deductive device are chunks [in the traditional sense of a *schema* (Rumelhart & Norman 1978), *frame* (Minsky 1975), or *script* (Schank & Abelson 1977)] rather than individual assumptions" (Sperber & Wilson 1995:138). These chunks of information then can be used in two ways: they can either provide the individual with ready-made contextual assumptions or with skeletal assumption schemas (scripts) which together with new information derived from the utterance create fully articulated assumptions[7]. Against this background, there are certain generalisations that can be made in relation to the accessibility of these chunks in mental processing. As Sperber and Wilson discuss (1995:138), the encyclopaedic entry of some concept should become accessible to the hearer when this concept is part of an assumption that has been accessed during the processing of an utterance. So, in the instance of Peter and Mary's dialogue, Peter would be unable to recall that

[7] With respect to assumption schemas, as Carston notes, "it is widely assumed in cognitive studies that frequently experienced actions, events or processes and sequences are stored in chunks [in the individual's memory,...] some of [which...] may be relatively specific, such as the sequence of walking out of one's front door and locking it, of going to a restaurant for a meal [...while...] others may be of a more skeletal or abstract nature, such as that humans generally perform actions with a purpose in mind, or that events in the world are usually causally connected to other events" (2002a:226).

osso-bucco is the speciality of the Capri restaurant unless he has already been thinking of that restaurant (or of osso-bucco). Similarly, certain information that is chunked together with this assumption, such as that the restaurant's red wine is Valpolicella for example, would also get included in the expanded context. In this sense, it becomes straightforward that during context selection "there will be times [...] when information will be accessible in a single step, times when it will be accessible in several steps, each involving an extension of the context, and times when the number of steps involved will, in practice, make this information inaccessible" (ibid). And in the relevance-theoretic scenario, the psychological notion of linear accessibility of contextual assumptions for potential extensions of the initial context has a direct formal counterpart (Sperber & Wilson 1995:142):

> At the end of each deductive process, the individual has at his disposal a particular set of accessible contexts. This set is partly ordered: each context (apart from the initial context) contains one or more smaller contexts, and each context (apart from maximal contexts [i.e. the contexts that cannot be extended further]) is contained in one or more larger contexts. The set of accessible contexts is thus partly ordered by the inclusion relation.

Suggesting then that each actual extension of the initial context is orchestrated by the search for relevance should provide us with a plausible story about the way in which potential extensions of the initial context actually progress.

In the first place, as the cognitive principle of relevance suggests, it makes sense, from an evolutionary perspective, to "expect to find a *tendency* towards maximal efficiency in the design of cognitive mechanisms" (Sperber & Wilson 1995:262). Clearly, this should not only "create a strong and constant selective pressure for optimising the choice of inputs to be processed" (Sperber 2005:66), but also a corresponding pressure for an optimal organisation in the sources of assumptions that can be used in establishing a processing's context. And indeed, in the relevance-theoretic setting, our memory is expected "to be organized in a relevance-boosting manner" (Sperber & Wilson 1996:532). As Sperber and Wilson argue (1996:531),

> it is not surprising that the perceptual categorization of a distal stimulus should tend to activate related information in memory. Thus, having your attention attracted by a snake tends to make your beliefs

> about snakes, at that moment, more accessible than your beliefs about [Relevance Theory...]. Nor is it surprising that memory is so organised that pieces of information that are likely to be simultaneously relevant tend to be coaccessed or coactivated in chunks variously described in the literature as 'concepts', 'schemas', 'scripts', 'dossiers', and so forth.

What follows from this argument is that the organisation of our memory itself should on its own make it likely for us to select a context that will provide large cognitive effects in all instances of cognitive activity.

Accordingly, if we accept that our memory is organised in a relevance-oriented manner, another important generalisation about the actual process of context selection can be further made. Therefore, if our assumptions about some specific stimulus are automatically made more accessible when this stimulus catches our attention, it seems reasonable for us to entertain contextual extensions as they come to mind in order of accessibility. Given then that "the less accessible a context, the greater the effort involved in accessing it, and conversely" (Sperber & Wilson 1995:142), a 'relevance-boosting' organisation of the memory would lead us to select contexts following a path of least effort. In this respect, and given the evolutionary perspective that lies behind the cognitive principle of relevance, it seems that selecting sets of assumptions (i.e. expanding contexts) in order of accessibility, "is not just a reasonable thrift, [...but rather] an epistemically sound strategy" (Sperber & Wilson 1996:532).

Up to this point, I have presented how the cognitive principle of relevance can provide us with a viable scenario, in which the relevance-oriented organisation of memory makes it likely for items with the highest expected relevance in relation to an utterance to become more accessible for context selection in the processing of this utterance. In this section, I wish to investigate in a more fine-grained way how the characterisation of relevance as a balance of processing effort and cognitive effect can be seen to affect the order of accessibility of potential contextual extensions. More specifically, the argument I wish to pursue is that, since it is processing effort considerations that directly anchor the order in which contextual assumptions are activated[8] in context selection, considerations of cognitive effects play a secondary

[8] Even though there is currently, to my knowledge, no fully worked-out account of how the serial activation of contextual assumptions takes place within the relevance-theoretic framework, one

role by indirectly affecting the processing effort required in the retrieval of contextual extensions.

In arguing for this position, I will also address an issue that I left open in the previous chapter; that is, how some assumptions might be (or become) more manifest for an individual than others at a given moment. Of course, here I am not interested in the assumptions that are made manifest as part of the meaning communicated by the speaker but rather in the ones that are included by the hearer in the context of comprehension. As I also noted in the previous section, for some assumption to be included in a context it trivially needs to be manifest to an individual, in the sense that he should be able to mentally represent this assumption. However, as I observed in the previous chapter, at any given moment there is a massive amount of assumptions that are merely manifest to us. Therefore, as I also discussed there, in order to tackle the question of how we effectively select among all these available assumptions the ones that we will actually employ in cognitive computations, Sperber and Wilson suggest that manifestness is a matter of degree, which correspondingly makes "manifest assumptions which are more likely to be entertained [...] more manifest" (1995:39). What follows from this is that the more accessible an assumption is for potential contextual extensions, the more manifest it should be thought to be for the hearer. Given, however, that encyclopaedic information usually comes in more than one chunk, what is it that makes a particular chunk more manifest to someone than another competing one?

In the first place, according to Sperber and Wilson, "the more frequent and/or recent the use [of an assumption], the smaller the processing effort [its retrieval requires]" (Sperber & Wilson 1987b:742). Admittedly, this suggests two ways in which a chunk of encyclopaedic information can be more manifest to an individual at some moment. On the one hand, if an assumption has been recently used in a deduction then it should be more manifest to the hearer than competing assumptions. Interestingly, this can also straightforwardly substantiate the relevance-theoretic idea

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possibility that has been entertained within Relevance Theory is the idea of *spreading activation* models of memory that have for long been investigated in cognitive neuroscience (e.g. Collins & Loftus 1975, Anderson 1983). However, as the application of this idea might carry across with it certain aspects of the picture of mental architecture that connectionists have been arguing for, I will leave it aside for the purposes of this thesis, acknowledging that it could provide the locus for future research stemming from it.

that contextual extensions by going back in time are easily made. On the other hand, the more frequently an assumption has entered the deductive device in the past, the more accessible the chunk in which it is included should be for future context selections with respect to the interpretation of an utterance that includes the relevant concept. Again, this reflects the tendency we have to forget encyclopaedic information that we rarely use in our cognitive processing. For example, it should be reasonable to expect the assumption that 'Cairo is the capital of Egypt' to be more accessible than the one that 'Thebes was the capital of Egypt under the 20th dynasty' (Sperber & Wilson 1995:77).

By association, what I want to add to this perspective is a principled way in which the presence of an assumption in the deductive device should be seen to affect its degree of manifestness to an individual. In this respect, I believe that the more an assumption has in its processing history affected our cognitive representation, the easier it should be to retrieve from both short-term and long-term memory stores. What this essentially suggests is that the more cognitive effects an assumption has helped produce in a deduction, the more accessible it should get for future deductions and, thus, the more frequently it would be used in them. Clearly, an individual's coming out as gay to his/her parents will most likely change their assumptions about this individual to such an extent, that the corresponding assumption 'X is gay' would be frequently used in future deductions that they are likely to make concerning this individual, regardless of whether this assumption is brought to the foreground of their attention by X again.

Furthermore, this proposal carries important implications for the directions in which the initial context at the beginning of interpretation can expand. In the case of extensions by going back in time then, an assumption that will have produced significant cognitive effects is likely to remain in the memory of the deductive device and be as easily accessible as other assumptions that have been more recently accessed. Similarly, in the addition to the context of encyclopaedic information that is unrelated to previous deductions, the more an assumption has affected an individual's cognitive representation, the easier it should be to retrieve from long-term memory. In this respect, it makes sense to suppose that even different chunks of information that make up a concept's encyclopaedic entry present different degrees

of manifestness to the individual at a given moment. So, for example, it might be easier for Mary to recall that osso-bucco is the speciality of the Capri restaurant, since it was there that Mary tried or loved this dish for the first time, than that the restaurant's chef is Algerian. Finally, in the case of perceptually constructed assumptions that can enter the context, the more they impinge on our cognitive environment, the easier they will be to focus on. For instance, given the sound of the fire alarm going off, in a situation where the washing machine is also banging in the background and the air purifier is humming, a remark of the type 'What is that noise?' would stereotypically locate the referent of 'that noise' in the sound produced by the fire alarm. Certainly, this would also be due to the fact that some noises pre-empt our attention, as it was noted in the previous chapter, but, given the evolutionary story endorsed by Sperber and Wilson, they admittedly do so because they are prone to produce large cognitive effects.

Having addressed how the technical notion of relevance as a balance of processing effort and cognitive effects affects the accessibility and therefore the degree of manifestness of an assumption to an individual, I will now turn to discuss how the communicative principle of relevance can also shed some light to the questions that underlie context selection. As I have suggested above, the cognitive principle of relevance provides compelling reasons to expect that, during comprehension, the hearer will expand the initial context following a path of least effort. In turn then, the communicative principle of relevance provides the explanation about when contextual extensions stop.

As Sperber and Wilson themselves argue, "whereas individual spontaneous cognitive activity aims at maximal relevance and may have no better way of doing so than a form of blind hill climbing (feel the terrain, choose a path that goes up but is not too rough), comprehension aims at a specific level of relevance indicated by the act of communication itself" (1996:532). Indeed, as I have already noted in the previous chapter, communication "raises and exploits definite expectations of relevance" (ibid), with most obvious the expectation that every utterance is optimally relevant. In this sense, the comprehension of an utterance is predicted to stop once the hearer's expectation of optimal relevance is satisfied; that is, once the hearer comes up with an interpretation that provides him with adequate cognitive effects to

substantiate the speaker's informative intention. Naturally, following the relevance-theoretic comprehension procedure, the hearer will test interpretive hypotheses along the way in order of accessibility, i.e. following a path of least effort. Therefore, since, in the relevance-theoretic account, context selection is suggested to be part of the comprehension process rather than a prerequisite to it, it seems reasonable to assume that the initial context will be correspondingly expanded up to the point where the hearer's expectation of relevance is satisfied. Indeed, as Sperber and Wilson discuss (1995:142),

> the assessment of relevance is not the goal of the comprehension process, but only a means to an end, the end being to maximise the relevance of any information being processed. If this is true, it suggests a complete reversal of the order of events in comprehension. It is not that first the context is determined, and then relevance is assessed. On the contrary, people hope that the assumption being processed is relevant (or else they would not bother to process it at all), and they try to select a context which will justify that hope: a context that will maximise relevance. In verbal comprehension in particular, it is relevance that is treated as given, and context which is treated as a variable.

It follows from this that an upper bound in the search for a relevance-enhancing context should be set by the fulfilment of the requirement for cognitive effects that will satisfy the hearer's expectation of optimal relevance. In this sense, in utterance interpretation, the context will always be extended up to the point where its union with the proposition expressed by the communicated utterance yields enough cognitive effects for the hearer to assume that he has constructed the speaker-intended meaning.

Conversely, the expansion of the initial context will also stop if the hearer's expectations of relevance are not satisfied, but abandoned instead; that is, once the hearer realises that an optimally relevant interpretation is impossible to construct. And as Sperber and Wilson suggest, the point where the hearer's expectations of relevance are abandoned is when a maximal accessible context, i.e. a context that, in view of its size, "cannot be extended further" (1995:287), is reached. Of course, there is no way of knowing exactly when this maximal context would be reached, but it should be reasonable to assume that it takes only a few milliseconds to reach it, as is obvious in familiar cases of miscommunication, which intuitively supports Sperber

and Wilson's further proposal that the memory of the deductive device should be realistically thought to have "a limited, indeed a rather small capacity, so that no extensions beyond that capacity are possible" (ibid).

4.2.2 Extending the existing account

Up to this point, I have presented the picture that I take Sperber and Wilson to have drawn regarding context selection. By gathering and elaborating on certain arguments that they have put forth in various places, I believe to have shown that the account they provide answers to a great extent the questions that arise by their proposal that contexts are effectively selected during interpretation. At this point, I would like to further assess their approach to context selection, complementing it with some arguments that could be added to this original picture.

A central question to which I will turn first has to do with the actual choices the hearer is called to effectively make in selecting a context for interpretation. Following the existing relevance-theoretic account, the determination of a context for interpretation is regarded to be genuinely a matter of choice at the hands of the hearer. In their argumentation in *Relevance*, Sperber and Wilson seem to suggest that when a newly communicated assumption *A* cannot establish its relevance in any of its accessible contexts, there is no need to expand the initial context. More specifically, in their discussion of six possible scenarios of ostensive communication, two of them suggest how this is possible (1995:143):

> (9) (a) *A* is already contained in (or implied by) the initial context, at maximal strength. Then the new token of *A* is irrelevant in this context, and in all the other accessible contexts too, since all these contexts include the initial context. In this situation there is no point in searching for relevance beyond the initial context, since this search will be unproductive.
> (b) *A* is contained in (or implied by) none of the accessible contexts; however *A* has no contextual effect in any of them either. Then again, *A* is irrelevant in all the accessible contexts, and there is no point in extending the initial context in the search for relevance.

A question that immediately arises at this point regards the way in which the hearer manages to determine that a contextual extension does not need to be made before he even processes the new assumption. And this is also a question that is put forth in the

criticism of the relevance-theoretic account of context selection by Chiappe and Kukla (1996:530):

> Consider the case where an assumption has no contextual effects in any of the accessible contexts. In this case, [Sperber and Wilson...] claim that there is no point in extending the context in order to search for relevance. But how does a person know that an assumption has no contextual effects in any of the accessible contexts without going through each of those contexts? No explanation is offered. Likewise where an assumption has some relevance in the initial context: S[perber] & W[ilson] claim that "an extension of the context will be justified as long as it yields greater contextual effects, and the increase in contextual effects is not outweighed by the increase in processing effort required" (1986: p.143). But how do people ever know that there is not some other context that will be more relevant than the one they possess at the moment? What prevents people from always searching for a better context?

Sperber and Wilson's reply to this criticism (1996) seems to suggest that the relevance-theoretic account of communication provides a straightforward answer to Chiappe and Kukla's questions. And indeed it does with respect to one of them: what essentially 'prevents people from always searching for a better context' during interpretation is the satisfaction of the presumption of optimal relevance that communicative stimuli invariably carry. However, the other question that Chiappe and Kukla pose still remains untouched: 'how does a person know that an assumption has no contextual effects in any of the accessible contexts without going through each of those contexts'? Consider the scenarios in (9). Admittedly, even though the current relevance-theoretic account of context selection can in principle refute Chiappe and Kukla's criticism in the case of (9a), it necessarily needs further argumentation regarding situations like (9b).

Hence, to take the scenario in (9a), when we are presented with a new assumption that cannot provide cognitive effects[9] as it is already contained in the initial context for interpretation, it is predicted that the mechanism for context selection would cease to operate. That is, of course, merely because the audience presented with this assumption would infer that it cannot establish any degree of relevance right from a first deduction involving only the initial context. Given that in this first deduction the hearer will have already figured that the new assumption is

[9] Not being able to provide any cognitive effect by definition means that its presentation cannot even strengthen its already existing counterpart in the initial context.

already there in the forefront of his attention he would automatically stop processing it. In all fairness, however, such a situation should be almost impossible in reality. And that is simply because in communication between rational agents it would be very hard for a communicator to present the hearer with a new assumption that carries no cognitive effect whatsoever on these grounds. Even if she did, the hearer would still at least try to derive from it some cognitive effects. Given the communicative principle of relevance, the hearer is always bound to automatically interpret every utterance as optimally relevant and, thus, should always try to connect it in some way to his cognitive representation. Therefore, even though in theory it is plausible to come across a new assumption that carries no such effect as it is already part of the initial context, the communication of such an assumption in practice would realistically involve some (even minimal) extension of the context, merely because the hearer, assuming that the speaker was rational in communicating this seemingly irrelevant assumption, would try to yield some new cognitive effect from it. Therefore, even in cases where the proposition expressed by an utterance yields no cognitive effect, other aspects of the communicative situation, like the very fact of utterance itself[10], can provide an array of weak implicatures, the construction of which would need at least some expansion of the initial context.

Regarding the situation in the scenario (9b) now, it can be argued that it is not only possible to present itself, but also rather likely to occur in everyday communication. Given that the speaker might have produced an utterance for which the hearer cannot establish relevance in any of his accessible contexts, can it be that he will stop processing it, as he is predicted to by Sperber and Wilson? It seems to me that Chiappe and Kukla are justified in wondering this in this setting. Even though I believe that Sperber and Wilson's discussion that is cited in (9) was not intended to mirror the on-line process of context selection in this specific case, I sympathise with Chiappe and Kukla in that it can be interpreted as discussing just that. In this respect, it seems to me equally paradoxical to suppose that if a new assumption can have no contextual effect in any of the hearer's accessible contexts[11], the hearer can have any reason to stop processing it like he would any other newly

[10] A case in point here would involve instances of phatic communication (for discussion, see Žegarac 1998, Žegarac & Clark 1999)

[11] but that is not because it is already there in the immediately given context.

impinging assumption. And especially if this new assumption was ostensively communicated in the relevance-theoretic sense, such a disruption of processing would essentially constitute a direct violation of the communicative principle of relevance. Given then the automatic manner in which this principle applies to ostensive stimuli, such a violation cannot occur.

In my view, the situation that (9b) describes customarily arises in many familiar cases of miscommunication. Even though it was not originally connected to this specific discussion, Blakemore's citation that follows provides an excellent example of such cases, which customarily occur (1987:49)

> when we consider the kind of response typically made by hearers who have failed to grasp the relevance of a remark – 'So what?' or perhaps just 'So?'. Such a response indicates that although the hearer has grasped the content of the utterance [...]he cannot see what it implies, and, moreover, that [...]he believes that [...]he is expected to derive some implications. [His...] problem, then, is that [...]he has not been able to access information that [...]he can combine with the newly presented information for the application of a synthetic rule [that will provide him with contextual implications].

In such cases, it seems straightforward that the hearer of an utterance will make such a comment only after he has already tried to comprehend it, as, under the communicative principle of utterance, he automatically computes every ostensive stimulus as optimally relevant. This essentially means that the hearer has no choice but to compute each utterance in the same way up to the point where his expectation of optimal relevance is satisfied or abandoned. In this sense, all the mechanisms involved in the comprehension process, including the mechanism for context selection, will be functioning as normal even if the expectation of relevance is not fulfilled due to the lack of a context in which the new assumption can provide a cognitive effect.

In the current setting then, it can be argued that even though in verbal communication the search for a context necessarily stops when the expectation of optimal relevance is satisfied or abandoned, this does not imply that the actual way in which consecutive expansions of context take place is a matter of conscious choice for the hearer. Therefore, much like in every other 'spontaneous cognitive activity', in utterance interpretation, the search for a context that will 'justify the hope that the

utterance under processing is optimally relevant', also progresses in the form of 'blind hill climbing' in the first place. What changes in verbal communication is not the way in which the context is extended, but rather the expected outcome of these extensions, i.e. the satisfaction of the presumption of optimal relevance. The account I propose here then suggests that, in line with the communicative principle of relevance, the hearer has no choice but to compute every communicated utterance in the prescribed way, necessarily extending the context in search for cognitive effects. And from this perspective, the answer to Chiappe and Kukla's question would be that, since the hearer cannot *a priori* 'know that an assumption has no contextual effects in any of the accessible contexts', he has to 'go through each of those contexts', following a path of least effort, before he realises that his expectation of optimal relevance cannot be satisfied.

Does this mean, however, that actual context selection processes during utterance interpretation cannot be approached in a more straightforward manner than the corresponding processes that mediate other spontaneous cognitive activities? Such a conclusion would be undesirable for the relevance-theoretic framework, since, as I have underlined above, it rightly condemns the idea that "encyclopaedic extensions are automatically made for every concept and in every case", and instead proposes that "such extensions take place when they appear to be needed – and only then" (Sperber & Wilson 1995:140-141). In this respect, Relevance Theory is crucially expected to provide some explanation as to how, given the existence of various potential extensions derivable from an initial context, the hearer chooses the one(s) that he will actually employ in the interpretation of an utterance.

One first step towards this explanation can be taken within the existing relevance-theoretic account of context selection. Consider the following version of the verbal exchange between Mary and Peter (after Sperber & Wilson 1995:145-146):

(10) *Mary*: What I would like to eat tonight is an osso-bucco.
Peter: I had a long day. I'm tired.

As Sperber and Wilson discuss, after interpreting Peter's remark, Mary can be assumed to have in the memory of her deductive device an initial context comprising

at least the following three assumptions[12]:

(11) (a) Peter is tired.
(the assumption expressed by Peter's utterance)
(b) If Peter is tired, he wishes Mary would make the dinner.
(a premise used in deriving the contextual implication in c)
(c) Peter wishes Mary would make the dinner.
(the contextual implication of Peter's utterance)

In this setting, Mary could extend this initial context by adding to it certain chunks of information such as:

Chunk 1. Encyclopaedic information about Peter, including the assumption, *Peter is a surgeon.*
Chunk 2. Encyclopaedic information about Mary.
Chunk 3. Encyclopaedic information about making dinner, including a scenario of looking in the refrigerator to see what is available, and the assumption, *A dinner consists of at least a main course and a dessert.*
Chunk 4. Information about the currently monitored physical environment.
Chunk 5. Assumptions processed at earlier stages in the exchange, including: *Mary would like to eat osso-bucco.*

These chunks would be accessible in one step from the initial context. Correspondingly, each of them involved in the extension of the initial context would then make certain further extensions more accessible in turn. So, if chunk 1 was included in the extended context it would make chunk 6 more accessible, in the same way as chunk 3 would make chunk 7 and chunk 5 chunk 8 more accessible for the subsequent expansion of the context:

Chunk 6. Encyclopaedic information about surgery.
Chunk 7. What Mary remembers of what there is in the refrigerator, including the assumption, *There is chocolate mousse in the refrigerator.*
Chunk 8. Encyclopaedic information about osso-bucco, including the two assumptions, *An osso-bucco is a main course* and *An osso-bucco is a veal dish.*

In this sense, chunks 6, 7 and 8 are accessible in two steps from the initial context. These can in turn make certain further chunks of encyclopaedic information more accessible for a third step expansion of the initial context. For example, chunk 6 could make chunk 9 more accessible, as chunk 7 would chunk 10:

[12] Naturally, this discussion may "not come near the complexities of real-life information processing" (Sperber & Wilson 1995:145), but again it should suffice for my current purposes here.

Chunk 9. Encyclopaedic information about coronary bypass, including the assumption, *Performing a coronary bypass is exhausting.*

Chunk 10. Encyclopaedic information about chocolate mousse, including the assumption, *A chocolate mousse is a dessert.*

Up to this point, we have assumed that at the beginning of the comprehension process there is some initial context, which along with the content of the new communicative stimulus at hand, determines the inclusion relation among further accessible contexts. However, what seems to directly follow from the discussion of the above example is that the original inclusion relation of potentially accessible contexts is constantly updated with every contextual expansion that takes place. In this respect, much like the initial context affects the accessibility of potential extensions in a way that determines the processing effort involved in their construction, so do the contexts arrived at in the second or third step of the derivation affect on their own the accessibility of information that can be utilised in subsequent expansions. This argument is of course akin to the one that Sperber and Wilson present regarding the sequential order in which interpretative hypotheses are tested during utterance comprehension (1995:166-170). In this respect, a crucial proposal of Relevance Theory is that "the order in which [interpretive] hypotheses are tested affects their relevance" (Sperber & Wilson 1995:167). In this sense, it seems reasonable to suppose that interpretive hypotheses are tested on-line in a time linear manner, which suggests that "by extending the [initial] context, radically different [interpretive] hypotheses may become accessible" (ibid). Correspondingly then, since the mechanism for context selection is assumed to take part in the comprehension process itself, it follows that with each expansion of the initial context, radically different subsequent expansions become more accessible as well.

In my view, however, the most crucial way in which the relevance-theoretic approach can account for the selection of specific contextual expansions over competing ones is through the manipulation of the hearer's expectations of relevance themselves. As Sperber and Wilson crucially argue in their account, for communication to take place, an ostensive stimulus need not only attract and focus the attention of the audience on the communicator's intentions, but also crucially "*reveal* the communicator's intentions" as well (1995:154, emphasis in original). Let

us briefly see how this is possible, given that, as I noted in the previous chapter, an ostensive stimulus displays evidence that bears "only indirectly on the basic layer of information that the communicator intends to make manifest" (Sperber & Wilson 1995:53). Following the communicative principle of relevance, the hearer of an ostensively communicated utterance is always expected to take for granted that this utterance will be optimally relevant for him; that is, to automatically assume that the speaker has produced an utterance that is both 'relevant enough to be worth his attention' and 'the most relevant one compatible with her abilities and preferences'. What this effectively suggests is that the responsibility for guaranteeing that the hearer will construct the speaker-intended meaning by following a path of least effort essentially lies with the speaker. As Sperber and Wilson correspondingly argue (1995:43),

> it is left to the communicator to make correct assumptions about the codes and contextual information that the audience will have accessible and be likely to use in the comprehension process. The responsibility for avoiding misunderstandings also lies with the speaker, so that all the hearer has to do is go ahead and use whatever code and contextual information come most easily to hand.

Against this background, the communicative principle of relevance seems to be derived from the observation that the addressee automatically assumes that "the communicator is communicating rationally; that is, that she has good reason to think that the stimulus she is producing will have the intended effects" (Sperber & Wilson 1995:165). And it is exactly in this way that the communicative stimulus in most cases manages to 'reveal her intentions', as by processing it, following the relevance-theoretic comprehension procedure, "the addressee naturally obtains direct evidence for or against the presumption that it is optimally relevant" (Sperber & Wilson 1995:164-165). Therefore, by having an expectation of optimal relevance, the hearer has evidence that an ostensively communicated utterance will be planned by the speaker in a way that it will effortlessly lead him to her intended meaning.

In this respect, the hearer will always expand the initial context following the path of least effort, as he will assume that the speaker will have foreseen what sort of contextual assumptions will be – or at least become – more manifest to him during the comprehension process. Thus, given the inclusion relation between potential

contexts that is updated every step of the way, he will not need to go through every possible extension to arrive at an interpretation, but rather automatically follow the path of least effort in selecting a particular route for context expansion.

In my view, it makes much sense to place the burden of successful communication on the speaker in this way. For example, it would be nonsensical for me to communicate to my father the utterance: 'Every act of ostensive communication communicates a presumption of its optimal relevance', if I have not explained to him what Relevance Theory is about and how ostension and optimal relevance are to be interpreted. That is because, in his current cognitive environment he has no contextual assumption about Relevance Theory whatsoever[13] in which to process my utterance. Accordingly, it would be equally nonsensical for me to start speaking in French to him, as I have evidence that he does not understand it. Even if I were to act irrationally, in both cases, the presumption of optimal relevance would of course automatically trigger my father's inferential abilities, but lacking a context in which to process my first utterance and being unable to identify a semantic representation for my second one, it is certain that my communicative attempt would fail miserably.

Against this background, there is a sense in which the confidence of the speaker that the utterance she will produce will be relevant for the hearer in an easily accessible context is many times justified. That is essentially because on several occasions we "interpret a piece of discourse in terms of cognitive processes dynamically unfolding through time" (Chafe 1987:48, in Wilson 1998:70). It should be pretty straightforward that often the situation in which we are called to produce an utterance guarantees that certain background assumptions will be or at least become more manifest to our hearer. For example, consider Peter calling his friend John at home, and his wife, Mary, answering the phone:

(12) *Peter*: Hello Mary. Can I speak to John?

In this case for Mary to act rationally her subsequent utterance should respond to Peter's question. Therefore Mary can go on and plan her utterance with confidence that Peter has a pretty specific expectation of cognitive effects. Along these lines,

[13] other than that I am studying it.

suppose that Mary's utterance is something like (13):

(13) *Mary*: He's taking a bath.

With respect to (13), two points can be made. On the one hand, if it was uttered in isolation, Peter might not be able not only to identify the referent of the pronoun 'he', but also and more crucially fail to establish the relevance of Mary's utterance to him, as he would most likely not manage to select any context in its union with which Mary's utterance would yield some contextual implication for him. On the other hand, in the specific situation of answering Peter's question, Mary's utterance in (13) might not be as effortless to compute as a simple 'No' answer, but the extra effort it requires in its interpretation is offset by the richer cognitive effects that it helps Peter derive. That is because she does not only provide an answer to Peter's question, but also gives him a reason why John cannot speak on the phone. In this sense, Peter accesses certain contextual assumptions that are implicated by Mary's utterance about taking a bath that might not have been directly accessible prior to this utterance, but which allow Peter to derive the expected effects. And it is crucially Mary's utterance along with the presumption of optimal relevance that leads him to extend his initial context in this way rather than in any other possible one. Therefore, as Wilson and Matsui, following Sperber and Wilson (1998), discuss (1998:193, emphasis my own),

> an individual who has specific expectations of cognitive effects should pay attention to stimuli in his environment which are likely to yield these effects, whether or not these stimuli are intrinsically salient. Similarly, *retrieval mechanisms may search for background assumptions that are not otherwise highly accessible, but which may allow the derivation of the expected effects*. Thus, expectations of cognitive effect may alter the accessibility of candidate interpretations.

What this example effectively shows then is that, in everyday communication, a speaker will many times have a good idea of what cognitive effects the hearer is after and, thus, will plan her utterance accordingly, enabling, in this way, the hearer to 'go ahead and use whatever contextual information comes most easily to hand'.

With respect to such cases, it seems that the "process of anticipating questions, hence where relevance lies for an interlocutor, seems to be a very common

practice among speakers" (Carston 2002a:146). Indeed, this argument can hardly be seen as an exception in our communicative practices. What is more, it can be argued that there is a more general cognitive reason why this is so. According to Carston, there is "overwhelming evidence[14] that in our striving to achieve a satisfactory understanding of events in the world we very much go in for organising our interpretations in terms of cause-consequence relations" (2002a:237). And this cognitive tendency has a direct effect on the way in which we communicate. As Matsui notes, following Carston, it seems likely that when "we receive a new piece of information, P, typically, we construct an assumption schema [of the type] 'P because _____'" (Matsui 2001:253). By manipulating such assumption schemas then, speakers manage to rationally plan their utterances so that they produce the desired cognitive effects to the hearer.

However, even such more specific expectations of relevance with respect to particular cognitive effects can be still overridden by the presumption of optimal relevance. This much is evident through the massive research that has been conducted from the relevance-theoretic perspective in the area of discourse connectivity and which I will necessarily only briefly discuss here (e.g. Blass 1986, 1990, Blakemore 1987, 1988, 2002, Unger 1996, 2002, 2006, Rouchota 1998, Wilson 1998, Wilson & Matsui 1998).

In the overall literature on discourse analysis, there seems to be a relative consensus surrounding the idea that "the elements of a well-formed discourse are bound together by principles of connectivity of textual unity[15]" (Blakemore 1988:231). In this respect, most research in this domain almost univocally makes use

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[14] As Carston discusses (2002a:237-238), this evidence is provided from a number of sources, like 'attribution theory' (e.g. Kelley 1972), which assumes that humans customarily infer causes for the effects they attend to, including causes for specific instances of human behaviour, or studies of text comprehension (e.g. Schank 1975, Keenan et.al. 1984, Myers et.al. 1987, Singer 1994, Noordman & Vonk 1998), which underline the importance of inferring causal assumptions in the understanding of a text as a coherent whole. Similarly, Tversky and Kahneman (1982) demonstrate that in making 'judgements under uncertainty' people easily derive causal accounts for unpredictable outcomes, while in Mental Models theory there are a number of experiments suggesting that the coherence of a discourse is directly affected by the simplicity of the mental model that is constructed in relation to it (e.g. Ehrlich & Johnson-Laird 1982, Garnham et.al. 1982, Oakhill & Garnham 1985), with single models of a spatial layout being easier to remember than models with indeterminate spatial layouts (Mani & Johnson-Laird 1982).

[15] even though the specific ways in which many researchers approach this issue vary significantly (e.g. Halliday & Hasan 1976, Van Dijk 1977, Hobbs 1979, Reinhart 1981, 1984, Samet & Schank 1984, Giora 1985a, 1998, Grosz & Sidner 1986, Mann & Thompson 1988, Caenepeel 1995).

of some set of *coherence* relations, such as the cause-consequence relation that I noted above, that are hypothesised to connect utterances in a discourse or text by attributing to them some sort of topic continuity[16]. In this sense, the speaker can be confident that the contextual assumptions that relate to the topic of discourse will be present in the initial context at the mind of the hearer or be easily accessible thereof. Even in these cases, however, it can be shown that the expectation of optimal relevance overrides any notion of topic continuity in the discussion of discourse well-formedness.

Consider the verbal exchange in (14), where Mary's utterance is obviously not topic-preserving (after Blass 1990:75):

(14) *Peter*: Tomatoes have been cheap this year, haven't they?
Mary: Look who's coming.
Peter: Tony! Well I never.

Even though exchanges along these lines are pretty common in everyday discourse, they are clearly problematic for coherence-based approaches, since there is intuitively no connection between Peter's question and Mary's remark. From the relevance-theoretic perspective, however, there is a genuine explanation as to why such conversations can actually take place. In this respect, the presumption of optimal relevance which ostensive utterances automatically communicate may customarily allow for topic-preserving relations to exist between successive utterances, but it certainly does not make them necessary for the well-formedness of a discourse. In this sense, in order for an utterance to be deemed acceptable by the hearer, all it needs to satisfy is his expectation of optimal relevance; that is, that it can provide large cognitive effects without too much processing effort expenditure. Examples like (14) show that topics can be changed without this necessarily affecting the hearer's acceptability of a topic-altering utterance, so long as the context in which the speaker intends the hearer to interpret it is easily accessible to him.

I believe that this discussion clearly shows that the burden of ensuring

[16] Corresponding arguments seem to lie at the heart of approaches like Context Change Semantics (e.g. Heim 1982) and Discourse Representation Theory (e.g. Kamp 1981, Kamp & Reyle 1993), especially its variant of Segmented Discourse Representation Theory (e.g. Lascarides & Asher 1993, Asher & Lascarides 1995, 1998, 2003). However, due to space restrictions I will not deal with them here.

successful communication falls squarely on the speaker. If that were not the case, the path of least effort would not provide the hearer with an automatic heuristic for recovering the speaker's informative intention and thus hearers would not automatically interpret utterances like Mary's in (14) as optimally relevant, as they would need to override the immediately given context at the beginning of the comprehension process. A question that immediately arises at this point then, is how the speaker can be so confident that certain contextual assumptions will be or at least become more manifest to the hearer during the interpretation process. Given that our everyday communication is customarily successful, we are seemingly very efficient in producing utterances whose informative effect will be easily constructed in the context we hypothesise our hearers will use.

According to Sperber and Wilson, as speakers, we are normally successful in assuming what information will be manifest to our audience because "we manifestly share cognitive environments with other people", which on its own gives us "direct evidence about what is manifest to them" (1995:45). Along the same lines (ibid),

> from assumptions about what is manifest to other people, and in particular about what is strongly manifest to them, we are in a position to derive further, though necessarily weaker, assumptions about what assumptions they are actually making. From assumptions about what is mutually manifest to all of us, we are in a position to derive further, and weaker, assumptions about the assumptions they attribute to us.

What I wish to argue in the remainder of this chapter is that this argument is not enough on its own to explain how as speakers we are pervasively successful in attributing assumptions to our hearers. It may well be true that by manifestly sharing cognitive environments with our peers, we are able to derive what assumptions are mutually manifest to both us and them, but I do not see how we can in this way solidly predict what assumptions will be relatively more manifest to our hearers at a given moment, and, thus, more likely to be included in their context for interpretation of a particular utterance we may produce.

With respect to this issue, what Relevance Theory does well as it stands is provide a psychologically realistic account of information sharedness that is necessary for communication to succeed. Indeed, as I also noted in the previous chapter, according to Sperber and Wilson, "some sharing of information is necessary,

if communication is to be achieved" (Sperber & Wilson 1995:38). And, as I have discussed there, while this sharing of information has been traditionally safeguarded through the employment of an unrealistic notion of mutual knowledge (e.g. Stalnaker 1972, 1974, 1999, 2002, Clark & Carlson 1981, Clark 1992, 1996), Relevance Theory counter-proposes that it should be approached under the rubric of mutual manifestness. Crucially then, by being only mutually manifest, in contrast to mutually known or believed in, the assumptions that will effectively make up the context for the utterance's comprehension do not need to be already available[17] in the hearer's memory prior to his engaging in the interpretation of an utterance. This is a point that significantly enhances the plausibility of the notion of mutual manifestness in replacing mutual knowledge as a basis for the establishment of information sharedness between interlocutors. Without necessarily being already believed in, and *a fortiori* known, by the hearer, the contextual assumptions that he brings to bear during the interpretation process need only be manifest to him, in the sense that he can create a mental representation of some of them on the spot. In this respect, the relevance-theoretic construct of manifestness can straightforwardly account for the cases where contextual assumptions that are not already present in the memory of the hearer are constructed on the fly during the interpretation of an utterance[18].

What follows from the above discussion is that for communication between rational agents to be successful, the context for comprehension should not only belong to the cognitive environment of the hearer, but also to the mutual cognitive environment of both interlocutors. This creates a basic constraint in the selection of

[17] either by being already represented in the individual's memory, or by being deduced from already represented information.

[18] With respect to the fact that contexts are selected during the interpretation process and not in advance of it, it seems reasonable to assume that certain contextual assumptions – that is, implicated premises – might be recovered on-line, given the confidence of the speaker that the hearer will be able to construct them. This realisation should have direct implications for the treatment of *presuppositions*, as "particular assumptions that manifestly have to be recovered from the cognitive environment in order to function as part of the immediate context for the interpretation of material asserted in the present utterance" (Wedgwood 2005:105, see also Simons 2005), in the relevance-theoretic account. However, given the breadth and scope of such a theoretical enterprise, I will not attempt it at this point, as it would ideally have to at least incorporate, among other things, the arguments regarding the variation in strength of implicated premises, as well as the considerable amount of research that has been pursued in the more general discussion of notions such as 'focus' and 'topic' from a relevance-theoretic perspective (e.g. Wilson & Sperber 1979a, Sperber & Wilson 1986/1995, Matsui 1993, Breheny 1998, Wedgwood 2005, 2006, 2007a, Kempson et.al. 2006), Even so, I believe that a relevance-theoretic treatment of presupposition would complement the current account of context selection in important ways, and thus take this to be a fruitful topic for future research stemming from this thesis.

contexts. Given the inclusion relation that is available to the hearer and constantly updated with every extension of the initial context, the speaker should produce an utterance, the interpretation of which will require a context that is mutually manifest and easily accessible to both her and the speaker. Indeed, as I have shown, if the speaker produces an utterance the context for the interpretation of which is not manifest to the hearer, communication will miserably fail. Accordingly, if the hearer includes in his interpretation a contextual assumption that is not manifest to the speaker and, thus, could not have been foreseen by her, then the cognitive effects that the hearer will deduce from the union of this assumption with the utterance will not mirror the speaker's informative intention, which is again undesirable for successful communication to take place. Therefore, it seems that the speaker carries an overwhelming responsibility in ensuring that her intended context is both mutually manifest to her and the hearer as well as more manifest than competing contexts to the hearer. Against this background, the most straightforward way to address the process by which the speaker's judgements about mutual manifestness actually take place in the current relevance-theoretic account would be to suggest that, before uttering a sentence, the speaker will have established the mutual manifestness of the contextual extensions that the hearer will most likely pursue in his interpretation. Correspondingly then, the hearer would go on extending the initial context without needing to worry whether the extensions he pursues are mutually manifest to both him and the speaker.

However, there is certain experimental evidence indicating that judgements about information sharedness are not actually made in this way. In a series of papers, Keysar and his colleagues (e.g. Keysar 1994, 1997, 2000, Horton & Keysar 1996, Keysar et.al. 1998a, 1998b, 2000, Keysar & Horton 1998, Barr & Keysar 2002, 2005, 2006, Keysar & Henly 2002, Epley, Keysar, Van Boven & Gilovich 2004, Epley, Morewedge & Keysar 2004) have shown that both speakers and hearers are pretty *egocentric* during language production and interpretation. In this setting, the mental operations that are involved in the establishment of some information's mutuality, as is required in our account of context selection, seem to indicate a rather counterintuitive strategy: "people adopt others' perspectives by serially adjusting from their own" (Epley, Keysar, Van Boven & Gilovich 2004:327). What this

suggests is that, in interpreting utterances, hearers are egocentrically biased, first computing interpretive hypotheses that are available to themselves without worrying whether these are available to the speaker in a way that he could have intended to communicate them. For example, eye movement experiments have indicated that when instructed to manipulate objects, "people do not restrict the search for referents to mutually known objects" (Keysar et.al. 2000:32), but can easily in the first instance consider as potential referents objects that the speaker cannot even see. Naturally, this provides hard evidence for the relevance-theoretic assumption that hearers follow a path of least effort, assuming that the speaker will have foreseen all the contextual assumptions that they will bring to the foreground of their processing[19].

However, the same experimental evidence additionally shows that speakers also customarily "underestimate the ambiguity of their own utterances and overestimate the extent to which their disambiguating cues make their intention transparent" for the hearer (Keysar & Henly 2002: 207). Therefore, from this perspective, we are equally confident as speakers, as we are as hearers, that our choice of code and context will easily lead our audience to our intended-meaning. What Keysar's research overall suggests is that our evidence about mutual manifestness is not directly employed in the first instance of selecting a context in which to produce or interpret an utterance, but rather *post hoc*, after an egocentric context has been selected for our purposes.

Against this background, it seems unlikely that if we only take Sperber and Wilson's argument about manifestly sharing cognitive environments with other people, we can be as confident as we usually are in producing utterances. Following merely this argument it seems that in order to produce a single utterance, a speaker would need to go through a rather long train of thought about not only the assumptions that are manifest to the hearer or the ones that are mutually manifest to

[19] Interestingly, Keysar's account shows that hearers also perform checks about the sharedness of information that they come up with during their egocentric interpretation. Naturally, I do not take this to confute the relevance-theoretic account offered above, as I believe that even though Sperber and Wilson do suggest that hearers 'go ahead and use whatever code and contextual information come most easily to hand', this does not necessarily mean that they do not perform checks about mutuality of manifestness at all. After all, when they arrive at some cognitive effect, they do need to somehow minimally make sure that it was actually speaker-intended.

both her and the hearer, but also the assumptions that the hearer is more likely to actually make on his own or attribute to her. And even if that were standard procedure for the production of an utterance, how would the speaker be confident enough about the contextual assumptions that are or can become more manifest to the hearer without requiring too much processing effort expenditure? In this respect, while planning her utterance, the speaker had better weigh the evidence she has for the conclusions she draws about the manifestness of particular assumptions to the hearer, if she wants her informative intention to be easily recognised. Evidently, for the relevance-theoretic comprehension procedure to evolve into the heuristic of a dedicated comprehension module, our corresponding ability as speakers to predict the contexts in which hearers will interpret our utterances must have been equally prosperous during our evolution as a species. And given the ease with which we are generally able to communicate and the speed at which everyday communication customarily takes place, it seems that there should be some natural tendency that enables us to spontaneously identify our manifestly shared cognitive environments with other people as efficiently as we do. That is why in the next chapter I will entertain the possibility that we actually have an innate predisposition to align our perspective with that of our peers and that is how we swiftly produce utterances that our hearers can interpret without worrying about the mutual manifestness of our intended context all that much.

Chapter Five

Coordinating mental content

In the previous chapter, I noted that, in the existing relevance-theoretic account, the mutual manifestness of the contextual assumptions employed by the speaker and the hearer in the production and interpretation of utterances respectively is safeguarded by the hypothesis that, acting rationally, the speaker will have planned and produced an utterance, the context for the comprehension of which she is confident to be (or at least become) manifest to the hearer as well. In this sense, I pursued an approach to context selection based on the idea that the expectation of optimal relevance with which utterances are communicated subsumes an expectation that the context in which the utterance is to be interpreted will be easily constructed by the hearer and thus that it will consist of assumptions that are not only manifest to the speaker, but taken by her to be mutually manifest to both herself and the hearer.

However, towards the end of the chapter, I provided certain experimental evidence which shows that speakers do not go through long trains of thought in establishing the mutual manifestness of their intended contexts, which seems to pose a problem for the existing relevance-theoretic account that takes comprehension to have evolved to be automatically guided by the presumption of optimal relevance. In this chapter, I will attempt to reinstate the communicative principle of relevance by suggesting that speakers grow to be so fast and efficient in making correct judgments about manifestness and mutual manifestness, because all humans have a natural tendency to align their perspectives about the world. Naturally, this seems to me to be a viable possibility merely because, much like interpretation, the production of utterances also happens spontaneously with minimal conscious effort from the part of the speaker.

This essentially makes this chapter more of an interlude that aims to connect my previous discussion of context selection with the one of semantic content that will follow in the next chapter. More specifically, what I want to show here is that even though accounts of mutual knowledge, which guarantee an identity in the

mental contents of interlocutors, are psychologically unrealistic, this does not mean that there cannot be a genuine explanation as to how speakers and hearers still manage to communicate successfully in most cases. And this explanation can be provided by examining how, under normal circumstances, all human beings can be seen to have an innate predisposition to coordinate their mental contents, especially since these contents should be realistically viewed as highly individualistic. With respect to the previous chapter then, through my present discussion I aim to show how people can be thought to have a natural tendency to align their contextual assumptions, and how, given their different experiences, their assumptions about the world still manage to remain similar enough among them so as to make successful communication possible. Regarding the following chapter, my argumentation here aims at providing the basis upon which I will propose that a lexical item's semantic content need not be thought to be identical among individuals for successful communication to take place.

5.1 The human mindreading ability

To begin with, it should be pretty straightforward that in order for us to attribute certain assumptions to others or for them to attribute certain assumptions to us, we ultimately need to be able to entertain metarepresentations, i.e. mental representations about mental representations, of the following kind (after Sperber 2000:117):

(1) Peter thinks that Mary said that it is implausible that pigs fly.

Indeed, as Sperber notes, following the general literature on the topic, humans are not only pretty unique in their metarepresentational ability, in contrast to other animals[1], but also massive users of metarepresentations, since they "can no more refrain from attributing intentions than they can from batting their eyelids" (1994b:187). In this setting, our unique ability for inferential communication can be

[1] This does not mean that other animals completely lack a metarepresentational ability, but rather that they "are metarepresentational only in a rudimentary way", since they can "only metarepresent a short and fixed list of representations" (Sperber 2000:118, see also Premack & Woodruff 1978, Premack 1988, Tomasello & Call 1997, Heyes 1998, Tomasello et.al. 2003, Hare & Tomasello 2005, among others).

seen as a direct outcome of our equally unique ability to entertain metarepresentations. Accordingly, it can be maintained that, from an evolutionary perspective, our metarepresentational ability may have evolved on its own (e.g. Byrne & Whiten 1988, Whiten & Byrne 1997), irrespective of our ability for inferential communication or other related cognitive skills that it is thought to underlie. As Sperber discusses (2000:123),

> the ability to interpret the behavior of intelligent conspecifics not just as bodily movement but as action guided by beliefs and desires gives one a much-enhanced predictive power. Predicting the behavior of others helps to protect oneself from them, to compete successfully with them, to exploit them, or to co-operate more profitably with them. A metarepresentational ability is a plausible adaptation quite independently of communication.

As I have already suggested in the third chapter, ostensive-inferential communication crucially depends on our ability to understand others' intentionality, by means of attributing to them intentions that crucially enable us to interpret their behaviour as 'action guided by beliefs and desires'. By following the evolutionary scenario suggested by Sperber now, we can gain an important insight about the significance of intentionality in our evolution as a species; we are led closer to understanding how attributing intentions is an intrinsic part of our unique capacity for general inferential communication and as a result for linguistic communication as well.

From this evolutionary perspective, it should be pretty obvious how our ability to engage in inferential communication can be seen as a result of natural selection processes which exploited our metarepresentational ability at the communicative level. In this respect, it seems reasonable to assume, alongside Wilson and Sperber, that "just as children do not have to learn their language but come with a substantial innate endowment, so they do not have to learn what ostensive-inferential communication is, but come with a substantial innate endowment" (2004:625), which is again a result of these natural selection processes – an idea which I also underlined when I presented the relevance-theoretic modular approach to pragmatics in the third chapter. Even so, one important issue that I wish to address in this context, has to do with "the age and [the...] stages [through which...] metarepresentational abilities develop" (Sperber 1994b:187).

In this respect, relevance theorists seem to take up the developmental

hypothesis that is put forth by Sperber (1994b) and, according to which, three increasingly sophisticated interpretive strategies, each making use of extra layers of metarepresentation, are proposed to be used by individuals at different stages of their cognitive development. To begin with, a hearer can be *naively optimistic*, in the sense that he will not need to metarepresent the speaker's thoughts in deriving her intended meaning. Therefore, he will accept the first interpretation that comes to mind to be the intended one. A characteristic example of naïve optimism can be found in young children, who "easily believe that one is talking about what happens to be foremost in their mind (and conversely that what they want to talk about is foremost in the minds of their listeners)" (Sperber 1994b:191). Then, a more powerful interpretive strategy involves *cautiously optimistic* hearers, who are able to consider what meaning the speaker might have intended them to construct, at the cost of an extra layer of metarepresentation. Finally, the most powerful strategy involves an additional layer of metarepresentation. A hearer using the strategy of *sophisticated understanding* is capable of considering even more complex thoughts that typically make use of fourth-order metarepresentations. So, if Mary, getting Peter's attention, is overtly pretending to fall asleep, Peter is able, by means of sophisticated understanding, to entertain the metarepresentation in (2) (after Sperber 1994b:195):

> (2) She intends me to know that she intends me to believe that it is time to go home.

In this way, Peter, as most adult speakers, is able to not only consider which interpretation the speaker has intended him to construct, but also whether this interpretation is deceptive, yet seemingly relevant to him, as he can metarepresent Mary's thoughts about his thoughts.

Regarding this developmental story that can be linked with the gradual enhancement of the interpretive strategies we can use, Wilson discusses (2000:423):

> These strategies have implications for the development of the metacommunicative ability. A child starting out as a Naive Optimist should make characteristic mistakes in comprehension (in disambiguation and reference assignment, for example), and there is some experimental evidence for this (Bezuidenhout and Sroda [...] 1998). Roughly speaking, the move from Naive Optimism to

> Cautious Optimism coincides with the acquisition of first-order 'theory of mind'.

It seems then that the developmental pattern endorsed by Sperber and Wilson suggests a straightforward way in which the attribution of intentions precedes the ability for linguistic communication, in a picture that contrasts with much of the current research, which assumes that "the ability to attribute beliefs and intentions appears well after the development of rich verbal abilities" (Sperber 1994b:187). Even though more sophisticated interpretive strategies appear at a later stage, the scenario for naïve optimism can successfully cover periods of a child's life that come before his/her acquisition of language.

With respect to the current account now, in order to establish the argument that our ability to implement our understanding of others' intentionality in our production of utterances gradually becomes fast and mechanistic during our cognitive development, I will try to complement the relevance-theoretic proposal that I presented above with some further experimental evidence. Therefore, following a vast amount of research, discussions that customarily appear under the theoretical rubric of *joint attention* generally point to the direction that we tend to align our attention with other people. Against this background, it is well documented that this tendency appears very early in our cognitive development (Yazbek & D'Entremont 2006:589):

> In the first year of life, infants make remarkable strides in the area of social cognition. More specifically, by the ninth month, infants begin to alternate looks between an adult and objects, use communicative gestures to direct adult attention and follow an adult's line of gaze or pointing towards an object. These achievements are among the first overt acts that permit inferences about the sharing of attention, and collectively, are termed joint attention.

Even though the ability to coordinate gaze is not unique to humans (e.g. Chance & Jolly 1970, Emery 2000), Tomasello (1999a) argues that "in no other species is the inclination to share affect and to communicate about things by showing and offering them and by engaging in joint attention behaviour as strong as it is in humans" (in Striano & Bertin 2005:781). In this respect, joint attention practices, much like our ability to metarepresent, are taken to directly affect certain skills that are largely

unique to humans, such as the usage of language as well as the ability for a highly developed 'theory of mind' (e.g. Baldwin 1993, Carpenter et.al. 1998, Tomasello 1998, Malle 2002). And evidence from the observation of impaired subjects indeed supports this view. More specifically, Baron-Cohen (1993) argues that children with autism show corresponding impairment in both joint engagement and language abilities, while Ingsholt (2002) suggests that joint attention is more difficult to acquire and acquired differently by blind children, which I believe correspondingly causes their acquisition of language to occur at a slower rate, as it has been observed to "follow[...] a different route, [with blind children...] exploiting other resources to a greater extent than sighted children" (Pérez-Pereira & Conti-Ramsden 1999:67).

Furthermore, the collective research on joint attention seems to suggest that, under normal circumstances, "the very ability to attend with others is [...] founded on an innate and developing understanding of others' intentionality, that is, an understanding as to what, out of a host of possibilities, another is attending to and, most essentially, for what purposes" (Kidwell & Zimmerman 2007:594, see also Bruner 1995, Tomasello 1999a, Jones & Zimmerman 2003). In this respect, joint attention helps address not only our ability to merely follow the gaze of others but also, and more crucially, our ability to view the behaviour of others as intentionally-driven. As Kaplan and Hafner discuss (2004:68),

> active attention occurs when an agent is involved in an intentionally directed process. This means that the agent tries to achieve a particular desirable situation that constitutes its aim or goal [...]. To realize this aim, the agent focuses selectively on particular perceptual features. In that sense, attention is intentionally directed perception (Tomasello 1995). The only way for an agent to read the intention of another agent is by watching its behaviour.

In this setting, a quite interesting developmental scenario linking joint attention with intentionality seems to arise. It has been shown that even at younger ages than that of 9 months, where joint attention seems to emerge, infants can detect intentional actions without cognitively representing intentional agents (e.g. Cohen & Oakes 1993, Corkum & Moore 1994, Tomasello 1999b) or "attributing mental states to objects" (Yazbek & D'Entremont 2006:597, see also Baron-Cohen 1994, Leslie 1994, Gergely et.al. 1995, Premack & Premack 1997, Legerstee et.al. 2000). This suggests that they gradually develop an understanding of intentionality, by

essentially realising that others are 'like them' and have similar desires, beliefs and intentions (e.g. Gopnik & Meltzoff 1993, Tomasello 1995, Rochat & Striano 1999). Therefore, they eventually, at the age of 9 months, start attending to stimuli in their environment jointly with a peer, in an attempt to understand his/her intentionality with respect to these stimuli.

Against this background, much like the ability for metarepresentation, the ability to engage in joint attention emerges gradually in the first steps of human cognitive development (e.g. Striano & Rochat 1999, Striano & Bertin 2005). Additionally, it seems that over time joint attention practices become even more fine-tuned. Observing infants between 6 and 18 months of age playing with adults, Bakeman and Adamson (1984) concluded that "coordinated joint engagement increased with age" (in Striano & Bertin 2005:782). It seems then that infants grow to respond to the behaviour of others, gradually developing an understanding of intentionality, and eventually engaging in joint attention when they begin to not only mechanically follow a peer's gaze, but crucially attribute intentions to him/her regarding his attending to a certain stimulus as well.

Binding this argument with the developmental picture that is put forth by Sperber and Wilson with respect to metarepresentations, an interesting correlating picture seems to emerge. Growing up, an individual manages to eventually develop a highly sophisticated 'theory of mind', attending to potential stimuli jointly with others and entertaining complex metarepresentations regarding his/her peers' intentionality. And that is because, as it has already been noted above, for humans, the ability for joint attention also underlies an ability to attribute intentions to others. Given now that the predisposition for attributing intentions develops slowly at the beginning of an infant's life in a rather mechanistic way up to the point where joint attention can be perceived to reveal intentionality at 9 months of age, it seems likely that the human cognitive system starts attributing intentions to others slowly and not always effectively – as the naively optimistic interpretive strategy suggests – with this ability gradually becoming faster and more fine-grained as the infant moves from early childhood to adulthood.

From the current perspective then, it should be plausible to propose that it is due to our innate predisposition to not only entertain metarepresentations about the

intentions of others but also attend to our environment jointly with them that we have developed, via processes of natural selection, certain cognitive skills that are uniquely available to humans, like the ability to draw complex inferences and eventually engage in inferential communication. What this suggests is that our ability for inferential communication is likely to depend on our corresponding ability to attribute intentions to others as well as our natural tendency to align our attention with our peers in understanding intentionality. Even more so, since this tendency's impairment in certain populations corresponds to a similar impairment of the cognitive skills that are linked to it, it should be the case that our normal cognitive development is largely dependent on our ability to understand intentionality and attend to stimuli jointly with others. As Bruner aptly puts it (1995:11):

> We know from new research on autism (Baron-Cohen, Tager-Flusberg, & Cohen, 1993) that without a ready ability for joint attention, human beings fall into a grievious state of pathology. Faulty joint attention early on is prognostic of later difficulty in figuring out what might reasonably be on somebody's mind when they do something or say something. Sufferers seem to have difficulty in constructing communally 'intersubjective meanings', difficulty in being able to share presuppositions about how people think and feel, and how they deal with their thoughts and feelings.

In my view, this particular comment carries two fundamental implications for the account that I am currently pursuing. On the one hand, it seems that the developmental scenario presented above would have a lot to say about the existence of a common linguistic code among people of the same linguistic community, as well as the coordination of lexical and sentence meaning between interlocutors in particular communicative instances – two points that I will lay at the foundation of the account of semantics that I will put forth in the next chapter.

On the other hand, our familiarisation with the attribution of beliefs, desires and intentions to others from a very early age in conjunction with our development of all the more sophisticated techniques for performing this task should enable us to effortlessly and largely unconsciously make assumptions about the manifestness of certain assumptions to our hearer, or, for that matter, their mutual manifestness to both him and us. Accordingly, given our tendency to engage in joint attention, we should grow to be equally fast and accurate in making assumptions about the

assumptions that our interlocutors are actually making themselves or attributing to us in relation to potential stimuli we jointly attend to. Therefore, if attributing intentionality is taken to be as fundamental a process as it is thought to be in the relevant literature, our conscious effort to engage in it as infants, while we are still trying to comprehend the world around us, should gradually grow to become a very fast and consciously unreflective process that largely underlies our cognitive abilities. In this way, in adulthood, we end up devoting minimal effort in establishing mutual manifestness, as, having grown to attend to stimuli jointly with our peers, we can rapidly identify the intentions and beliefs that underlie their behaviour at some moment.

In the case of communication then, the seemingly effortless selection of contextual assumptions based on judgements about manifestness by the speaker in the production of utterances, could be resulting from her innate tendency to automatically align her perspective with that of others. In this way, it may be the case that our ability to engage in successful communication at an impressively quick pace and without much effort, in consciously computing what sort of information is manifest to our interlocutors and likely to be used by them as a context for interpretation, is a direct result of the specific ways in which our cognitive mindreading ability actually develops. Naturally, the argument I am putting forward does not in any sense guarantee that the assumptions about manifestness that we automatically make will always be on the right track, but rather that the process of making these assumptions becomes all the more mechanistic and fast during our cognitive development, which on its own makes us more likely to make correct assumptions about our peers' intentionality on the spot.

Interestingly enough, at first sight, this particular idea binds well with the relevance-theoretic proposal about a modular view of pragmatics that I discussed in the third chapter and according to which pragmatic computations in utterance interpretation are made through the automatic operation of the relevance-driven comprehension module. Along similar lines, my current argumentation here can be seen as a discussion of the properties of further sub-modules of our theory of mind module, as both our metarepresentational capacity and our tendency for joint attention have been addressed as mindreading sub-modules, which contain further

sub-modules of their own, by Sperber (1994a, 2000) and Baron-Cohen (1995) respectively. Indeed, as I will also underline in the conclusion of this thesis, it seems to me that a closer investigation of our unique mindreading ability might actually shed light on many mysteries that surround our understanding of our corresponding ability for language, as mindreading and language customarily appear to have a special connection between them (as is obvious from the collection of papers from the online conference on *The Coevolution of Language and Theory of Mind*, available at www.interdisciplines.org/coevolution).

5.2 Mental content convergence

From the discussion up to now, it seems possible to contend that our ability to attribute intentions in such a fast and effective manner depends on our uniquely evolved mental capacity to align our perspective with that of others by automatically making reasonable assumptions about their thoughts. What is, however, equally curious about our mindreading ability is how most assumptions that we make on the spot can, more often than not, capture what our peers are likely to be thinking about. In effect, what guarantees us that on the sight of the veal chunks, Mary can foresee that Peter will think that this is what Mary intends to prepare for dinner rather than that she wants to use the veal chunks to paint a room[2]?

One interesting perspective relating to such questions is again provided by Bruner (1995:11):

> It is not that normal people are all that accurate in reading the feelings and thoughts of others or in knowing their own. What we are, rather, is conventional: We come up with reasonable, conventional, somewhat corrigible hypotheses about what others deem relevant in their conversations or interactions with us. Autists have great difficulty acquiring these conventions. When they do so – to borrow a phrase from a gifted autist (Temple Grandin, cited in Sacks, 1994) – they manage it by a laborious algorithm rather than a quick and intuitive heuristic. They have to figure it out rather than knowing it intuitively.

[2] I am aware of the impossibility of this scenario, but the point I will attempt to make here is that there is a principled way in which we usually attribute to others thoughts that are not only reasonable, but also conventional in relation to our perceived reality.

Following this observation, it seems that our ability to attribute intentions as accurately as we can on most occasions is dependent on the way in which we conceptualise both the world around us and how our peers view it as well. In this respect, it can be argued that the way in which, under normal circumstances, individuals manage to remain 'conventional in reading the feelings and thoughts of others' is by essentially "'tun[ing...] their conceptualisations to those of others" (Jackendoff 2002:330). And even more crucially, our tendency "to have a common understanding of the world" (ibid), that is, to develop similar conceptualisations with other people, appears to be again due to our unique mindreading ability, since the corresponding deficiency in autistic populations is customarily attributed to their deficient theory of mind. In my view, it certainly makes sense to posit such a tendency among humans, given the argumentation in the previous section. Since we are born with the inclination to attend to our environment jointly with others as well as with an exceptional ability to read the intentionality of others, it is only natural that our conceptual representation of the world will eventually end up mirroring to some extent the one of others. That much should be straightforward merely because, if we did not align our conceptualisation with that of our peers, it would be all the more difficult to communicate and further interact with them.

In the current setting of discussing our intentionality in relation to the one of our peers then, I wish to now argue that there is a principled way in which what Jackendoff calls conceptualisation convergence and what Bruner calls an intuitive knowledge of reasonable and conventional hypotheses about others' intentionality can be approached at a theoretical level. And in order to do so, I will make use of a concept that has only recently been employed within the relevance-theoretic framework by Carston (2002a), that is, the concept of the Background (with a capital 'B') as it was originally introduced by Searle (1983).

According to Carston, "Searle's thesis of the Background should be situated within his overall view of the mind" (2002a:67). In this respect, a brief introduction of this view seems due here too[3]. In his investigation of the mind, Searle focuses on

[3] Naturally, as Searle's contribution to the philosophy of mind is massive I will only present these arguments that I find relevant for the current discussion. However, it should be noted that the implications of Searle's account of intentionality are far reaching and have caused heated debate (see, for example, the collection of papers in Lepore & Van Gulick 1991). As Carston notes (2002a:90-91), a particularly debatable aspect of his account has to do with the claims that Searle makes about the

our familiar notion of intentionality, which he identifies as "that property of many mental states and events by which they are directed at or about or of objects and states of affairs in the world" (1983:1). In this conception, our intentional states include but are not limited to our beliefs, fears and desires[4]. Furthermore, for Searle, "every intentional state consists of a representative content in a certain psychological mode" (1983:11), where the content signifies some proposition, i.e. a mental representation. In this sense, our perspective of the world at some moment can be viewed as "a [...] system of explicit and potentially explicit beliefs and desires" (Holland 1986:104).

It seems to me that this way of looking at our perspective of the world binds well with the notion of cognitive environment that has been proposed within Relevance Theory and which includes not only the assumptions that we are making at some moment (and which are explicit to us), but also the ones that are merely manifest to us (i.e. the ones that we are capable of making, and which are only potentially explicit to us). According to Searle, this perspective of the world is akin to what he calls the Network (with a capital 'N'). As he discusses, "in any real life situation, the beliefs and desires are only part of a larger complex of still other psychological states; there will be subsidiary intentions as well as hopes and fears, anxieties and anticipations, feelings of frustration and satisfaction", and it is this entire holistic complex that is dubbed the Network (Searle 1983:141). Naturally, in all likelihood, what Searle calls the Network might not be directly equivalent to what Sperber and Wilson call a cognitive environment, as the Network should be thought of as a complex of the assumptions that are manifest to us along with the assumptions and further psychological states which make these assumptions manifest to us. I am not sure whether relevance theorists would be prepared to accept that our cognitive environment includes all these assumptions at different levels of manifestness, but I believe that my equation of the two notions should be pretty harmless for my current purposes. What is important at this point is merely that we

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relation of intentionality and consciousness, which Chomsky has tried to refute (1994/2000a). However, I will leave this issue aside for the current purposes and follow Carston in suggesting that "it is possible to take on board the thesis of the Background, or something closely akin to Searle's conception of it, without automatically having to accept these [debatable] further claims" (2002a:91).

[4] Naturally, in his account, Searle suggests that there are "forms of nervousness, elation, and undirected anxiety that are not intentional" (1983:1) and with which I will not be concerned here.

need to think of the Network dynamically, as involving in its premises a vast number of interconnected intentional (or maybe even non-intentional) states.

From this perspective, our intentional states are largely dependent on other intentional and psychological states, which seemingly makes it all the more difficult to align our perspective of the world with that of another individual. What then gives us the ability to come up with 'conventional' attributions of intentionality as Bruner suggests that we do? This is where I believe that the concept of the Background comes to play. According to Searle, "the Background is a set of nonrepresentational mental capacities that enable all representing to take place" (1983:143). Within the spirit of intentionality then, the Background is viewed as *preintentional*, "in the sense that though not a form [...] of intentionality, it is nonetheless a precondition or set of preconditions for intentionality" (ibid). So, the Background can be seen as a set of dispositions that enable us to mentally represent our beliefs, plans of action and so on and so forth, or in other words, to create and entertain certain assumptions about the world. In this sense, the Background makes it possible for us not only to entertain mental representations but also metarepresentations about others' intentionality.

In his account, Searle differentiates between two relative categories within the Background itself[5]. The first one he names the *deep Background*, which comprises "at least all of those Background capacities that are common to all normal human beings in virtue of their biological makeup – capacities such as walking, eating, grasping, perceiving, recognizing, and the preintentional stance that takes account of the solidity of things, and independent existence of objects and other people" (1983:143-144). So, for example, we are able to have the belief that jumping off the top of a building will get us to the ground, because our deep Background gives us the disposition to think about the results of gravity. Regarding the second type of Background, Searle calls it *local Background* or "local cultural practices", and it includes "such things as opening doors, drinking beers from bottles, and the preintentional stance that we take toward such things as cars, refrigerators, money and cocktail parties" (1983:144). Then, for instance, in most western societies we can

[5] He also makes a further distinction within the Background about preconditions of knowing *how things are*, e.g. that the air will not stop flowing in our lungs, and knowing *how to do things*, e.g. that we know how to swallow food, but I will not go into further details here, as these distinctions are purely used for illustrating the concept of the Background rather than as absolute subcategories of it.

have the belief and thus expectation that our soup will be served with a spoon, which might not be the case in other cultures.

From Searle's perspective, the massive amount of know-how and capacities that the Background stands for is mental and not metaphysical in any sense (1983:154). Even so, it cannot be 'cashed out' in terms of mental representations as the Network is. It is essentially a set of dispositions that enable us to entertain the mental representations that we do. As Carston discusses (2002a:67-69), the notion of the Background could be usefully connected to the relevance-theoretic framework. More specifically, she suggests that (Carston 2002a:68, emphasis my own)

> there are several features of the concepts of manifestness and cognitive environment that are relevant in applying them to the Background: (a) manifestness is a matter of degree, and the degree of manifestness of a given assumption in an individual's cognitive environment may shift from moment to moment [...]; (b) some assumptions are such that once they are manifest to an individual they remain so thereafter, as stable elements of his or her cognitive environment, and others are temporary and may be very short-lived [...]; (c) an individual's cognitive environment overlaps to a greater or lesser extent with every other individual's cognitive environment: *assumptions that are common to human existence [...] are part of everyone's cognitive environment; other assumptions are shared by largish subsets of cognitive environments, such as those pertaining to practices and conventions taken for granted in a particular culture.*

In this respect, Carston proposes that the Background can be viewed "as a set of assumptions and practices that maintain a fairly steady degree of not very high manifestness, across time, in an individual's environment" (ibid). And, as is evident in her argumentation cited above, she then goes on to suggest that the deep Background can be thought to correspond to a part of the mutual cognitive environment of all human beings, while local Backgrounds only constitute a part of some cultural group's mutual cognitive environment.

Notably, one difference between my interpretation of the Background and Carston's is that she views it as including some assumptions that partially make up an individual's cognitive environment, even though she foresees that the capacities that the Background stands for in Searle's conception might not "seem appropriately thought of as sets of assumptions" (ibid). I believe too that the original argument by Searle defines the Background as a set of preconditions for having some assumptions

in the relevance-theoretic sense. Along these lines, I think that the Background is best viewed not as part of our cognitive environment as Carston suggests, but rather as the 'building block' of it. Being non-intentional and non-representational, the Background includes the know-how that enables us to represent certain assumptions about eating, cars and the world in general. After all, as Searle himself discusses, the Background "functions causally by providing a set of enabling conditions for the operation of intentional states" (as mental representations/beliefs essentially are) (1983:158). In this sense, it cannot be manifest to us in the relevance-theoretic sense, but is rather there, in the background, enabling us to entertain assumptions about eating or things falling, and thus enabling all these assumptions to be manifest to us. Therefore, from my point of view, which I take to be closer to Searle's original one, the Background does not include our perspective of the world but essentially our disposition to have one at any moment. And essentially it is this perspective of the world rather than the Background that comprises assumptions, i.e. subjective mental representations.

In terms of the current discussion then, I believe that the notion of the Background can be usefully implemented in the argument that in attributing intentionality to others we are often likely to grasp what they will be thinking about. Since by definition we share a deep Background with every individual in the world and a local Background with a large proportion of the people with whom we interact everyday, we are bound to attribute to them intentions, beliefs and desires that they are likely to have themselves. Even though from my perspective, in contrast to Carston's, these subsets of the Background do not constitute mutual cognitive environments themselves, but are rather responsible for the entertainment of the assumptions that make our cognitive environments up, the point is still that because of the mere fact that we have the same preconditions for intentionality with other people, we can be reasonably confident in the assumptions we make about their corresponding thoughts. Therefore, for example, my *savoir-faire* of how humans walk should enable me to entertain some assumptions about walking that I can expect to be manifest to my audience too when I utter the sentence 'Let's go for a walk'. Similarly, by means of my local Backgrounds[6], my confidence in what

[6] By sets of local Backgrounds I am merely suggesting that my confidence in the manifestness of

assumptions a bartender will most likely include in the context of interpreting my order of a glass of wine should be enhanced.

Along similar lines, a further point that Carston makes in her aforementioned discussion of the relationship of the Background with Relevance Theory is that even among people with common local Backgrounds, "close friends share a huge further range [of assumptions] derived from their shared experiences, verbal and non-verbal" (2002a:68). I too believe that the more familiar we are with someone, the less effort we will need to consume in aligning our perspective with him/her, even though I think that this is not because of a culturally determined common local Background[7], but basically because the more time we spend understanding someone's intentionality, the larger a mutual cognitive environment we grow to have with him/her, and, thus, the more confident we can be about the thoughts that he might be entertaining with respect to some stimulus in the environment. And this can be actually thought to be a tendency we have since we are very young. There is a variety of experimental evidence suggesting that the joint engagement of infants with their mother is much less effortful and much more successful than it is with other peers (e.g. Trevarthen & Hubley 1978, Bakeman & Adamson 1984, Adamson & Bakeman 1985, Hains & Muir 1996, Bigelow 1998, Saxon et.al. 1998). As Striano and Bertin note, "the higher frequency of joint engagement with the mother might reflect an inclination to share attention with a more familiar social partner", which in turn suggests that it is possible that "caregivers effectively scaffold infants' joint

certain assumptions to my addressees' cognitive environment can be the result of the interaction of various local Backgrounds that provide the preconditions for drawing these assumptions. For instance, if I am ordering a glass of wine at a bar in Edinburgh, I can be confident that the bartender will comprehend me if I speak in English, simply because a local Background enables me to assume that, by means of the bar's location, the bartender should understand English. Conversely, some other local Background should enable me to assume that the bartender will not only pour the wine in a wine glass rather than a pint, but also expect me to expect that this is common practice in bars in Edinburgh – this example is largely akin to one that Searle puts forth with respect to ordering a steak with fried potatoes in a restaurant (1992:180).

[7] My concern with how I interpret Carston's proposal with respect to this point is that local Backgrounds are defined by Searle as culturally-driven, and my better understanding of my brother's intentionality in relation to my understanding of his newborn babygirl's intentionality is not culturally-mandated, but has to do with my different level of familiarity with him and her respectively. It may well be the case, and I indeed believe it is, that there can be even subtler subsets of the local Background that contain even more fine-grained dispositions that cause us to entertain specific assumptions about specific individuals. In this respect, much like I have the local Background disposition to entertain the assumption that Chinese people eat with chopsticks, I should have a corresponding disposition that gives me the assumption that my brother hates feta cheese, an assumption that will be mutually manifest to me, my brother and other individuals that know him well enough.

engagement in ways that peers do not" (2005:782). Intuitively, this should also apply to adults too. I believe it is pretty straightforward that when we discuss with our closest friends, we are far more confident in our assumptions about what contextual information will be manifest to them than we are when we engage in conversation with a new acquaintance, with whom we might even manifestly share a common local Background.

Again, of course, the argument that I am presenting here does not suggest that as a speaker I am consciously more confident about my understanding of others' intentionality, but rather that I will be likely to produce an optimally relevant utterance or other communicative stimulus in a more mechanistic way than, as Bruner suggests, an autistic person would. In this sense, the theory of the Background can be used to explain the tendency we have in our everyday communication practices to be conventional in our attribution of assumptions to others without that necessarily meaning that as speakers we consciously and effortfully check for these assumptions' (mutual) manifestness[8]. In essence then, the current discussion can be taken to substantiate a bit more the original argument of Sperber and Wilson that by 'manifestly sharing cognitive environments with other people' we can actually have 'direct evidence about what is manifest to them' without needing to go through lengthy trains of thought about what they are likely to be thinking. Indeed, one of the points that I wish to make throughout my argumentation in this thesis is that our exceptional mindreading ability makes it possible for us to both have an individualistic and thus distinct mental representation of the world and still be able to instantly align our mental representation to those of others in instances of communication.

In this respect, apart from the obvious usefulness of the notion of the Background in the explanation of how we naturally manage, as speakers, to align our mental representations with the ones of our hearers in instances of communication, I

[8] As I have also noted in the third chapter, there are of course cases where we do have to consider to a greater extent our assumptions about others' intentionality, as in the case of attending a lecture. Similarly, while I am writing this thesis, I have to be cautious about the assumptions I take to be manifest to my audience or indeed the ones that the thesis will make manifest to it and which it will attribute to me. In this respect, I pay particular attention so that miscommunication does not occur, planning my utterances in a much more thorough way than I would during, say, my correspondence with a friend. Even so, what I am interested in here is not such cases, but rather the processes by which we spontaneously and rapidly construct contexts in our normal everyday communication practices, where of course such great caution is unnecessary.

believe that it can be also usefully utilised in support of a further and, to my mind, even more crucial point that I wish to sustain in this thesis.

As I have already suggested, one of the basic tenets of conceptualist semantics is that "conceptualisation is essentially personal" (Jackendoff 2002:330) and thus probably not identical even between speakers of the same language. And this view is certainly akin to the one that our assumptions about the world can be highly idiosyncratic due to our different experiences, which is correspondingly endorsed in Relevance Theory. More specifically, as Sperber and Wilson discuss (1995:192, emphasis in original),

> it seems plausible that in our internal language we often fix time and space references not in terms of universal coordinates, but in terms of a private logbook and an ego-centred map; furthermore, most kinds of reference – to people and events for instance – can be fixed in terms of these private time and space coordinates. Thoughts which contain such private references could not be *encoded* in natural languages but could only be incompletely represented.

As Carston further discusses (2002a:33-34, 85), this position seems to be also endorsed outside Relevance Theory by both Recanati and Searle as well. For Recanati (1993, 1994), our personal thoughts about a specific object, customarily referred to as *de re* thoughts, involve a private *mode of presentation* with respect to this object, what Searle correspondingly calls a personal *aspectual shape* (1992:131,155). Given then that the mode of presentation is not the same across individuals, it seems likely that "the *de re* thoughts of two people predicating the same property of the same object are generally distinct from each other, and may also be entirely private" (Carston 2002a:34). And this is something that even Frege himself had recognised: "everyone is presented to himself in a special and primitive way, in which he is presented to no one else" (1918/1997c:333). Aiming at psychological plausibility then, it seems necessary to acknowledge that our mental representations cannot be identical to the ones of our peers. Even so, for communication to be feasible among individuals it seems equally necessary for them to be able to entertain mental representations that are still not too different among them.

Arguably, as I will show in the next chapter, the argument for content similarity has been harshly opposed with respect to accounts of meaning. Leaving the

discussion of meaning *per se* aside for the moment and following my argumentation in the last two chapters though, I take it that, when it comes to contextual assumptions, the relevance-theoretic approach has provided compelling reasons against the notion of contextual identity between the speaker and the hearer that has been traditionally safeguarded by accounts of mutual knowledge.

Against this background, my current approach to individuals' assumptions about the world needs to address the issue of how the assumptions that are included in the speaker-envisaged and the hearer-constructed context respectively manage to be similar enough to one another so as to make successful communication possible at all. As follows from the relevance-theoretic counterproposal to the mutual knowledge scenario, the hearer is called to construct a context that will provide him with the speaker-intended meaning, and while he will try to construct a context that will be mutually manifest to both him and the speaker for this aim, there is no guarantee that this context will be actually identical to the one envisaged by the speaker. Even more crucially, the idea that utterance interpretation is essentially an exercise in mindreading, with the hearer having only indirect access to the speaker's thoughts, seems to suggest that such an identity of contexts is not only unwarranted but also practically impossible. However, as it has often been argued[9], similarity is not the same as identity in that it cannot guarantee successful communication. The question that arises then is: Since we are usually successful as hearers in constructing the intended context for interpretation, how can a context which is only similar to the one that the speaker intended us to use provide us with her intended cognitive effects?

My response to this question would be that even though the similarity-based view does not guarantee successful communication, there is still a way in which it makes it more probable to succeed than not. For one, my argumentation of the human mindreading ability above provides useful hints as to how our mental representations of the world tend to naturally converge with those of our peers. After all, if we jointly attend to objects in the environment with people around us and infer their intentionality with respect to them, it is only natural that this intentionality of

[9] This distinction between identity and similarity has been underlined both by Fodor and Lepore (1992, 1999) and, more recently, by Cappelen and Lepore (2005, 2007) as I will return to discuss in the chapter that follows.

others straightforwardly affects our own thoughts about these objects. Even so, at this stage, I wish to entertain a further reason why this could be so. If we take the notion of the Background seriously, we can come up with an important generalisation: it seems to me plausible to assume that it is the shared Background of two individuals that makes it likely for the subparts of their mental contents that they use as communicative contexts to be similar enough between them. And while it is true that similar enough is not qualitatively the same as identical, I believe that this similarity does not jeopardise the possibility of successful communication as much as it is thought to. That is because interlocutors would again believe that the contextual assumptions they are making are identical to each other.

As I have pointed out in the previous chapter as well with respect to mutual manifestness, it is not the case that interlocutors actually perceive their contexts to be merely similar. It is more likely that they go on constructing contexts that they believe to be identical to the ones their counterparts employ, which effectively increases their confidence that they can recover some speaker-intended meaning. Even so, this does not mean that perceiving something to be identical is equivalent to it really being so. What I wish to underline with this idea is that the notion of similarity Relevance Theory puts forth is a notion of theoretical importance for the researcher of communication and not one that the speaker or hearer will have conscious access to during communication. In this sense, I think it is reasonable to assume that in reality the mental representations that people perceive to be the same as the ones of their interlocutors in their choice of context, are only *sufficiently similar* to them.

In this setting, the Background provides us with the theoretical machinery to establish what sufficiently similar means. As I have repeatedly suggested, from the relevance-theoretic perspective, it is most likely that our assumptions about the world differ from those of our peers in content, since we all conceptualise the world through different experiences. Given now that the Background provides us with the preconditions that enable us to entertain mental representations, it seems to me reasonable to assume that, if our Backgrounds intersect to some extent, the assumptions that we make and which are affected by our shared deep and local Backgrounds, might indeed not be identical to each other, but will be similar enough

for that matter. Since the Background is by definition mental but still linked to a certain perceived reality in the world, like that we walk by using our legs, or in a community, like that we customarily sleep on beds, the dispositions it gives us to entertain certain assumptions about our walking or sleeping in beds will still be the same among all of us in terms of our deep Background or some of us when we share a local Background. Therefore, even if our resulting assumptions about walking or sleeping have different contents due to our different experiences, these contents will still be similar enough to each other in a way that allows for successful communication to take place. For example, when my mother would tell me 'Don't stand at the edge of the cliff' when I was young, she would bring to the foreground of her attention certain contextual assumptions which should include an assumption about things falling and the fact that if I slipped, I would fall to the ground and hurt myself. In all likelihood, I would also employ in my context of interpretation a corresponding assumption akin to gravitational risks. Since me and my mother, however, have grown to mentally represent our gravity-related assumptions through different experiences it is very probable that they would differ in their exact content. What prevents them from being too different then would be our deep Background, which gives us the same disposition to entertain mental representations about things falling. In this sense, if our underlying precondition for such thoughts is the same, as this is derived by the same observed phenomenon in the world, then, even though we do not realistically have access to our interlocutor's memory, we still manage to incorporate in our context for production or interpretation assumptions that will be similar enough to his/hers. Of course, in most cases we do not know and even do not care that they are only similar and thus engage in production or interpretation as if they are identical, but as I stressed in the third chapter and above, it is implausible that they really are so.

5.3 Concluding remarks

One of the basic assumptions of most accounts of communication is that for communication to be successful some sharedness of information between the speaker and the hearer is necessary. Likewise, from the relevance-theoretic perspective,

"communication requires some degree of co-ordination between communicator and audience on the choice of a code and a context" (Sperber & Wilson 1995:43). A basic innovation of the relevance-theoretic approach with respect to this issue, however, is that it does not take this co-ordination to be a given as traditional code theories of communication do. Rather, it takes the most plausible route that speakers and hearers inferentially co-ordinate their respective choices of coded and contextual information. As I have shown in this chapter, this inferential co-ordination of mental content during communication might at first sight look like a pretty straightforward process, but once we investigate it more closely, it proves to actually be the result of various highly specialised cognitive abilities with which we, as humans, are uniquely endowed. Indeed, by endorsing the scenario of mutual knowledge and the corresponding idea of identity of people's mental content that comes with it, we could in principle explain communication rather easily. However, in doing so we would essentially turn our back on psychological plausibility. In this respect, as I will also stress in the conclusion of this thesis, if we ever want to arrive at a holistic theory of how the mind works, we need to prioritise psychological explanation over theoretical convenience.

In the light of my current discussion then, I believe that there are further reasons, lodged in the way in which our cognitive capacity actually works, why we should endorse the relevance-theoretic proposals with respect to contextual co-ordination between the speaker and the hearer without giving in to the unrealistic alternative that contexts are identical among interlocutors and given rather than selected during the production and interpretation of utterances. That is why, in this chapter, I have addressed how our ability for mindreading as well as the theoretical construct of the Background can explain in a psychologically plausible fashion the ways in which we manage to effortlessly align our mental content with that of our interlocutors in instances of communication.

It conclusion, it is undeniable that this chapter in conjunction with the previous one are crucial for the overall aim of this thesis. Through my argumentation in both of them I have addressed to some extent how our beliefs and assumptions about the world pervasively affect our production and interpretation of utterances. Having identified how contexts should be thought of in cognitive terms, I have

provided a first step towards confuting the Chomskyan pessimism regarding our understanding of the interaction of our beliefs with linguistic meaning. As I will show in the next chapter, by forming the context in which utterances are produced and interpreted, a selected set of our beliefs manages to substantially affect our understanding of linguistic expressions, be it words or sentences. Up to this point, I have been focusing on the way in which these contexts are actually and realistically formed during language usage. And this is by no means a trivial enterprise for my overall account; if the operation of the comprehension module in conjunction with that of further specialised sub-modules of our unique mindreading ability can provide a genuine and most importantly cognitive-based explanation as to how contexts are so easily selected, it means that we can eventually pinpoint which of our assumptions about the world are included in the context of an utterance and, thus, affect its meaning. Given then that these assumptions provide the premises for the inferential processing of cognitive effects and that this processing takes place following the relevance-based comprehension procedure, it seems that Relevance Theory can provide us with a genuine account of the "extremely intricate manner" in which "our systems of beliefs concerning things in the world and their behaviour [...] play an essential part in our judgments of meaning and reference" (Chomsky 1979:142).

Chapter Six

The context-dependence of semantic content

After providing a potential cognitive explanation for the ease and rapidity with which individuals align their perspectives in instances of communication and arguing for the attunement of their contextual assumptions due to crosscutting Backgrounds, I wish at this point to turn to a topic that has been at the focus of attention in both pragmatics and general linguistics for some time now. It is undeniable that, within linguistics, pragmatics has been traditionally considered to be an 'add-on' to semantics, as it essentially makes it possible to understand how communicators "use language in ways which cannot be predicted from linguistic knowledge alone" (Aitchison 1995:93). In this setting, most accounts of meaning make sure that they differentiate sharply between semantics, i.e. the purely linguistic knowledge of meaning, which traditionally provides the basic propositional content of a sentence, and pragmatics, which deals with processes such as enrichment, loosening and completion that operate over and above this semantic content when a sentence is uttered in context.

Against this background, one particularly hotly debated issue concerning the nature of meaning has been revolving around the delineation of a clear-cut distinction between semantics and pragmatics. Admittedly, the past few years have seen a constantly growing interest in the extent to which the context can be seen to affect the explicit content of an utterance. More specifically, as I will show shortly, current research in pragmatics seems to increasingly entertain the possibility that pragmatic reasoning customarily intrudes in the construction of an utterance's basic proposition to some extent. Naturally, this view is largely incompatible with the mainstream (formal) semantic theory, which, as I already stressed in the second chapter, aims at studying meaning abstracted away from context. In this respect, if semantic content is not always immune to context intrusions, then it becomes all the more "difficult to draw a neat line around the semantic component of any linguistic framework" (Crystal 1997:107).

Arguably, a conceptualist account of meaning of the type that Jackendoff pursues is ready to welcome the pragmatic conclusion, on the grounds that it does not differentiate linguistic meaning from conceptualisation, which necessarily includes beliefs and general world knowledge in its premises. In this setting, a psychologically plausible account of semantics should be prepared to incorporate certain generalisations that can be drawn about contextualisation. Even so, at the moment, this incorporation cannot be pursued as straightforwardly as one might hope, given the lack of consensus in the relevant literature regarding the degree of context-dependence that semantic content customarily presents. As Recanati, among others, discusses at length (2004b), there are, and have been for a while now, two conflicting camps of thought in this particular debate about meaning. The first one is located in the tradition of *Literalism*, according to which, we can "legitimately ascribe truth-conditional content to natural language *sentences*, quite independently of what the speaker who utters this sentence means", while the second is identified as *Contextualism*, which "holds that *speech acts* are the primary bearers of content" and that "only in the context of a speech act does a sentence express a determinate content" (2004b:3, emphasis in original)[1].

Following the mentalist perspective that I have adopted right from the beginning of this thesis, I wish to now argue for an extreme case of contextualism, suggesting that intentionality affects the semantics of language so pervasively that it is essentially impossible to identify some semantic content in abstraction from reasoning against a context. Of course, this would not be a new idea in either the relevance-theoretic framework or other corresponding contextualist-driven accounts. Indeed, I believe that the argument for the context-dependence of an utterance's truth conditional content has been successfully defended both within Relevance Theory (e.g. Wilson & Sperber 1979b/1981, Sperber & Wilson 1986/1995, 1998, Carston 1988b, 1999a, 2002a, 2004a, 2004b, 2006a) and outside of it (e.g. Atlas 1989, 2005,

[1] It should be underlined that, much like the literalist tradition can be seen as resulting from the original proposals put forth by the ideal language philosophers who largely shaped formal semantic theory, the contextualist stance also has its roots in a correspondingly influential camp, that of ordinary language philosophers like Austin and the later Wittgenstein. In this respect, my current discussion reflects a debate that goes way back in the history of linguistics and, thus, cannot be holistically presented in the limited space that I have available here. That is why, I will only address certain aspects of it as they primarily seem to arise with respect to the relevance-theoretic perspective that I have adopted for the purposes of this thesis.

Searle 1978, Travis 1981, 1997, Recanati 1989, 1994, 2001, 2004a, 2004b, Bach, 1994a, 1994b, 1999c, 2004, Levinson 2000). The new perspective that I would like to add to it here, however, is that pragmatic reasoning is not only necessary for the construction of an utterance's basic propositional meaning, but also equally essential for the recovery of conceptual content at the lexical level in all cases as well.

It is true that relevance theorists have been lately particularly interested in lexical pragmatics (e.g. Carston 1996, 2002a, 2002c, 2006b, Sperber & Wilson 1998, 2006, Vega-Moreno 2003, 2005, Wharton 2004, Wilson 2004, Wilson & Carston 2006, 2007), a domain of inquiry which, from the relevance-theoretic perspective, is defined as the study of "the processes by which linguistically-specified ('literal') word meanings are modified in use" (Wilson 2004:343). Against this background, the question that I wish to raise for the purposes of this chapter is what exactly the term 'linguistically-specified word meaning' stands for. And given my overall mentalist orientation, this question effectively becomes: Does the semantic component of the language faculty comprise fully determinate encoded concepts that correspond to lexical items in abstraction from contextualisation?

With respect to this question, it seems that Relevance Theory's answer would be affirmative. As I have already hinted in the third chapter, Sperber and Wilson's inferential module operates on-line on the output of the grammar, which is essentially some (schematic but still determinate) logical form. As Carston puts it (1999b:376),

> the semantics/pragmatics distinction of Relevance theory, is one between the meaning that is encoded by the linguistic system itself and the further meaning that is communicated. So it entails a distinction between two types of cognitive process employed in understanding utterances: decoding and inference.

What follows from this observation is that relevance theorists are pretty traditional in their conception of meaning since they customarily posit that there is some basic linguistic meaning, an encoded conceptual representation, that exists in abstraction from contextualisation. In contrast, a basic tenet of the position of I-semantics that I have adhered to right from the beginning of this thesis is that it seems impossible to separate linguistic meaning from general encyclopaedic knowledge, which necessarily makes conceptualisation itself the domain of semantics. Therefore, in this

chapter, I will suggest that the argument for a minimal lexical semantics upon which pragmatic processes operate is weak.

Given the popularity of the view that I wish to argue against, however, it seems that my proposal for radical contextualism needs to be explicitly defended in some detail, if it is to be accepted as a valid perspective for the study of linguistic meaning. That is why, in my subsequent argumentation, I will basically utilise part of the recent literature on the literalism/contextualism debate, always focusing on Relevance Theory, to show not only how a radically contextualist approach can be incorporated in the mentalist discussion of meaning, but also and more crucially that this incorporation is indispensable if we aim at a psychologically plausible internalist account of meaning.

6.1 The literalism/contextualism debate

6.1.1 The literalist tradition

As we saw in the third chapter, the emergence of inferential pragmatics as a separate field of inquiry within linguistics was brought about by Grice and his fundamental distinction between 'what is said' and 'what is implicated' by the utterance of a sentence. This particular distinction is customarily perceived as the way in which Grice viewed the corresponding distinction that intuitively arises between semantics and pragmatics. In this picture, semantics accounts for the (largely context-independent[2]) conventional meaning of the words that make up the uttered sentence while pragmatics deals with the inferential construction of the meaning that is implicated by specific utterances in context. Naturally, such a viewpoint is largely in line with the argument from formal semantic and literalist theories of meaning which are founded on the assumption that semantic meaning can be analysed in abstraction from contexts of use.

[2] Even though the study of what is said is generally assumed to be taken by Grice to belong to the domain of semantic theory proper, his understanding of an utterance's explicit content involved some minimal contextual input, at least with respect to reference and ambiguity resolution. However, as I also noted in the third chapter, he never pursued an analysis of these aspects of what is said in his account of pragmatics, which makes it difficult to pinpoint where exactly he stood with respect to them.

In this respect, one possible way of articulating the semantics/pragmatics distinction would be to follow Gazdar in assuming that in contrast to truth-conditional semantics, "pragmatics has as its topic those aspects of the meaning of utterances which cannot be accounted for by straightforward reference to the truth conditions of the sentences uttered" (1979:2). In this sense, Gazdar follows the formal semantic tradition in suggesting that "pragmatics is that part of the study of meaning that is left over after one takes away semantics, where semantics is understood as the study of truth conditions" (Stalnaker 1980:902). Even so, towards the end of his book, Gazdar actually entertains the possibility that semantics might not be entirely autonomous with respect to pragmatics, in the sense that some resort to the context of utterance might be necessary in order to assign a truth value to the proposition expressed by an utterance. And indeed, as Stalnaker also argues in his review of Gazdar's book, some pragmatic input is indispensable in determining the truth-conditional content of an utterance, as is customary in the "assignments of referents to deictic pronouns" (1980:905), for example.

Therefore, it seems that there exist a number of linguistic expressions, commonly called *indexicals*, that are clearly context-dependent. Even intuitively, expressions like 'I', 'he', 'here', 'now' seem to have a different truth-conditional contribution every time they are used in an utterance. Nevertheless, there is a principled way in which these elements can be incorporated in semantic theory after all[3]. In his famous 'Demonstratives' (1989b), Kaplan suggests that an indexical, such as 'I', encodes a *character*, that is, a rule, "which is a function from the context of utterance to a referent" (Carston 2002a:178). In this sense, the character of 'I' remains the same across contexts; yet, it picks a different referent relative to the context of utterance – what Kaplan refers to as having a different *content* in context. Accordingly, even in the contextualist literature, indexical expressions are also clearly distinguished as linguistic items that trigger the mandatory contextual process of *saturation*, i.e. "the process whereby the meaning of the sentence is completed and made propositional through the contextual assignment of semantic values to the constituents of the sentence whose interpretation is context-dependent" (Recanati 2004b:7).

[3] For a general discussion of the problems that indexicality presents for semantics see, for example, Sayward (1968), Wettstein (1979) and Carston (2002a).

In this respect, on the grounds that our semantic theory acknowledges the context-dependence of indexicals and is prepared to incorporate it in its premises by means of a technique like the one that Kaplan argues for[4], it is still traditionally thought to be able to provide us with a determinate truth-conditional content of a sentence, the utterance of which will then trigger processes of pragmatic reasoning only after the determination of the basic proposition explicitly expressed by the semantics of language. Therefore, as Recanati asserts, from the literalist point of view "the 'normal' case is the case in which a sentence expresses a proposition independent of the context of utterance" (1994:161). In this sense, literalist accounts of meaning necessarily endorse the version of the *effability principle* that Recanati puts forth[5] (1994:157):

> For every statement that can be made using a context-sensitive sentence in a given context, there is an eternal sentence that can be used to make the same statement in any context.

What is meant by *eternal sentence* in this context, is a natural-language sentence which can make explicit what is asserted by a context-sensitive sentence in a semantically "*complete* and *determinate*" way (Wettstein 1979:92, emphasis in original); that is, a sentence in which all indexical constituents are replaced "by non-indexical constituents with the same value" (Recanati 1994:157).

A point to note here is that this effability principle is a weaker version of the original one that was put forth by Katz (1981:226, in Sperber & Wilson 1995:191):

> Each proposition (thought) is expressible by some sentence in every natural language.

Naturally, the argument behind this stronger notion of effability looks intuitively implausible from the point of view of this thesis. As I have argued in the previous chapter, if we take the individualistic perspective about mental content that is endorsed in both Relevance Theory and conceptualist semantics seriously, conceptual representations of the world cannot be identical between two individuals,

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[4] It should be noted that Kaplan's account is not without its shortcomings (e.g. Lewis 1980, Larson & Segal 1995, Lepore & Ludwig 2000). However, I accept it as largely correct here as it is directly implemented in both the relevance-theoretic framework (e.g. Wilson & Sperber 1993, Carston 2002a) and Cappelen and Lepore's *Insensitive Semantics* (2005), which I will use as an example of literalism.

[5] Being a contextualist himself, it should be noted that Recanati rejects this principle.

which effectively means that their thoughts cannot be identical, let alone expressible through a single sentence[6]. However, Recanati's weaker principle of effability is not subject to the same objection as Katz's original one, since it substitutes thoughts for statements, which may be "about a certain object without involving a particular mode of presentation of that object" (1994:157). In this sense, the literalist tradition still holds that traditional semantics can account for the statement explicitly expressed by an utterance without any input from the context of utterance itself, except with respect to the determination of indexicals.

Against this background, a characteristic example of a literalist account can be located in the recent exposition of Cappelen and Lepore's *semantic minimalism*[7] (2005, see also Cappelen & Lepore 2006a, 2006b, 2006c), some version of the basic argument which it defends I take to commonly lie under most externalist theories of semantic interpretation. As Cappelen and Lepore themselves assert (2006a:51):

> Our goal is not to defend or push an extreme view of any particular class of expression, much less of context sensitivity in general. I[nsensitive] S[emantics] is, instead, about methodology in semantics. What we care about, throughout, is the interplay between certain basic methodological assumptions. [...] Viewed this way, it is hard to characterize any central claim in I[nsensitive] S[emantics] as 'extreme' or even as worthy of an incredulous stare.

In this respect, semantic minimalism is based on the foundational assumptions summarised below (Cappelen & Lepore 2005:2-3):

> a The most salient feature of Semantic Minimalism is that it recognises few context sensitive expressions, and, hence, acknowledges a very limited effect of the context of utterance on the semantic content of an utterance. [...]
> b It follows that all semantic context sensitivity is grammatically (i.e. syntactically or morphemically) triggered.
> c Beyond fixing the semantic value of these obviously context sensitive expressions, the context of utterance has no effect on the proposition semantically expressed. In this sense, the semantic

[6] Recall from the previous chapter the argument about the different *modes of presentation* (Recanati 1993, 1994) or *aspectual shapes* (Searle 1992) that private thoughts are expected to have for each individual.

[7] It should be noted that Cappelen and Lepore's account of semantic minimalism is complemented by the doctrine of speech act pluralism in their overall argumentation in *Insensitive Semantics* (2005). Even so, in this chapter, I will only deal with certain ideas that they put forth with respect to semantic minimalism, as a proper and full evaluation of *Insensitive Semantics* overall goes beyond my immediate purposes here.

> content of a sentence S is the proposition that all utterances of S express (when we adjust for or keep stable the semantic values of the obvious context sensitive expressions in S).

In this sense, by suggesting that linguistic meaning can exist in abstraction from contexts of use, Cappelen and Lepore straightforwardly capture the literalist point of view, since they correspondingly argue that 'the semantic content of a sentence is a proposition' on its own in isolation from contextual input. And, of course, much like the literalist tradition, this account also acknowledges the existence of a 'few context sensitive expressions', which are effectively our familiar Kaplanian indexicals[8].

Even though I will return to utilise certain arguments by Cappelen and Lepore in my later discussion, I believe that by this point I have established how they manage to capture the basic intuitive idea behind most literalist accounts of meaning; that is, that, with the exceptions of a few indexical expressions, a sentence's basic propositional meaning can be provided without any effect from the context in which a sentence is uttered. And essentially it is with respect to this argument that the contextualist stance effectively reacts overall. Naturally, due to my space restrictions here and the corresponding size of the literature on the contextualist reaction, I will only briefly discuss the basic idea that it defends from the point of view of Relevance Theory, without going into detail in identifying the differences between the corresponding accounts that other contextualism-oriented theorists propose[9].

6.1.2 The linguistic underdeterminancy thesis

It can be argued that the gist of the contextualist stance is located in its argument for a *linguistic underdeterminancy thesis*, according to which linguistic meaning underdetermines to some extent the proposition that is explicitly expressed by an utterance. In order to further elaborate on this proposal, let me provide – a necessarily brief and schematic – summary of some ways in which the linguistic

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[8] More specifically, following Kaplan (1989b:489), Cappelen and Lepore go on to identify their basic set of indexicals as comprising "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' [...], 'hence(forth)', [...] and the adjectives 'actual' and 'present' [as well as...] words and aspects of words that indicate tense" (2005:1).

[9] For a comprehensive discussion of the different perspectives regarding the contextualist position, see Carston (2002a:94-206), Cappelen & Lepore (2005:17-140) and Huang (2007:216-242).

underdeterminancy thesis is thought to be substantiated in the relevance-theoretic framework (after Carston 2002a).

In this respect, even if the literalist is prepared to accommodate the obvious context-dependence of indexicals, there are still further cases of reference assignment that seem to be problematic for a traditional truth-conditional semantic account. For one, proper names can be also treated as indexicals of some sort, as they can correspondingly refer to different individuals in different contexts (e.g. Cohen 1980, Sperber & Wilson 1986/1995, Bach 1987, Recanati 1993). Similarly, following the argumentation of Davidson (1967) and Burge (1974), Higginbotham (1986, 1988, 1994) raises the question of how to semantically account for the reference of 'incomplete' definite descriptions – as in (1) – and 'specific indefinite' descriptions – as in (2):

(1) The president (whoever s/he is) is in trouble.
(2) If a certain blonde calls, pass her through directly to me.

Regarding these examples, even though a semantic explanation can be provided for the case of (1)[10], the one in (2) still remains problematic for the truth-conditional semantic approach. Finally, even definite descriptions with no indexical element whatsoever can be taken to be referentially context-dependent. According to Recanati (1987b, 1996), the reference of a definite description always depends on what he calls the *domain of discourse*[11] "with respect to which the speaker presents his or her utterance as true" (Recanati 1987b:62). In order to illustrate Recanati's argument, imagine my brother uttering (3) to me:

(3) Mum will be pleased to see that the current prime minister of Britain attended your graduation.

However, imagine further that both my brother and me know that our mother believes that Mandelson is the current prime minister of Britain when he is not[12]. In

[10] As Carston herself notes (2002a:88), even with respect to the referential use of definite descriptions, a pragmatic alternative is both highly plausible and more appealing (e.g. Rouchota 1992, 1994, Recanati 1993, 2004c, Bezuidenhout 1997, Powell 2001).
[11] As Carston notes (2002a:38), Recanati's 'domain of discourse' directly corresponds to Barwise and Perry's 'resource situation' (1983) and Fauconnier's 'mental space' (1985).
[12] The discussion of such cases dates back to McCawley (1970, see also Bell 1973 and Hornsby 1977, among others).

this case, my brother's use of the definite description refers to Mandelson, and I am therefore expected to interpret it with respect to our mother's belief world, within which it is Mandelson that is believed to be the current British prime minister. In this particular occasion then the domain of discourse in which I will interpret my brother's definite description is not the actual world, but rather our mother's belief system. Along these lines, it certainly becomes possible that the relativity of reference to domains of discourse can actually extend to the discussion of all definite descriptions, even the ones that seem "the least likely to yield to the general context-dependence thesis" (Carston 2002a:38).

In addition to reference assignment now, the context sensitivity of an utterance's propositional content can be also exemplified in the instance of lexical or syntactic ambiguity. For example, in the tradition of semantics, the problem of lexical ambiguity is usually tackled by positing what Pustejovsky (1995) calls a *sense enumerative lexicon*, which comprises different lexical entries for each sense that an ambiguous lexical item is thought to have. In this setting, the context of utterance again plays an essential role; that is, the 'pre-semantic' role (Perry 1997, 1998) of disambiguating which of the two semantic entries of, say, the word 'bank', its every use points to.

But the linguistic string employed in an utterance might still fall short of determining a full proposition "even after all necessary reference assignments and disambiguations have taken place" (Carston, 2002a:22). Consider, for instance, the examples in (3) to (7) (ibid):

(3) Paracetamol is better. [than what?]
(4) It's the same. [as what?]
(5) She's leaving. [from where?]
(6) He is too young. [for what?]
(7) It's raining. [where?]

What is obvious in these cases is that for the proposition expressed by them to be assigned a truth value, certain missing elements, often referred to as *unarticulated constituents* (after Perry 1986), need to be contextually supplied. And regardless of whether these constituents are treated as hidden indexicals (e.g. Stanley 2000, 2002, 2005, Stanley & Szabó 2000) or as contextually derived elements of the proposition expressed (e.g. Bach 2000, Recanati 2002, Carston 2004a), the context manages in

both cases, albeit in different ways[13], to intrude in the truth-conditional content of an utterance.

Similarly, another source of linguistic underdeterminancy can be found in instances where a lexical item's scope is left unspecified from the semantics of the item itself, as it can be argued to be the case with respect to quantifier scope ambiguity. On a more concrete example of such underspecification, Gross (1998) discusses the 'part' context sensitivity of adjectival predicates, as exemplified in (8):

(8) The book is black.

In this case, the meaning of 'is black' is semantically underdetermined in relation to the property of the book that it refers to (the cover, the dominant part of the cover, the pages, and so on and so forth). And admittedly, context-sensitivity of this type carries over to other expressions as well, such as verbs, nouns etc., as is evident in (9) and (10):

(9) John finished the book.

A final and obviously related case for the linguistic underdeterminancy thesis can be made with respect to the necessary pragmatic adjustment of the encoded concept that certain lexical items carry when these are communicated in different contexts. Consider the cases in (11) and (12):

(11) Mary has a temperature.
(12) The fridge is empty.

It should be pretty straightforward that in order to come up with the proposition explicitly expressed by these utterances in certain – and most likely familiar – contexts, we have to pragmatically adjust the encoded content of the words 'temperature' and 'empty' in order to construct the proposition explicitly expressed

[13] In the case of hidden indexicals, the context contributes to the identification of the basic proposition expressed by an utterance through our familiar process of saturation that I referred to in the previous section. Conversely, in the case where it is the context itself that provides the unarticulated constituents of an utterance, it manages to do so through the distinct process of modulation, which I will return to discuss shortly. Even though the topic of hidden indexicality is at the centre of attention in pragmatic theory at the moment, I will necessarily leave it aside here, due to space restrictions. Instead, I will follow the relevance-theoretic (and radical contextualist) approach in assuming that unarticulated constituents are provided by the context in a top-down manner.

by (11) and (12). Consequently, in (11) 'temperature' can be easily attributed the *narrower* interpretation of 'a high temperature' rather than its linguistically encoded meaning; that is, the meaning carried by the assumption that 'all living organisms have a temperature, regardless of whether it is high or low'. Similarly, in (12) the fridge might not be interpreted as being totally empty, but rather insufficiently filled with the goods that are needed by a household on a daily basis. In this case, the encoded content of 'empty' needs to be *broadened* so that the 'not entirely empty, but insufficiently full' interpretation can be yielded.

What follows from this brief presentation of certain sources of linguistic underdeterminancy, is that the literalist argument for a context-independent truth-conditional semantic content of an utterance becomes particularly shaky. In more than one respect, contextual intrusions seem to be indispensable for the assignment of a truth value to an utterance's explicitly expressed basic proposition. Against this background, endorsing the linguistic underdeterminancy thesis, at least from the relevance-theoretic perspective, is more than a merely contingent matter: "underdeterminancy is an essential feature of the relation between linguistic expressions and the propositions (thoughts) they are used to express" (Carston 2002a:29). This effectively brings us to one of the insights of the relevance-theoretic framework which I find essential for the approach to semantics that I am currently pursuing. As I will discuss in the next section, Relevance Theory adopts a quite radical version of the linguistic underdeterminancy thesis, according to which, "linguistically encoded meaning *never* fully determines the intended proposition expressed" (Carston 2002a:49, emphasis in original).

6.1.3 The development of logical form

From a relevance-theoretic perspective, the argument for the necessity of pragmatic intrusions in the identification of 'what is said' by an utterance originates from at least as far back as 1979/1981, when in their paper 'On Grice's theory of conversation', Wilson and Sperber suggested that semantic content is not as immune to pragmatic reasoning as Grice is held to suggest. Naturally, this argument was directly incorporated in the relevance-theoretic framework that Sperber and Wilson later developed (1995:183, emphasis my own):

> The main problem with Grice's distinction has to do not with the characterisation of implicatures, but with the characterisation of the *explicit*. First, he does not envisage the kind of *enrichment of logical form* involved, for instance, in interpreting 'will' as *will very soon*; he treats comparable cases, for instance the interpretation of 'and' as *and then* in some contexts, as cases of implicature. [...] In fact [however], recent work has shown that a number of problems with classical implicature analyses are resolved when the 'implicatures' are reanalysed as pragmatically determined aspects of explicit content.

On the basis of this argument, as I have already repeatedly noted in the previous chapters, one of the mechanisms that Sperber and Wilson put forth in their account of utterance interpretation is one that crucially determines "the content [of an utterance] on the basis of the context and of the linguistic properties of the utterance" (Sperber & Wilson 1982:61). What this mechanism delivers then is what, as I briefly suggested in the third chapter, Relevance Theory calls explicatures. In this setting, Sperber and Wilson define an explicature as "an assumption communicated by an utterance *U* [... that] is a development of a logical form encoded by *U*" (1995:182).

As we have seen, the relevance-theoretic account is based on the idea that verbal comprehension involves both the use of a code and inference. In this respect, the decoding and the inferential process are attributed to the operation of two distinct mental structures, the grammar and the relevance-based comprehension module respectively. Against this background, a clear distinction between sentences and utterances arises. Sentences are viewed as the domain of enquiry of the grammar, where semantics also lies, while it is specifically the utterances of sentences that form the realm of pragmatic investigation (Sperber & Wilson 1995:9-10). Regarding the interpretation process then, from the relevance-theoretic perspective, it is the grammar that provides the ostension processor with a (decoded) semantic representation[14], the uttered sentence's logical form, which is then inferentially assigned a "unique[15] propositional form" (Sperber & Wilson 1995:179). And in line

[14] In the case of ambiguity of course, there will be more than one candidate semantic representations that the inferential processor will be provided with.

[15] Notably, utterances can be also argued to communicate multiple explicitly communicated propositions rather than merely one (e.g. Bellert 1977, Espinal 1991, Bach 1999a, Neale 1999), an argument that has also been entertained in Relevance Theory (e.g. Sperber & Wilson 1986/1995, Ifantidou-Trouki 1993, Wilson & Sperber 1993, Ifantidou 2001, Blakemore 2002, Carston 2002a, Iten 2005). However, I will leave these complications aside here, for ease of exposition, even though I intend to return to them in future research that will complement and potentially alter an early account that I provided in Assimakopoulos (2006b).

with the radical version of the linguistic underdeterminancy thesis that Relevance Theory endorses, "the logical forms recovered by decoding fall short of being fully propositional" (Sperber & Wilson 1995:81). Consequently, in contrast to the literalist tradition, the relevance-theoretic account argues that "a semantic representation must be selected, completed and enriched in various ways to yield the propositional form expressed by the utterance" at hand (Sperber & Wilson 1995:179). And crucially, that is how relevance theorists perceive what they call the '*development* of a logical form encoded by an utterance'.

It follows from this that Relevance Theory essentially adopts a radical contextualist perspective with respect to the study of meaning. Even though, as I will show later, much like semantic minimalism, it accepts that there is a level of pure linguistic meaning provided by the semantics of language, it nonetheless contends that the output of this semantic decoding process always needs to be pragmatically enriched in order to gain full propositional status. Therefore, the basic difference between the literalist tradition and the contextualist line that Relevance Theory follows lies in their corresponding dispute as to whether the semantic representation of an utterance's underlying sentence can be assigned a complete propositional content. Given Recanati's version of the principle of effability discussed above then, literalists, like Cappelen and Lepore, accept that an utterance's statement can be provided by means of an eternal sentence, while contextualists, like relevance theorists, advocate that it is only through its utterance that a sentence can be assigned a determinate truth value.

6.1.4 The psychological treatment of truth conditions

A crucial point that needs to be addressed at this point regards the notion of truth conditions that is implemented in the literalism/contextualism debate as I have presented it here. It is widely known that one of the basic claims of the original formal accounts of logic was that they aimed at examining necessary truths. As Frege himself asserted, from a logical point of view (1893/1997d:202),

> being true is quite different from being held as true, whether by one, or by many, or by all, and is in no way to be reduced to it. There is no contradiction in something being true which is held by everyone as

false.

As I noted in the second chapter, formal theories of natural language semantics were correspondingly developed from the logical externalist perspective, which views languages as "abstract objects whose properties can and should be investigated independently of their instantiations in human minds" (Carston 2002a:32) and, thus, take truth to be a logical rather than a psychological property. As Cann asserts, from a formal semantic perspective, "to know the core meaning of a sentence uttered as a statement is to understand the conditions under which it could be true" (1993:15).

In contrast, the contextualist stance is specifically concerned with the "intuitive truth-conditions" of an utterance (Recanati 2004:24); that is, with the conditions under which what an utterance asserts can be *held* to be true by its hearer. In order to illustrate the difference of perspective here, let me use some examples that Recanati puts forth in his corresponding discussion of literal versus actual truth conditions (2004b:8):

(13) I've had breakfast.
(14) You are not going to die.
(15) It's raining.

As Recanati observes (2004b:8-10), the traditional literalist will assume that what the utterances in (13) to (15) say can be construed by their minimal semantic representation, plus the saturation of any overt indexicals, such as 'I' in (13) and 'you' in (14). However, from a contextualist point of view, in most familiar contexts the semantic content of these utterances would need to be enriched for a hearer of them to recover the basic proposition that they explicitly express. For example, the utterance in (13) can be easily taken to express that the speaker has had breakfast *on the very day* that she utters (13) rather than twenty years ago and never since. Similarly, in a likely familiar context, (14) does not assert that the hearer is never going to die, i.e. that he is immortal, but rather that he is not going to die *from a cut* or *from a break-up* or whatever the context gives you. Along the same lines, the well-worn example in (15) is usually uttered in claiming that it's raining *at some particular place* rather than that it's raining somewhere or other.

What follows from this is that the contextualist embarks upon an enterprise that is quite different from the one that mainstream formal semanticists commit to.

At first sight, there is no obvious reason why these different points of view regarding truth conditions cannot coexist in linguistics. For them to coexist, however, it is essential that the formal semanticist acknowledges that what s/he is after is not a psychological notion of truth-conditional content. And it is with respect to this that the literalism/contextualism debate effectively arises in my view.

Recent literalist accounts like the one offered by Borg (2004) or Cappelen and Lepore (2005, see especially 2005:176-189) explicitly advocate that a sentence's semantically generated minimal proposition has a real psychological role in the cognitive processes involved in the attribution of meaning to an utterance. What this suggests is that we actually entertain the minimal proposition that is provided by our context-independent semantic knowledge in order to eventually arrive at an utterance's interpretation. In contrast, relevance theorists, along with several other contextualism-oriented scholars[16], commit to an elimination of truth-conditional semantics in this psychological sense in favour of a *truth-conditional pragmatics*[17]. And what this position essentially amounts to is that the semantic representation of a sentence needs to be thoroughly developed against the context of its utterance to gain full propositional content. And this development does not only involve our familiar processes of saturation that are necessary for the attribution of some truth-conditional content to indexicals, but also, and more crucially, corresponding processes of *modulation*, that is, free contextual enrichment that results in pragmatic developments of the logical form that are driven by the context of the utterance itself, as is evident in the discussion of (13) to (15) above[18]. Against this background, for the contextualist, the minimal propositional content that literalists attempt to assign

[16] As I have already noted above, even though the specifics regarding the ways in which context effectively intrudes in the determination of an utterance's truth-conditional content may differ – sometimes even considerably – among theorists working outside of Relevance Theory, all of them overall explicitly endorse the doctrine of truth-conditional pragmatics (e.g. Recanati 1989, 1993, 2004b, Bach 1994a, 1994b, 2000, Bezuidenhout 1997, 2002, Neale 2000, 2005, Salmon 2002).

[17] Even though the term 'truth-conditional pragmatics' carries certain implications which relevance theorists "do not necessarily endorse" (Wilson & Carston 2007:254), I will follow Wilson and Carston's example of using the term as a "clear way of distinguishing the kind of account [Relevance Theory...] advocate[s] from those that relegate all but the bare minimum of pragmatically contributed meaning to the secondary level of conversational implicature". Even so, in my later discussion, I will argue that Relevance Theory needs to adopt the notion of truth-conditional pragmatics with all its implications.

[18] Of course, there is the third option of positing hidden indexicals in the logical form of an utterance, where again only processes of saturation would be needed to yield a sentence's full propositional content, but as I also noted in footnote 12 above, I will leave this line of argument aside in my current discussion due to space restrictions.

to a sentence is never used in our actual mental processing of meaning as it appears to be the result of "a formal principle which has absolutely no bearing on human psychology" (Carston 1988b:165).

From the perspective of this thesis, I also find the exposition of the radical linguistic underdeterminancy thesis that Relevance Theory puts forth to be largely convincing with respect to this effect. As I also noted in the second chapter, from the mentalist point of view that I have adhered to, what I aim at accounting for is that "people find sentences (and other entities) meaningful because of something going on in their brains" (Jackendoff 2002:268). Correspondingly then, the notion of truth that both Jackendoff (2002:294-332) and myself are interested in is not the purely logical one that Frege argued for, but rather its psychological counterpart that contextualists seem to have in mind. And given my compliance with the argument from conceptualist semantics that it is realistically impossible to separate linguistic meaning from general world knowledge from a mentalist perspective, I believe that an account of I-semantics needs to incorporate the realisation that contextual[19] intrusions are essential for the construction of the proposition explicitly expressed by an utterance; that is, what in relevance-theoretic terms corresponds to an utterance's basic explicature[20].

However, in contrast to conceptualist semantics, Relevance Theory seems to straightforwardly identify a level of meaning that is actually taken to be purely linguistic and context-independent. In this respect, what I will turn to argue in the next section is that, in the light of the general internalist and individualistic perspective that the relevance-theoretic account adopts, its notion of semantic content needs to be substantially revisited and fine-tuned to match the claim of psychological plausibility that the framework overall makes. And in order for that to happen, I believe that the relevance-theoretic proposals for radical linguistic underdeterminancy need to be extended from the treatment of an utterance's propositional content as a whole to that of individual lexical/conceptual contents.

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[19] where, from my point of view, the context comprises an individual's general world knowledge, or to put it more precisely his/her assumptions about the world that are deemed relevance-enhancing for the interpretation of an utterance.

[20] Relevance theorists often call the proposition explicitly expressed by an utterance explicature. Of course this does not mean that it is the only explicature communicated by an utterance (see footnote 15 above, for a discussion of higher-level explicatures, see, Sperber & Wilson 1986/1995, Wilson & Sperber 1988, Clark 1991).

6.2 On conceptual content

As I already noted in the introduction to this chapter, the proposal that I will argue for in it relates mainly to what I perceive to be a pervasive context-dependence of semantic content at the lexical level. This is by no means only my own observation; Burton-Roberts (2005, 2007) has also argued that the relevance-theoretic notion of semantic content is problematic. And even though I largely agree with most of his criticisms, in what follows I wish to pursue an alternative line from the one that he does.

Up to this point, I have shown how the relevance-theoretic approach reacts to the literalist tradition that takes semantics alone[21] to be capable of providing a sentence's complete propositional form. From the relevance-theoretic perspective, pragmatic developments of a semantically decoded logical form are essential in identifying an utterance's basic proposition, as various aspects of it are linguistically underdetermined and need to be inferentially completed. Having addressed the procedure by which these inferential developments effectively take place[22] in the third chapter, I wish to now turn to the way in which Relevance Theory identifies the content of the semantically determined logical form itself.

In this respect, Sperber and Wilson seem to have a traditional Chomskyan-based conception of the grammar as a generative system of knowledge (1995:9):

> Generative grammars abstract out the purely linguistic properties of utterances and describe a common linguistic structure, the sentence, shared by a variety of utterances which differ only in their non-linguistic properties.

Therefore, as we have already seen, the logical form of a sentence is defined as the semantic representation that the grammar generates with respect to it (ibid, emphasis my own):

> By definition the semantic representation of a sentence, *as assigned to it by a generative grammar*, can take no account of such non-linguistic properties as, for example, the time and place of utterance, the identity of the speaker, the speaker's intentions, and so on. *The semantic representation of a sentence deals with a sort of common core of meaning shared by every utterance of it.*

[21] with the obvious exception of the context-dependence of a limited set of indexical expressions.
[22] That is, via the operation of the relevance-driven comprehension module.

What this suggests is that the relevance-theoretic notion of logical form is essentially context-independent. This creates an interesting correlation between the relevance-theoretic approach and the literalist account of semantic minimalism that I presented above. As Wedgwood first noted (2007b), in both traditions, there seems to be a fully determinate semantically encoded content upon which pragmatic inference effectively operates.

Naturally, the relevance-theoretic conception of this encoded content departs substantially from the corresponding minimalist one in two main respects. The most obvious difference between the two is of course that in Relevance Theory the semantic representation of an utterance *needs* to be contextually developed into an explicature in order to gain full propositional content. Accordingly, in literalist – as well as traditional Gricean – accounts, which assume that pragmatic inference operates over the semantically determined explicitly expressed proposition with a view specifically to yield its implicatures, it is necessary for an utterance's full semantic representation to be pinpointed before pragmatic reasoning enters the interpretation process. In contrast, by means of the mechanism of mutual parallel adjustment of explicatures and implicatures that I presented in the third chapter, the relevance-theoretic account does not pose such a constraint on the operation of inferential processes. As Carston discusses (2004a:820), semantic representations

> are not recovered as a whole and then worked on by the pragmatic inferential system; rather, the mechanisms here (the parser and the pragmatic system) are performing on-line, millisecond by millisecond, so that very often pragmatics is making a hypothesis about an intended word sense, or an indexical referent, or even an implicature, before the entire acoustic stimulus has been processed by the linguistic system.

Even so, no matter how schematic or propositionally incomplete a sentence's logical form might be in the relevance-theoretic scenario, it still needs to be determinate in the sense that it is effectively decoded, that is, provided from a directory of encoded meanings that exists in the grammar. Essentially then, it seems that Wedgwood is justified in suggesting that (2007b:664)

> C[appelen] & L[epore]'s minimal semantic content is entirely equivalent to the notion of encoded meaning in R[elevance] T[heory]. This is necessarily the case, since encoded meaning is by definition

> just that which is conveyed by a given linguistic form, irrespective of context.

Indeed, as I stressed above, at the sentential level, the relevance-theoretic conception of encoded meaning amounts to 'the common core of meaning shared by every utterance of a sentence', and in Cappelen and Lepore's account, the semantic content of a sentence S is correspondingly perceived as the meaning that 'all utterances of S express'. In this respect, the relevance-theoretic account appears to crucially lie on the assumption that the semantic component of the grammar provides the inferential module with some purely linguistic, encoded meaning that makes up an uttered sentence's logical form.

Against this background, the issue that I wish to address is what this encoded meaning amounts to at the lexical level, since at the sentential one, it amounts to a schematic logical form that will have already been pragmatically enriched before it actually gets wholly decoded[23]. If we follow the relevance-theoretic argument it seems that a lexical item's encoded meaning, much like a sentence's encoded semantic representation, should be viewed as the common core of meaning shared by every usage of the lexical item in abstraction from individual contexts of use. However, how are we to realistically pinpoint what this context-independent meaning is with respect to any lexical item in a language? In order to illustrate what I take Relevance Theory's response to this question to be, I will begin by identifying its corresponding account of conceptual content.

6.2.1 Encoded concepts

As we have already seen, the relevance-theoretic approach shares the internalist perspective that I adopted at the beginning of this thesis. Therefore, much like conceptualist semantics, it is interested in the psychological processes through which 'people find linguistic expressions meaningful', especially since the original motivation behind Sperber and Wilson's framework was their reaction to psychologically implausible traditional accounts of utterance interpretation and

[23] That is because, if we take the mutual parallel adjustment hypothesis with respect to the decoding of the logical form as I exemplified it above, the inferential processor will start enriching the logical form from the moment that the first lexical item gets decoded.

meaning attribution. In this respect, the theoretical constructs that relevance theorists have developed are not meant to underlie abstract philosophical distinctions, but rather conceptions that are useful specifically for the identification of the psychological processes that mediate actual human cognitive computations.

Therefore, in discussing meaning, relevance theorists aim at addressing it from a purely mentalist perspective, since in their approach logical forms, explicatures and implicatures are all mentally instantiated through the interaction of different cognitive processes, such as decoding, inference, perception, metarepresentation and so on and so forth. Along the same lines, the discussion of lexical meaning within the relevance-theoretic framework posits a direct counterpart to lexical items in our cognitive system. In this sense, from the relevance-theoretic perspective, "the 'meaning' of a word is provided by [its...] associated *concept* (or, in the case of an ambiguous word, concepts)" (Sperber & Wilson 1995:90, emphasis my own), where a concept is crucially thought to be an "enduring elementary mental structure, which is capable of playing different discriminatory or inferential roles on different occasions in an individual's mental life" (Sperber & Wilson 1998:189). In this respect, logical forms can be viewed as structured sets of concepts[24], which effectively means that, since logical forms are by definition context-independent semantic representations, the concepts that they include need to also have some correspondingly purely semantic content.

In this setting, let's briefly see how lexically encoded concepts are construed in the relevance-theoretic framework. For Sperber and Wilson (1995:86),

> each concept consists of a label, or address, which performs two

[24] At this point, I should note that for the purposes of my discussion I will only be concerned with clear-cut cases of what relevance theorists call *conceptual encodings*, that is, lexical items that carry representational information, i.e. conceptual content. Even so, it is undeniable that these are not the only lexically-related entities that exist in the mind. A great deal of research within the relevance-theoretic framework has been revolving around the corresponding category of procedural encodings, which as I noted in the third chapter are thought to be lexical items that contribute to the computational rather than to the representational level (e.g. Blakemore 1987, 2000, 2002, 2004, 2007, Blass 1990, Wilson & Sperber 1993, Nicolle 1996, Breheny 1999, Fretheim 2000, Ifantidou 2001, Hall 2004, 2007, Iten 2005). Even so, some of them might actually not be entirely devoid of conceptual content either (for discussion, see, Espinal 1996, Nicolle 1996, Blakemore 2002, 2007, Hall 2007, among others). In addition to procedural encodings, there are also certain lexical items, like 'my', 'have', 'near', 'long', that seem to encode what Sperber and Wilson (1998) call pro-concepts, which are neither fully-fledged concepts nor indexical pointers, but lie somewhere in between. For ease of exposition, I will ignore the complications that arise for the treatment of all these encodings, which, however, I am certainly keen on returning to in future research stemming from this thesis.

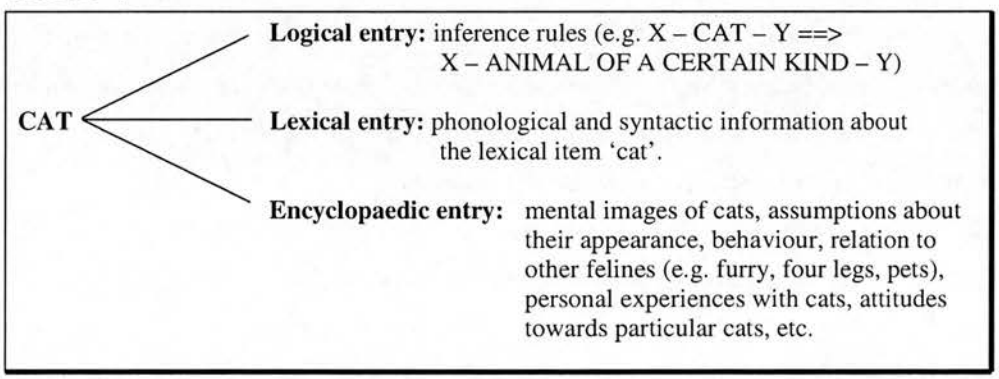
> different and complementary functions. First, it appears as an address in memory, a heading under which various types of information can be stored and retrieved. Second, it may appear as a constituent of a logical form, to whose presence the deductive rules [employed for inference by the deductive device] may be sensitive. These functions are complementary in the following sense: when the address of a certain concept appears in a logical form being processed, access is given to the various types of information stored in memory at that address.

In this respect, it seems that the basic role that concepts play in the comprehension of an utterance, from the relevance-theoretic perspective, is to trigger the deductive device of the inferential processor every time they appear in an utterance's logical form, and give to it access to their information in memory.

Regarding the 'various types of information' that are stored in a conceptual address in memory now, Sperber and Wilson suggest that concepts are effectively "triples[25] of entries, logical, lexical and encyclopaedic" (1995:92). Of these entries the most straightforward to approach seems to be the lexical one, which effectively comprises information about the lexical item that encodes a concept in natural language. As Sperber and Wilson further discuss, "this entry includes the sort of syntactic and phonological information that would be contained in the lexical entry for that item in a generative grammar: information about its syntactic category membership and co-occurrence possibilities, phonological structure, and so on" (1995:90). Then, a concept's logical entry "consists of a set of deductive rules which apply to logical forms of which that concept is a constituent" (Sperber & Wilson 1995:86). The function of these rules, which correspond to 'meaning postulates', is to provide the deductive device with sets of premises and conclusions which "capture

[25] Of course, "occasionally, an entry for a particular concept may be empty or lacking" (Sperber and Wilson 1995:92). For example, a concept like AND might not have an encyclopaedic entry, since it has no extension. Accordingly, proper names can be shown to lack logical entries. Some concepts even lack lexical entries, like the concept that has UNCLE and AUNT as its subcategories and contains information that is common to both concepts (after Sperber & Wilson 1998). Similarly, as Sperber and Wilson note, several lexical items, like 'my', 'have', 'near', "seem to encode not a full-fledged concept but what might be called a pro-concept" (1998:185), that is, they carry some content which needs to be contextually adjusted on every occasion of use of the associated word in an utterance in order to work out its specific truth-conditional contribution to its meaning. Even though these are cases that should be investigated closely in an account of the type that I am pursuing here, I will leave them aside at this stage for ease of exposition, committing to return to them in future work stemming from this thesis. For the purposes of the current discussion, I will instead focus solely on lexical items that are customarily thought to encode full-fledged concepts and, thus, are thought to be entirely context-independent, in an attempt to argue that even these least likely candidates present some degree of context-sensitivity.

certain analytic implications of the concept" at hand (Carston 2002a:321). What is crucial to note with respect to a concept's logical entry at this stage is that, from the relevance-theoretic perspective, the meaning postulates it contains take the form of elimination rules alone. This point is of course akin to the one that I presented in the third chapter and, according to which, the deductive device has access merely to elimination rules, because corresponding introduction rules would endlessly provide trivial logical implications (for further discussion, see Sperber & Wilson 1986/1995, Horsey 2001, 2006). Finally, a concept's encyclopaedic entry "contains information about its extension and/or denotation: the objects, events and/or properties which instantiate it" (Sperber & Wilson 1995:87). As we already saw in the fourth chapter, this entry comprises general information that we individually have with respect to certain concepts, such as 'osso-bucco' or 'surgeons', and which can be stored in propositional form, either in the shape of fully determinate assumptions or by means of skeletal and schematic assumption schemas that are then completed during the deduction. What needs to be minimally added here is that the encyclopaedic entry of a concept might as well "contain – or give access to – 'images' and whatever types of mental object can be used as sources of information in conceptual thinking" (Sperber & Wilson 1995:286). Following the relevance-theoretic scenario then, the address in memory of the concept CAT[26] can be schematically represented as follows[27]:



Given my current purposes, a little more needs to be added here about the function that each entry of a lexically encoded concept has in the comprehension

[26] Here I am following the relevance-theoretic tradition of notating encoded concepts by means of their lexical counterpart in capital letters.

[27] This diagram is equivalent to the one Deirdre Wilson uses in her 2004 lecture notes for Issues in Pragmatics at UCL. The content of the entries for the concept CAT is after Carston (2002a:321).

process. For one, the existence of both a lexical and a logical entry in the same address underlines that concepts play a role in both the decoding and the inferential process. As Sperber and Wilson note, "recovery of the content of an utterance involves the ability to identify the individual words it contains, to recover the associated concepts, and to apply the deductive rules attached to their logical entries" (1995:90). Therefore, it is the lexical entry of a word that activates the meaning postulates that are included in the logical entry of its encoded concept.

With respect to the differentiation of the logical from the encyclopaedic entry things get a little bit trickier, as it essentially corresponds to the traditional distinction between analytic and synthetic truths, a distinction that even Sperber and Wilson themselves acknowledge to have been "a notorious subject of dispute" (1995:88). The way in which a concept's logical entry relates to the analytic tradition is that the meaning postulates it contains express necessary truths with respect to the concept at hand. So, with respect to the CAT example above, the inference rule 'X – CAT – Y => X – ANIMAL – Y' suggests that we cannot think of cats without recognising that they are animals. What is more, since meaning postulates automatically enter the deductive device when a concept's lexical entry is activated, the existence of the above inference rule in the logical entry for CAT means that it is *impossible* to think about cats without thinking of them as animals during the inferential deduction. Conversely, as we saw in the fourth chapter, the encyclopaedic entry of a concept "is internally structured in terms of the degree of accessibility of its constituent elements to various processing systems" (Carston 2002a:321), and effectively contains chunks of memorised information that can, in order of accessibility, optionally enter, say, the memory of the comprehension deductive device.

Therefore, as far as I can understand it, the fundamental difference between inference rules and encyclopaedic assumptions (or images or whatever have you) is that the former necessarily enter the deductive device that produces inferences one by one, while the latter are selectively included in the inferential process only when needed. And even though the corresponding analytic/synthetic distinction has been seriously undermined by Quine's famous arguments, Sperber and Wilson suggest that, from a psychological perspective, the logical/encyclopaedic distinction that they put forth is absolutely essential. That is simply because encyclopaedic information is

representational while logical information is computational and, in cognitive psychology, representation cannot exist without computation and vice-versa. Ultimately, what this distinction amounts to in relevance-theoretic terms is that an utterance's content "is constrained by the logical entries of the concepts it contains, while the context in which it is processed is, at least in part, determined by their encyclopaedic entries" (Sperber & Wilson 1995:89).

Against this background then, it seems to me that Relevance Theory can give us a rough idea of the ways in which lexical semantic content is to be construed. To this effect, consider the following argument put forth by Sperber and Wilson (1995:88):

> Encyclopaedic entries typically vary across speakers and times: we do not all have the same assumptions about Napoleon or about cats. They are open-ended: new information is being added to them all the time. There is no point at which an encyclopaedic entry can be said to be complete, and no essential minimum without which one would not say that its associated concept had been mastered at all. Logical entries, by contrast, are small, finite, and relatively constant across speakers and times. There is a point at which a logical entry for a concept is complete, and before which one would not say that the concept had been mastered at all.

It appears to me that this argument points to the conclusion that a lexical item's decoded content is provided through the meaning postulates that are included in its encoded concept's logical entry[28], as these are the only conceptual components that remain 'constant across speakers and times' and, thus, the only means to identify 'a common core of meaning shared by every usage of the lexical item in abstraction from various contexts of use', given that the corresponding encyclopaedic entry is highly individualistic.

With respect to this conclusion, however, I have my reservations. To begin with, let's clarify the more general position that relevance theorists have with respect to the nature of concepts. Right from its emergence, the relevance-theoretic framework has been largely sympathetic to the Fodorian *Representational Theory of*

[28] I am pretty certain that this is not a conclusion that relevance theorists would themselves agree to, since the public meaning of a concept cannot consist simply of its meaning postulates alone. After all, even from the point of view of conceptual atomism that Relevance Theory endorses, "the intuitions of analyticity are faulty" (Laurence & Margolis 1999:66; for a discussion of how meaning postulates can be thought to be partly conceptual content constitutive, see Horsey 2006).

Mind. In this respect, relevance theorists also endorse Fodor's view of concepts as *atomic*, that is, simple, unanalysable (undecomposable) mental entities[29]. Hypothesising further that they endorse Fodor's account of concepts overall, however, I believe that relevance theorists should be equally prepared to accept the externalist position that Fodor adopts with respect to them. And indeed they seem to be. Like Fodor, relevance theorists draw a corresponding distinction between 'linguistic' and 'real' semantics, and which can be roughly identified as follows (Carston 2002a:58, emphasis in original):

> linguistic semantics [...] could be described in statements of the form '*abc*' *means (= encodes)* '*ijk*', where 'abc' is a public-language form and 'ijk' is a Mentalese form (most likely an incomplete, schematic Mentalese form) [and...] 'real' semantics [...] explicates the relation between our mental representations and that which they represent [...] and whose statements may take the form '*hijk*' *means (= is true iff) such-and-such.*

Against this background, even though Relevance Theory and conceptualist semantics both recognise the sole locus of semantics to be thought, they take concepts, the ingredients of thought, to have very different contents. For Jackendoff, "semantic/conceptual structure does not *have* a semantics, it *is* the semantics of language" (2002:279, emphasis in original). Therefore, from this point of view, concepts are personal through and through and derived from the way in which we subjectively perceive the world around us. Fodor's view of meaning on the other hand, is purely externalist. Take for instance his case for acquisition: he might have recently (Fodor 1998) moved from his earlier position of radical concept nativism, since he now takes concept acquisition to merely make use of innate mechanisms, instead of considering concepts to be innate themselves, but even in the new version "acquiring a concept is getting *nomologically locked* to the property that the concept expresses" (1998:125, emphasis in original). And this 'property' is crucially external to the mind, it is not a property that the concept expresses for us, but one that is out there in the world. Thus, all we have to do to acquire a concept is subconsciously grasp its external property. Since for the purposes of this thesis I find it practically

[29] For the arguments behind this position, see Fodor et.al. (1980), Fodor (1981, 1998), among others.

impossible to review the entire Fodorian view of concepts[30], I will necessarily leave this important enterpise for future research. All I will do for the moment is cite an excellent summary of Jackendoff's worries, which I share, regarding Fodor's externalism (2002:279, emphasis in original):

> His proposal is that *true* uses of a symbol such as *platypus* are somehow *caused* by actual platypuses [...]. He then faces the problem of what licences (a) incorrect uses of *platypus* in response to, say, cows, and (b) 'representational' uses of *platypus* when the speaker is just imagining a platypus or thinking about platypuses in general. He concludes tentatively that these cases are 'asymmetrically dependent' on the true cases, in a fashion left unexplained. [Even so...,] Fodor is clearly worried by these gaps[:...] "Deep down, I think I don't believe any of this. But the question of what to put in its place is too hard for me" [(Fodor 1990:190)].

Let me now evaluate what an externalist approach to conceptual content entails in its premises. For that matter, consider Putnam's famous Twin Earth thought experiment (1975)[31] which is taken to have showed us exactly that "'meanings' just ain't in the head" (1975:144). In this setting, we are asked to imagine the existence of a planet, call it Twin-Earth, which is exactly like earth in virtually all respects but one: what inhabitants of Twin-Earth call 'water' has a different chemical composition from the H_2O one with which we, inhabitants of earth, are familiar. Suppose then that Oscar, who lives in earth, somehow meets Twin-Oscar, his exact replica in Twin-Earth, and they start talking about water. Putnam's argument in this case is that Oscar uses 'water' to refer to H_2O while Twin-Oscar uses the same word to refer to something different, say XYZ. Therefore, the internal representation of water in Oscar's and Twin-Oscar's minds is not sufficient to pinpoint what their respective uses of the word 'water' refer to in the actual world. In this sense, the meaning of 'water' in each case is to be actually defined by the chemist, much like the difference in the referents of 'elms' and 'beeches' is expected to be captured by the botanist. This is essentially one, and indeed a widely accepted, way of presenting the thesis for semantic externalism from a philosophical

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[30] I should note that, among several scholars, I also have my reservations about the plausibility of Fodor's account, mainly because I believe that in it, he poses to himself so many constraints, that in the end it seems impossible to delineate what a concept actually is (for an excellent argumentation along these lines, see Stainton & Viger 2000).

[31] which was further extended by Burge (e.g. 1982a, 1982b, 1986)

perspective[32].

As I already hinted in the second chapter, I cannot see why anyone could object to such an externalist theory of meaning, insofar as it acknowledges the separation of the formal (logical) from the mental (psychological). This is a point that was acknowledged, at least to some extent, even by the pioneers of ideal language philosophy. Recall Frege's note in his 'Der Gedanke' (1897/1997b:243):

> Grammar [...] is a mixture of the logical and the psychological. [...] It is true that we can express the same thought in different languages; but the psychological trappings, the clothing of the thought, will often be different.

To my mind, the same applies to the externalist view of meaning that Putnam puts forth as well. Certainly, I might not be able to tell the difference between H_2O and XYZ, so in all likelihood I do not have the meaning of 'water' that a highly trained chemist with a microscope could provide. But does this mean that I do not have the meaning of 'water' at all? What strikes me as perplexing is that many scholars even in cognitive science seem to think so. As Rey discusses (1999:284, emphasis in original):

> there is [...] all the difference in the world between the issue of *whether there actually is a cow on the road* and the issue of *whether anyone knows, believes, has inferred, or even cares whether there is*. Similarly, then, there would seem to be all the difference in the world between *something being a cow* and *someone knowing, believing, or inferring that it is*.

Indeed, this points to a genuine topic of high philosophical value, the famous distinction between *metaphysics* and *epistemology*. However, when we are talking about mental content do we really need this distinction at hand? Fodor, Rey, Cappelen and Lepore and probably most literalists seem to think so.

From a more linguistically oriented perspective, take for example Cappelen and Lepore's positive theory of semantic minimalism (2005:155):

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[32] As I noted right from the beginning of this thesis, I am not currently concerned with the philosophical debate surrounding the argument for semantic externalism, but rather with its implications for the mentalist treatment of linguistic meaning. That is why I will not go into the various important discussions around Putnam's thesis at this stage (see, however, Searle 1983, Fodor 1987, 1991b, Davidson 1987).

> Semantic minimalism [...] is committed to each of the following, some of which are ostensibly surprising:
> (S1) An utterance of 'A is red' expresses the proposition *that A is red* and it is true just in case A is red.
> (S2) An utterance of 'A dances' expresses the proposition *that A dances* and it is true just in case A dances.
> (S3) An utterance of 'A has had enough' expresses the proposition *that A has had enough* and it is true just in case A has had enough.

I think no more examples are needed. The point is simple: The meaning of 'The apple is red', 'Mary dances', 'John has had enough' is metaphysical. Correspondingly then, the meaning of the lexical item 'red' or 'dance' is equally metaphysical: "to be red *is* just to be red" (Cappelen & Lepore 2005:158). And what is even more surprising with this scenario is that semantics does not even care what the property of, say, redness is (Cappelen & Lepore 2005:158-159):

> We refuse to mix metaphysics with semantics. [...] Not only is there no reason to think these worries can be solved by doing semantics, there is no reason to think that they have anything at all to do with semantics.

Regarding this, I cannot but agree with Recanati that "it is, of course, very hard to take this position seriously" (2006:22). Nevertheless, Cappelen and Lepore take their minimal propositions to be psychologically real and the metaphysical meaning of 'red' to be included in the mind.

What is even more worrying to me, however, is that following this sort of philosophical or semantic argument, cognitive science has equally welcomed this conclusion. As Rey characteristically observes (1999), concepts have both a metaphysical and an epistemological role. Take the case of tomatoes (Rey 1999:288): tomatoes are practically a fruit and yet we recognise them as vegetables. In this sense, tomatoes are metaphysically fruits and epistemologically perceived by *some of us* as vegetables – clearly, the botanist will know they are fruits. In this sense, what Fodor and Rey seem to suggest is that the content of the concept TOMATO is not what we perceive to be a tomato, but what actually is one, or to put it more aptly all the facts about the red juicy thing "in *virtue of which*" it is a tomato (Rey 1999:284, emphasis in original). Similarly, consider the following (Rey 1999:297-298, emphasis in original):

> It is a happy fact about racist and sexist judgements [...] that people argue about them and can sometimes be persuaded to give them up. They may probably have different sorts of experiences when they think about them. But it is still BLACKS, WOMEN, DOCTORS, BIRDS that comprise part of the *conceptual content* of those disagreements, different conceptions, experiences, and later more enlightened beliefs; it is still those concepts that determine what those mental states are *about*.

What I find perplexing with this specific strategy with respect to conceptual content is that it presupposes that the metaphysical properties of RED, DANCE or TOMATO actually exist in our minds, even though it would be intuitively impossible to identify them. And even more crucially, they exist in everyone's mind in exactly the same way, otherwise what actually constitutes conceptual content from this perspective would fail to be external, and we would not be able to 'nomologically lock' to it.

Something along these lines seems to be endorsed in Relevance Theory as well[33]. Since relevance theorists follow the Fodorian approach to meaning and according to them a concept's logical entry is 'relatively constant across speakers and times', then logical entries cannot but contain the metaphysical facts that make a tomato a tomato. If that is the case, however, an immediate problem presents itself: John, who is a botanist would probably have in the logical entry of TOMATO the inference rule 'X – TOMATO – Y => X – FRUIT – Y', which would be correct according to the actual state of affairs. If the externalist story is on the right track, my mother, who is far from a botanist, and thinks that tomatoes are genuinely vegetables would necessarily have this assumption, i.e. that 'tomatoes are vegetables', in her encyclopaedic entry of her TOMATO concept, since it would provide her with a way to identify tomatoes; yet, not a nomologically valid way which would create a meaning postulate in the corresponding logical entry. However, as she clearly should have the concept TOMATO (otherwise she would be thinking of something else while preparing a Greek salad), she should also have the inference rule 'X – TOMATO – Y => X – FRUIT – Y' in her logical entry. I find it hard to believe that

[33] It should be noted that relevance theorists might have never defended this argument as it is, but, in all fairness, they have also never explicitly pinpointed what their exact position is with respect to the semantic content that they argue gets decoded during the interpretation process, leaving a lot of room for speculation concerning this aspect of their framework. In light of this relative vagueness, I cannot but align myself with certain researchers (e.g. Burton-Roberts 2005, 2007, Groefsema 2007) who attempt to deconstruct an argument regarding this issue from the limited input that we have from relevance theorists themselves.

my mother subconsciously knows that tomatoes are actually fruits, so probably the specific inference rule would not be content-constitutive for the concept TOMATO. And no matter how hard I have thought about this there is no property of tomatoes that can be genuinely only a property of tomatoes. I think that I should not go any further with this. Unless someone actually comes up with the metaphysical properties of some entity or with some definite meaning postulates[34] that can be proven to be shared among all individuals who are able to think about this entity, I believe that the argument from externalism cannot be sustained with respect to conceptual contents in the human mind.

Having set this aside, I feel puzzled with respect to the view of semantics that Relevance Theory seems to have in mind. For Sperber and Wilson, an advantage of their account of concepts is that it allows them "to maintain a somewhat ecumenical view of lexical semantics", since meanings do not have the same format for every word, and encyclopaedic entries can actually alter the decoded meaning of a lexical item (more on this in the next section). Indeed, this seems to me like a valid observation overall, but it does not actually provide us with the view of lexical semantics that Sperber and Wilson have in mind. And more specifically, it does not provide us with what relevance theorists hold to be the input of decoding to the inferential processor at the lexical level. I have hypothesised that it probably comprises the inference rules of the concept that encodes a lexical item, but then what these inference rules would be, I have no idea.

Let me return to the distinction between 'linguistic' and 'real' semantics that relevance theorists, following Fodor, put forth. In personal communication, Carston suggests to Burton-Roberts that the following quote from Fodor represents the relevance-theoretic position (Fodor 1998:9, emphasis in original, in Burton-Roberts 2007:91):

> English inherits its semantics from the contents of beliefs, desires, intentions, and so forth that it's used to express [...]. Or, if you prefer (as I think, on balance, I do), English has *no semantics*. Learning English isn't learning a theory about what its sentences can mean, it's learning how to associate its sentences with the corresponding thoughts.

[34] Note that I am not arguing that meaning postulates do not exist, but rather that they might not be identically shared across individuals, as I will return to discuss later on.

Again from my conceptualist perspective, this sounds perfectly reasonable. But, if we take Fodor's line of argumentation, for the English word tomato to inherit its semantics from the concept TOMATO, it follows that the concept TOMATO has some semantic content that remains stable across situations; otherwise lexical items would not be decoded. What this stable content would be, if not metaphysical, again I have no idea. What worries me even more with this is how the quotation from Fodor cited above actually continues in his *Concepts* (1998:9):

> To know English is to know, for example, that the form of words 'there are cats' is standardly used to express the thought that there are cats; and that the form of words 'it's raining' is standardly used to express the thought that it's raining; and that the form of words 'it's not raining' is standardly used to express the thought that it's not raining; and so on for in(de)finitely many other such cases.

To say the least, this looks suspiciously similar to Cappelen and Lepore's examples cited above.

In this case, of course, Relevance Theory might bite the bullet by suggesting that this view is fine as long as we change Fodor's usage of the term 'thought' with the relevance-theoretic concept of 'logical form'. Indeed, the result of the decoding process for 'dogs eat bones', if it were miraculously not affected by the inferential processor, would be the logical form DOGS EAT BONES[35], where only the encoded concepts for each lexical item would be provided. However, in real-life computations, this logical form would be necessarily contextually enriched into a complete thought, as the linguistic underdeterminancy thesis predicts. Still, however, for the decoding of the logical form to take place in the first instance, the concept EAT would need to have some determinate semantic content that would then be provided to the inferential processor for development. And considering that, from a relevance-theoretic perspective, this content is essentially context-independent to begin with, our problem remains: what is the semantics of EAT?

Naturally, I should acknowledge that, in all likelihood, relevance theorists do not suppose that all concepts have complete semantic contents. However, if lexical semantic contents are incomplete, then what sort of meaning does the process of lexical decoding involve? What I take to be highly uncontroversial among relevance

[35] The plural might be problematic here, but I am only using this to illustrate my argument.

theorists though, is that they clearly assume that some context-insensitive linguistic meaning really exists in the mind and more specifically in the language faculty. In a very recent paper, Carston actually articulates this view, in her argument of drawing the line between semantics and pragmatics by distinguishing "context-independent linguistically encoded meaning versus speaker meaning (or communicated meaning or utterance meaning)" (2006a:37). As she further notes (2006a:38):

> I shall argue that the right way to draw the distinction is as [above...], that this is a natural distinction (between distinct kinds of information and distinct kinds of mental processes). It is a distinction that matters [...]

In this section, I have argued that it is highly unlikely that we can pinpoint what 'context-independent linguistically encoded meaning' amounts to. However, this does not necessarily mean that the decoding process is redundant overall either. Before I turn to my proposal regarding what it involves, however, I would like to present another idea that has recently gained much currency in the relevance-theoretic framework.

6.2.2 *Ad hoc* concepts

As I already suggested above, one of the main sources of linguistic underdeterminancy that crucially applies to the lexical level, involves the pragmatic adjustment of a word's encoded concept when this word is uttered in context[36]. With respect to the processes of lexical narrowing and broadening that I exemplified there, relevance theorists have recently taken up the term *ad hoc concept* to denote a communicated concept that is "accessed in a particular context by a spontaneous process of pragmatic inference, as distinct from a concept which is accessed by the process of lexical decoding" (Carston 2002a:322-323).

The notion of *ad hoc* mental entities was originally introduced by Barsalou in the domain of cognitive science. In his paper 'On the Instability of Graded Structure' (1987), he suggests that individuals tend to produce different sorts of typicality rankings among the same conceptual category members when these are processed in context. In this respect, people customarily give different rankings of the same

[36] See examples (11) and (12) above.

category members when asked to classify them from different points of view, like their own, their classmates', their grandparents' or even the point of view of other nationals. Similarly, Barsalou (1983) showed that individuals can equally easily construct typicality rankings for *ad hoc* categories, like 'things that can fall on your head', which made them imagine contexts that probably they had not thought about before. Overall, what Barsalou's experimental research showed is that we are generally capable of producing varying representations of the world in a fast and creative way, even when we presented with settings that we might have never encountered in our lives.

Following this evidence about the flexibility with which we can entertain temporary mental constructs that arise in particular contexts, relevance-theorists suggested that during utterance interpretation an encoded concept might get pragmatically adjusted forcing us to construct an *ad hoc* concept in its place. In this case, what will be communicated to the hearer at the lexical level might not be the literal meaning of a word, but a contextually derived *ad hoc* concept. Against this background, the on-line construction of an *ad hoc* concept seems to be a very common practice during the interpretation of an utterance. As I also noted above, the processes by which we can reach an *ad hoc* interpretation at the lexical level are conceptual narrowing and broadening respectively. Consider the following examples (after Wilson 2004:344):

(16) As I worked in the garden, a bird perched on my spade.
(17) Birds wheeled above the waves.
(18) A bird, high in the sky, invisible, sang its pure song.
(19) At Christmas, the bird was delicious.

In all these instances, the encoded concept BIRD needs to be narrowed to a distinct *ad hoc* concept[37] BIRD*, since each use of the lexical item 'bird' in (16) to (19) refers to different subsets of birds, in the obvious contexts involved. Correspondingly, conceptual broadening can be exemplified as follows (after Wilson 2004:345-346):

[37] Here I am using the common notation that relevance theorists have with respect to *ad hoc* concepts, that is the encoded concept followed by an asterisk. Note of course that each *ad hoc* concept for 'bird' involved in the interpretation of (16) to (19) would be distinct from one another, so we would roughly get four *ad hoc* concepts in these cases considered together (BIRD*, BIRD**, BIRD***, and so on and so forth).

(20) The earth is flat.
(21) The ironing board is flat.
(22) Holland is flat.
(23) Brown is the new black.
(24) The leaves dance in the breeze.
(25) They will Learjet off to Miami.

In (20) to (22), it is clear that the encoded concept FLAT needs to be broadened so as to yield the intended interpretation 'approximately flat'. Again, much like with the case of narrowing, this variety of *approximation* will generate different *ad hoc* concepts (FLAT *, FLAT**, FLAT***) in each utterance's context. The three last examples illustrate another variety of conceptual broadening, that of *category extension*, which typically includes in its premises metaphor – as in (24) – and neologisms – as in (25), among other things. In the same way as the previous cases, in (23) to (25), the encoded concepts BLACK, DANCE and LEARJET, need to be broadened so as to yield the intended interpretations BLACK*, DANCE* and LEARJET* respectively.

Let us now see how this on-line concept construction is supposed to work. As I already discussed above, within the current relevance-theoretic framework, when a word is included in an utterance, the first step of the interpretation process is for the grammar to decode its meaning. In this respect, the grammar provides the semantic meaning of the word to the inferential processor. In other words, the word activates the lexical entry of the encoded concept and the meaning postulates in its logical entry enter the deductive device. In search of cognitive effects, the inferential processor might accept the encoded concept as it stands or adjust it following the relevance-based comprehension procedure, by broadening or narrowing it, and adding to the context certain encyclopaedic information included in the concept's address in memory. Naturally, through the process of mutual parallel adjustment, the inferential processor, may return to the initial *ad hoc* concept that it has constructed and further adjust it in its attempt to arrive at the speaker-intended interpretation without unnecessary processing effort expenditure.

What is important to note here is that this procedure certainly has a very appealing flavour to it, since it posits a single, unified procedure by which the hearer constructs the speaker-intended meaning at the lexical level. No matter if the inferential processor chooses to keep the lexically-encoded meaning or decides

instead to construct an *ad hoc* concept, the procedure by which literal and metaphorical interpretations are yielded is one and the same (for further discussion, see Carston 2002a, Wilson 2004, Sperber & Wilson 2006, Wilson & Carston 2006, 2007, among others), which means that we do not need to posit different strategies for the interpretation of metaphors, hyperbole, loose talk, and so on and so forth. In this sense, all lexical meanings in verbal comprehension are "outcomes of a single pragmatic process which fine-tunes the interpretation of virtually every word" (Wilson 2004:344).

Against this background, this citation from Wilson above raises an intriguing question: If the single pragmatic process fine-tunes the interpretation of virtually every word, isn't it possible that all communicated concepts are essentially *ad hoc*? And it seems that relevance theorists have entertained this possibility along exactly these lines (Carston 2002c[38]:99):

> Focusing on the word 'happy', let's consider the concept that it is supposed to encode, a concept which is to provide communicative access to a wide range of other more specific concepts, including one for a steady state of well-being, another for a momentary experience of intense joy, [...] and so on. The idea is that the lexically encoded concept HAPPY is distinct from all of these; it is more general and abstract than any of them, but provides the basis, in appropriate contexts, for processes of pragmatic enrichment so that addressees can come to grasp one of the more specific concepts and incorporate it into their representation of the speaker's thought. But what is not at all clear is whether we ever actually have [...] thoughts in which this very general lexicalised concept features as a constituent [...]. Could it be that the word 'happy' does not encode a concept, but rather 'points' to a conceptual region, or maps to an address (or node, or gateway, or whatever) in memory [which...] provides access to certain bundles of information from which the relevance-constrained processes of pragmatic inference extract or construct the conceptual unit which features in the speaker's thought[?]

It seems that, though open to it, relevance theorists reject this possibility. As Carston goes on to cite, Sperber and Wilson have noted that "the occurrence of a word in an utterance provides a piece of evidence, a pointer to a concept involved in the speaker's meaning" (1998:196), but they clearly affirm that "it may happen that the intended concept is the very one encoded by the word, which is therefore used in its strictly literal sense" (ibid). Similarly, as Carston herself ends up noting (2002c:102),

[38] Carston (2002c) from which I quote is partly included in Carston (2002a).

> while this view of word meaning as very abstract and schematic is perhaps plausible for a range of cases, [...] it might be thought to be much less so when we turn to natural kind terms, like 'cat', 'lion', 'water', 'tree'. There is a strong intuition that 'cat' encodes a concept CAT, which features in thoughts, and not just some abstract schema for constructing CAT* concepts or some pointer to knowledge about cats.

Given my argumentation in the previous section, however, it seems unlikely that the word 'cat' correspondingly encodes a stable concept CAT, that essentially provides some semantic content that is stable across individuals and times. In the light of the relevance-theoretic notion of *ad hoc* concept, however, I believe that a genuine solution to the problem that I discussed in the previous section presents itself.

6.3 Contextualist semantics

In this chapter, I basically discussed two fundamental arguments of the relevance-theoretic framework. The first had to do with the linguistic underdeterminancy thesis, a radical version of which relevance theorists traditionally endorse. From this point of view, natural-language sentences appear to be consistently semantically underspecified and crucially need some degree of contextual enrichment in order to gain full propositional status. In contrast, lexical items are taken to have some specifiable semantic content, which can optionally get contextually adjusted during the interpretation process if the semantic content is not deemed appropriate in relation to the speaker's informative intention.

Discussing the relevance-theoretic approach to encoded concepts, however, I reached the conclusion that it is psychologically unrealistic, as it is based on an externalist perspective that is practically unaccountable for. Against this background, what is now called for is an alternative to the relevance-theoretic account of semantics. One possible route would be to suggest that encoded concepts as such are non-existent, but that would raise the even greater problem of what to put in their place[39]. The proposal that I want to make is not as extreme as this. I follow relevance

[39] For example, if we hypothesise that word meaning is not a concept as such, but "something more like a general schema for building concepts, or a pointer to a range of concepts, the task of explaining acquisition appears to become much more difficult" (Carston 2002a:363). However, the account that I propose does not succumb to Carston's worry (2002a:363-364), as concepts still exist in the mind,

theorists' argument that concepts do exist in the mind, but I contend that much like our contextual assumptions, they are essentially personal. And this is how I conjoin the relevance-theoretic account with the individualistic psychological perspective that Jackendoff puts forth with respect to conceptualist semantics.

Following the internalist adherence that I have expressed right from the beginning of this thesis, I would like to suggest that concepts do exist in the form in which Sperber and Wilson suggest that they do. However, instead of having some public meaning encoded as a set of inference rules in their logical entry, I would like to propose that these meaning postulates capture certain implications that are merely *held* by each individual to be analytic with respect to the concept at hand. In this respect, much like Jackendoff suggests that, from a mentalist perspective, "it is necessary to thoroughly psychologise not just language, but also 'the world'" (2002:294), I believe that the argument from internalism requires us to correspondingly psychologise our conceptual content.

Largely due to Cappelen and Lepore's criticism (2005, 2007), a central claim of Relevance Theory has been further underlined: relevance theorists give up the traditional Fregean argument that verbal communication involves the exact sharing of thoughts between the speaker and the hearer. Indeed, as Sperber and Wilson have sustained from the very beginning (1995:192-193),

> by saying 'He has gone' I may induce in you a thought which is similar to mine in that it predicates the same thing (that he is gone) of the same individual, but which differs from mine in the way you fix the reference of 'He'. It seems to us neither paradoxical nor counterintuitive to say that there are thoughts that we cannot exactly share, and that communication can be successful without resulting in an exact duplication of thoughts in communicator and audience. We see communication as a matter of enlarging mutual cognitive environments, not of duplicating thoughts.

However, in discussing exactly such a conception of meaning similarity, Fodor and Lepore characteristically argue that "the kind of explanations that semantic theories are supposed to give would not survive substituting a similarity-based notion of content for an identity-based notion" (1999:382). Without going through their arguments here, some of which I believe are relatively akin to the ones of Cappelen

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even though they are private.

and Lepore[40], I want to focus instead on their contention that "nobody has the slightest idea how to construct the required notion of content similarity" (ibid).

Clearly, one of the main innovations of the relevance-theoretic approach is that, by investigating our ability to spontaneously engage in inferential communication, it manages to address the ways in which we are able to communicate with our peers, even though we realistically do not share exact thoughts with them. And what I have been discussing in the last four chapters is exactly that we do not need to assume mutual knowledge or any other substitute for content identity to explain communication. All we need is a powerful inferential mechanism and a natural tendency to align our contexts of production and interpretation. In much the same way, I do not think that we need anything more to account for the context-sensitivity of our conceptual contents. Building upon my discussion in the previous chapter, since our mental contents overall have a natural tendency to converge due to joint attention and cross-cutting Backgrounds, wouldn't this be in principle enough to suggest that our conceptual contents are correspondingly not identical but similar enough to allow successful communication to take place? Even more so, if our mindreading ability enables us to interpret every single action of our peers as intentional, and the relevance-based comprehension module allows us to swiftly uncover our speaker's informative effect, wouldn't this be enough to guide us to the construction of an optimally relevant *ad hoc* concept in most cases? I believe that the answer to both these questions is affirmative.

What I am essentially proposing then is that Relevance Theory needs to endorse some version of contextualist semantics, in which the context of interpretation plays a much more important role in the construction of the speaker-intended meaning at both the propositional *and* the lexical level. In this approach, words are again effectively pointers towards conceptual addresses, which, however, contain *subjective* logical and encyclopaedic information, from which the inferential processor is to build an *ad hoc* concept for every conceptual encoding in an utterance. In this process, the context mediates the construction of each *ad hoc* concept by making certain assumptions about the speaker's intentionality more

[40] which I believe have been rebutted to a great extent by some current proponents of contextualism – see, for example, the multiple reviews in *Mind and Language* (2006:1-49), *Philosophy and Phenomenological Research* (2006:435-468), as well as Carston 2006a and Wedgwood 2007b.

manifest to the hearer, while the process of mutual parallel adjustment remains intact. In this sense, the process by which we interpret lexical meanings is inferential through and through.

Of course, in my proposed account we need to replace externalism with some version of *experiential realism*. However, even though this would vitally complement my argument for contextualist semantics in Relevance Theory, I am running out of space, so I can only commit to return to it in future research. For what it's worth, the account that I envisage at the moment has a lot in common with Recanati's *meaning eliminativism*[41], where the sense carried by a word "on a particular use depends upon similarity relations between that use of the same word (as applied to the 'target situation') and past uses of the same word[42] (as applied to the 'source situations')" (2004b:151). First things first though. What I hope to have established at this stage is that it makes much sense for Relevance Theory to adopt an internalist view of encoded concepts as well as the doctrine of contextualist semantics, since realistically the inferential processor does indeed 'fine-tune the interpretation of every single word' and no exact decoded content can be pinpointed.

Finally, as I have stressed in the third chapter, one of the big advantages of doing pragmatics the relevance-theoretic way is that it enables us to locate its place in the overall architecture of the human mind. Therefore, hypothesising the parallel existence of a semantic component in the language faculty, I believe that throughout my argumentation I have further substantiated the relevance-theoretic claim that it interacts with the comprehension module to a considerable extent. What I take this chapter to suggest is an even more intricate relationship between the two. In the traditional picture of Relevance Theory, the semantic component of the grammar is merely responsible for decoding. Even though in my proposed account it still keeps this role in principle, it is crucially unable to provide the inferential processor with anything like a public meaning. What this effectively suggests is that the inferential

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[41] Even though the notion of private encoded conceptual meaning that I argue for here is not directly equivalent to the one of *semantic potential* that Recanati discusses in his defense of meaning eliminativism, I believe that it could be used to complement Recanati's notion of semantic potential at the conceptual level more successfully than the alternative of a pointer to a conceptual space. Again, however, I will have to leave this argument aside for the moment.

[42] Naturally various accounts could be implemented to this effect (e.g. Hintzman 1986, or Barsalou 1993, 1999, 2003, insofar as we allow for propositional content to exist in conceptual addresses alongside perceptual symbols).

processor becomes even more vital for its operation. And, clearly this opens up new directions for research on the interaction of the two systems.

Chapter Seven

Language, meaning and human cognition revisited

The main aim of this thesis has been to address the agnosticism that Chomskyan-based linguistics has expressed with respect to the study of linguistic meaning. As I noted in the second chapter, Chomsky himself has been generally pessimistic regarding the very possibility of doing semantics from an internalist perspective, since he doubts that "one can separate semantic representation from beliefs and knowledge about the world" (1979:142). Accepting Chomsky's fear as a valid generalisation about the nature of linguistic meaning, I adopted Jackendoff's argument for a conceptualist semantics and committed to providing an internalist explanation of how "people find sentences (and other entities) meaningful because of something going on in their brains" (Jackendoff 2002:268). Against this background, I embarked on an attempt to show that if we take individualistic conceptualisation to be the domain of semantics, there are ways in which the effect of our beliefs and general knowledge on linguistic meaning can be approached from a mentalist perspective.

To this effect, I suggested that an account of pragmatic reasoning needs to be incorporated in our discussion of I-semantics, if we want to escape the psychological implausibility of externalist semantic theories and locate linguistic meaning inside the mind of the language user. Naturally, in order for that to happen, the methodology that Chomsky has proposed for the study of language had to be fine-tuned so that it allows for generalisations about cognitive performance to enter the discussion of linguistic competence. In the second chapter, I argued that this is not only a convenient move in the study of language, but an essential one if we are to ever make sense of how the language faculty operates holistically. In this respect, I went on to show how a mentalist treatment of pragmatics is possible, by endorsing and outlining the relevance-theoretic approach to communication as a psychologically realistic account of pragmatic inferential reasoning.

In chapters three through to six, I focused on the relevance-theoretic

framework itself, critically discussing its basic tenets and fine-tuning certain aspects of it to match my internalist orientation. Through this argumentation, I showed how a cognitive notion of context can assist us in addressing in a coherent way how "our systems of beliefs concerning things in the world and their behaviour [...] play an essential part in our judgments of meaning" (Chomsky 1979:142). Accordingly, by arguing for the need of Relevance Theory to embrace the internalist perspective for the study of conceptual content, I believe that I have made a crucial step towards the implementation of the relevance-theoretic account of contextualisation in the study of I-semantics. In this respect, what I believe is in order at this point is to further discuss how the account that I have presented in this thesis manages to open up new directions for the mentalist study of language.

7.1 On the competence/performance distinction

As I already discussed in the second chapter, one of the most fundamental assumptions of the Chomskyan paradigm with respect to the study of language is that the theoretical linguist needs to focus on questions of competence, if he is to ever understand what the human cognitive linguistic ability stands for. Against this background, the underlying competence/performance distinction has been generally endorsed by a wide range of scholars within linguistics, even in Relevance Theory itself (e.g. Blakemore 1987, 2002, Blass 1990, Carston 1988a, 1997, 1998, 2002a, Iten 2005). Even though I do not have any particular objections concerning the distinction itself, especially since it aims to separate our purely linguistic knowledge from relative cognitive processing that affects the usage of language, I certainly follow the researchers who argue that it is time to move on from it. And my basic reason for that crucially relates to the more general Chomskyan objectives for the study of language that I presented in the introduction of this thesis; that is, if we are to accept that the most compelling reason for studying language is that it provides us a window to the workings of the mind – and I believe that we should – then the study of linguistics should crucially concern not only the investigation of language *per se*, but also the investigation of our mental system as a whole.

As I already pointed out in the second chapter, in this thesis, my input to the

syntactic paradigm that Chomsky has put forth through the years has been minimal. In this respect, I wouldn't be surprised if the language faculty indeed turned out to be syntactocentric or work along the lines that Chomsky hypothesises (although I have strong reservations regarding these conclusions, as I briefly discussed again in chapter two). But what I believe to have shown throughout my argumentation is that, in order to study the corresponding semantic component of the language faculty, we crucially need to take into account other cognitive systems that lie outside of the language faculty – I made a case for the theory of mind module – but surely other systems could be shown to have an effect on the language faculty as a whole. Now, if we were to study semantics following Chomsky's distinction between competence and performance, the generalisations that I came up with would be largely irrelevant with respect to linguistic competence. Indeed, what I take to have argued for is that we cannot have any notion of semantic knowledge (competence) in abstraction from contextualisation (performance), since our knowledge of linguistic meaning is pervasively dependent on the specific ways in which we attribute intentionality to others during linguistic performance. On other side of this argument, however, lie only the externalist account of meaning, which Chomsky correspondingly rejects for the mentalist study of language, or a deep agnosticism. I think that it is pretty straightforward that both these options are undesirable for anyone interested in 'constructing intelligible explanatory theories of the mind'.

It is in this sense that I believe that theories of linguistic competence crucially need to keep track of research on cognitive and linguistic performance, since, if they do not, all we will ever be able to come up with in the mentalist study of language is that syntax is the only aspect of it that can be examined in abstraction from related cognitive processing – again, I have many reservations about this, but, as this is not the place to discuss them, I will assume for the sake of concreteness that syntax can indeed be autonomous. And even though this conclusion is by no means unimportant on its own, what is it that it provides us with in relation to the mind as a whole? Fair enough, it shows that syntax is most likely a module, it might even show that modules can operate on the basis of some tacit knowledge – call it competence – but don't we already know that much from the investigation of other mental modules as well? Indeed, some 50 years ago the autonomy of syntax hypothesis might have

allowed us to make huge steps in our understanding of mental architecture, but I believe that what it mainly does at this moment is impede our further understanding of how the mind works.

As I have argued in the third chapter, all the more cognitive scientists embrace a view of massive modularity, which crucially rests on the assumption that modules interact with one another in extremely intricate ways. For example, the case that I made with respect to joint attention and metarepresentation in the fifth chapter is based on the argument that both abilities are due to the existence of corresponding sub-modules that are included in the general mindreading module. And both of these modules have been hypothesised to have at least three sub-modules of their own each[1], which along with the relevance-based comprehension module gives us seven modules in total included within the superordinate mindreading one. Against this background, what makes us so certain that the language faculty does not have an intricate internal organisation as well[2] but rather operates in isolation from all its neighbouring mental systems by merely feeding sensorimotor systems and systems of thought? With respect to the semantic component, for example, what I argued in the previous chapter is that it cannot provide any minimal meaning to the performance systems, since it is the performance systems themselves that generate linguistic meaning. Doesn't this realisation show us that it might be possible for performance systems to correspondingly affect the syntactic and the phonological component of the language faculty[3]? Against this background, it seems to me that, convenient though it might be, the Chomskyan hypothesis about the language faculty as it stands falls sort of helping us understand the mind as a whole.

Note, of course, that by this argument I am not proposing that the language faculty cannot exist in isolation as a specialised module. Far from it, I am only suggesting that its internal structure should be investigated more closely, as it might turn out that what we refer to as the language faculty contains various sub-modules that allow it to fruitfully interact with other cognitive domains. Accordingly, I am

[1] For the metarepresentation module, see Sperber (2000), and for the joint attention one Baron-Cohen (1995).
[2] At least, Chomsky (2005) himself still contends that language is not a complex trait.
[3] The same applies to Relevance Theory to some extent as well. Even though it has embraced the idea of massive modularity, it still contends that the grammar is merely a module in the original Fodorian sense.

also not arguing that there is no linguistic competence as such, in the form of a tacit knowledge upon which we produce and interpret utterances, but rather that this competence might have been affected by the way in which our cognitive system has evolved to effectively operate, as seems to be the case regarding semantics[4].

7.2 Communication and the evolution of language

Apart from the usefulness of linguistic investigations for the study of the mind as a whole, another point that I stressed in the introduction to this thesis, is that language is also central to human nature itself. And given that the ability for language as it presents itself to humans is entirely absent in the rest of the animal kingdom, this is hardly a debatable observation. In this sense, one of the central questions that the linguist is called to answer is what it is that makes us the only species able to acquire and use language in the form we do. Naturally, a full-blown answer to this question is no simple matter, so in what follows I wish to merely suggest a certain proposal that follows from my overall argumentation.

To begin with, from Chomsky's perspective, we are the only species to have language, since we are the only species to be genetically endowed with a language faculty. And indeed that appears to be a valid argument. If we did not have the cognitive means to acquire words, phonemes, morphemes, structures and so on and so forth, we would probably not be able to use language either. However, it is only a valid argument in a trivial sense. With respect to the question of how we ended up having the cognitive means that we do, which enable us to acquire language, Chomsky's response seems to be that we only did so as an accident, say, because our brain size increased in the course of history[5]. As I also noted in the second chapter, Chomsky has been particularly pessimistic with respect to our ability to explain how language evolved through processes of natural selection. Consider also the following argument that he puts forth (Chomsky 1988: 167):

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[4] Even though I do not have the space to pursue this argument here with respect to syntax as well, I also believe that syntactic structures can correspondingly be shown to be affected by the dynamics of parsing and considerations of effort to some extent, but I will leave this for future research

[5] For a discussion of this view, see Chomsky (1972a, 1988, 2005), Premack (1985), Piattelli-Palmarini (1989), among others.

> Evolutionary theory is informative about many things, but it has little to say, as of now, of questions of [language evolution...]. The answers may well lie not so much in the theory of natural selection as in molecular biology, in the study of what kinds of physical systems can develop under the conditions of life on earth and why, ultimately because of physical principles.

Even though I concede to Chomsky that the emergence of language might have been accidental in the course of human history, I certainly agree with Jackendoff when he suggests that his corresponding argument regarding natural selection "is virtually a retreat to mysticism" (2002:234, see also Toulmin 1972, Dennett 1995, among others). After all, if in all likelihood our cognitive system as a whole evolved in response to selection pressures, as most evolutionary psychologists seem to contend, I do not see why language should be exceptional in this sense.

In this respect, a proposal that has gained considerable currency recently in linguistics is that "many aspects of language have recently evolved by natural selection for enhanced communication" (Jackendoff & Pinker 2005:212, for further discussion of this view, see Bickerton 1990, Pinker & Bloom 1990, Jackendoff 1992, 2002, Pinker 1994, 2003, Nowak & Komarova 2001, among others). Without going into much detail about the arguments behind this view, as I find this unneeded for my current modest purposes, I wish to suggest some ways in which this proposal is indeed further supported by the relevance-theoretic account.

To this effect, Relevance Theory has made some pretty specific proposals regarding the evolution of language (e.g. Sperber & Wilson 1986/1995, Sperber 2000, Origgi & Sperber 2000). From its perspective, language as we use it emerged and evolved after our corresponding mental capacity for mindreading did, since our ability for linguistic communication crucially rests on our corresponding ability to attribute quite complex intentions to our interlocutors (Sperber 2000:122-123):

> If the ability to communicate linguistically had preceded the ability to use metarepresentations, then this pre-metarepresentational, ancestral verbal ability would have been radically different from the kind of verbal ability we modern humans use - which is metarepresentational through and through. The ancestral language would have been a coding-decoding affair, as are the many forms of non-human animal communication we know about. This, in itself, is an unattractive speculation, since it implies a radical change in the mechanism of human linguistic communication at some point in its evolution.

Even though I find this argument perfectly reasonable as it stands, I would like to entertain another related possibility. As I noted in the second chapter one of Chomsky's primary concerns with respect to evolutionary theories of language is that "it is almost universally taken for granted that there exists a problem of explaining the 'evolution' of human language from systems of animal communication" (1972a:67). Let us see then, how Relevance Theory could respond to this concern.

As I hinted in the third chapter, animal communication usually occurs through the use of a code. Take the well-worn example of honey bees (von Frisch 1967). A bee can communicate where some good supply of nectar is to its beehive by 'dancing' in a particular way that will let the other bees know the exact location of the nectar. As Sperber and Wilson themselves discuss, this is an excellent example of coded communication: "bees can encode into flight patterns (their 'dance') what they have learnt about the location of nectar, so that other bees can decode the information and find the nectar in their turn" (1995:5). What is needed for bees to communicate in this sense is merely a knowledge of the code, of the particular coordinates that each movement of the communicator bee's tail stands for. In this respect, the bees that are addressed by the communicative act can go on and decode the message that is communicated to them.

What Sperber and Wilson established in their exposition of the relevance-theoretic framework and I tried to correspondingly show throughout this thesis is that this is by no means how communication takes place between humans. Human communication in general and verbal communication in particular is possible through the attribution of intentions regarding the speaker's communicative act. And crucially, for the attribution of these intentions a complex metarepresentational ability is called for. In this respect, if we are to entertain the possibility that language evolved from systems of animal communication, what we essentially have to account for is how the use of a simple code – call it *protolanguage*[6] (Bickerton 1990) – evolved into the intricate one that we are currently using and which is uniquely available to us among the animal kingdom. Consider Hauser, Chomsky and Fitch's

[6] I am aware that Bickerton's conception of a protolanguage does not imply an inability of our ancestors to attribute intentions to one another. However, I am implementing it in my current discussion as it stands for a much simpler system than modern language (for example, it has no syntax).

argument that follows (2002:1572):

> Logically, the human uniqueness claim must be based on data indicating an absence of the trait in nonhuman animals and, to be taken seriously, requires a substantial body of relevant comparative data. More concretely, if the language evolution researcher wishes to make the claim that a trait evolved uniquely in humans for the function of language processing, data indicating that no other animal has this particular trait are required.

Even though I do not mean to suggest that this trait evolved in humans specifically for the function of language processing, I believe that if modern language developed from a more rudimentary animal-like code, it necessarily did so partly due to the respective development of an all the more complex mindreading capacity among our species. Following my argumentation in the fifth chapter, it has been experimentally established that even though other animals do have elementary mindreading abilities, these are not comparable to their human cognitive counterparts to say the least. In this sense, our ability to attribute intentionality to others in the way that we do is unique to our species, much like our ability for language is as well. Therefore, the requirement that Hauser, Chomsky and Fitch posit with respect to the explanation of language evolution, could be essentially fulfilled if the trait we posit is mindreading.

Of course, this does not mean that the emergence of our unique mindreading ability followed that of language itself. As Sperber argues, it can be maintained that it is exactly this ability, in its highly developed form, which allows us to entertain multiple-order metarepresentations, that enabled us not only to develop an inferentially-based communicative competence in the first place, but also a linguistic ability[7] that would be straightforwardly used for communicative purposes (2000:127):

> there is a plausible scenario where a metarepresentational ability develops in the ancestral species for reasons having to do with competition, exploitation and co-operation, and not with communication *per se*[8]. This metarepresentational ability makes a

[7] Note that this could also strengthen my argument in the previous chapter: if our system of communication is inherently different from the one of bees, then our corresponding code might have evolved to a different, private flavour, since we have learnt to rely on our mindreading abilities so much (for a related argument, see Origgi & Sperber 2000).

[8] For example, as Sperber argues, "the ability to interpret the behavior of intelligent conspecifics not just as bodily movement but as action guided by beliefs and desires gives one a much-enhanced predictive power [which...] helps [him/her] to protect oneself from them, to compete successfully

> form of inferential communication possible, initially as a side effect, and, probably, rather painstakingly at first. The beneficial character of this side effect turns it into a function of metarepresentations, and creates a favorable environment for the evolution of a new adaptation, a linguistic ability. Once this linguistic ability develops, a co-evolutionary mutual enhancement of both abilities is easy enough to imagine.

Against this background, it seems to me that Chomsky's concerns regarding evolutionary questions become all the more possible to address, if we take the uniqueness of the human mindreading capacity seriously in an explanation of how modern language might have evolved from systems of animal communication.

I am aware that my current argument about the evolution of language as a system of communication leaves a lot to the imagination. Obvious questions about the exact relationship of language with communication[9] or mindreading certainly arise. And even though certain steps can be taken towards answering such questions at the moment, there is much that we do not know about mindreading. Therefore, apart from committing to return to these issues in future research stemming from this thesis, the only thing that I can stress at this point is that much more attention needs to be paid not only to the individual study of our unique mindreading capacity, but also and more crucially to the ways in which it inherently affects our cognitive ability for language. And effectively, this is a genuine way in which linguistic analysis can benefit from research that is taking place in cognitive psychology.

7.3 Relevance Theory: future directions

Moving relatively away from my concerns about the study of language, it is undeniable that this thesis has mainly been an investigation of the relevance-theoretic framework. Apart from merely employing it in my overall argumentation, I have also crucially suggested ways in which Relevance Theory should be extended or fine-tuned in the light of theoretical claims and experimental evidence. Indeed, my motivation for embarking upon this very research was mainly provided by my

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with them, to exploit them, or to co-operate more profitably with them" (2000:123).

[9] For example, as I noted in the second chapter, Chomsky believes that language's primary role is thought and communication comes after that. Interestingly, Sperber and Wilson also suggest that "languages are indispensable not for communication, but from information processing" (1995:172).

original fascination with the innovative and psychologically realistic account of communication that Sperber and Wilson provided as a response to coded models. Even though this fascination is still as vibrant as it was when I encountered Relevance Theory in the first place, the research that led me to the production of this thesis enabled me to develop my own understanding of the framework and pinpoint certain aspects of it that have not received the attention that I would have hoped them to get among relevance theorists. Naturally, due to the nature of the theory itself as a comprehensive account of both cognition and communication, its implications for a diverse range of fields of research are way more than its short twenty year life could have catered for. And one of the fundamental reasons why Relevance Theory appeals to me so much is that it still has a lot to offer to the scientific community in general. From my perspective then, which makes me interested mainly in the study of the mind and language, there are two particular directions to which the relevance-theoretic proposals could be usefully implemented, and which I am more than willing to investigate in the future.

For one, I believe that the generalisations that Sperber and Wilson put forth could be extensively utilised in the development of an account of linguistic production similar to the one of interpretation that currently exists in the framework. Of course, such an enterprise would not be an easy one, as a relevance-theoretic account of production would have to start right from scratch, defining from the very beginning what production involves in its premises and how considerations of relevance affect the planning of communicative stimuli. Even so, I believe that this account should be viable in principle, given the cognitive generalisations that relevance theorists propose and the mere fact that as communicators we necessarily plan our utterances by correspondingly considering contextual information.

Conversely, another topic that I believe needs to be investigated even more in the future is the actual ways in which our considerations of relevance affect our cognitive processing overall. After all, it can be argued that context affects all cognitive processing to a greater or lesser extent: "perceiving and acting, speaking and understanding, reasoning and evaluating, judging and deciding, doing and not doing, as accomplished by humans, invariably occur within a context" (Andler 2000:273), and this challenges us into identifying what context is and how it affects

each of these cognitive abilities. Given my overall argumentation, one particular possibility that I would like to entertain is whether the relevance-based comprehension procedure does not only apply to the interpretation of ostensively communicated utterances. It is undeniable that once our acoustic system recognises a sound as a linguistic string it is impossible to block it out without processing its meaning. In the current relevance-theoretic account this is mainly because "a linguistic stimulus triggers an automatic process of decoding" (Sperber & Wilson 1995:177). Even though in my account the decoding process will probably yield an egocentric interpretation, I do not think that this is all that is going on. My guess is that even when we overhear some verbal input which has not been ostensively communicated (to us at least) we still process it against a context. And that I believe is the case because we have such a developed metarepresentational ability that we actually recognize communicative intentions and work out informative intentions addressed to others too. In this respect, it seems to me plausible to argue that the path of least effort – or something similar to it – might apply universally to the way in which we perceive linguistic meaning in all cases. If such an argument can be sustained, then it means that the semantic component of the language faculty is entirely dependent on contextual inference, regardless of ostension (at least ostension directed to us). However, again in order to explain how the relevance-theoretic account can be implemented in the discussion of the interpretation of unintentionally transmitted information, we crucially have to deconstruct the sort of intentions that are involved in such cases.

Given my overall argumentation in this thesis, I can only conclude it by pointing out that its main aim was not to provide absolute answers to the questions that surround our mentalist knowledge of linguistic meaning. Rather, it was to establish that considerations of pragmatic reasoning are essential in any cognitively realistic discussion of semantics and that our ability for language is indeed a complex trait that involves the interaction of various mental structures. In retrospect, what I only hope to have shown so far is that the investigation of language does not end with the examination of the linguistic code alone.

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