

GARDEN-PATH UTTERANCES AND RELEVANCE

*M^a Carmen Merino Ferradá
Universidad de Cádiz*

An appropriate account of how the interpretation process of garden-path utterances develops should include an analysis of those psycholinguistic aspects related to the recovery of the semantic representations of the utterance as well as a pragmatic explanation of how those representations are used in the construction of a final interpretation. To investigate how lexical access could take place in the case of ambiguous words, two psycholinguistic models are briefly reviewed: the selective model and the exhaustive model. An argument is put forward for the exhaustive model, that is, for a modular view of the lexical processing system. Thus, we argue that in the processing of a garden-path utterance, upon encountering an ambiguous word, all of its meanings are initially activated. Once access has been completed and the selection phase reached, pragmatic factors come into play, in the process of selecting one of the possibilities and building an interpretation from it. Relevance theory, a cognitive-pragmatic account of communication, explains why a given interpretation is initially selected, why it is later rejected as contextually inappropriate and why the processor tries a second line of interpretation which will finally produce the desired results.

Key words: garden-path utterances, lexical ambiguity, lexical access, Relevance theory.

PRÓLOGO

El número 3 de *Estudios de lingüística inglesa aplicada (ELIA)* recoge diecinueve artículos que, en buena medida, son representativos de las corrientes y líneas de investigación en los campos del aprendizaje y uso de L2 presentes en la actualidad. Su agrupamiento por bloques temáticos no resulta fácil porque la mayoría de ellos trata de varios aspectos interrelacionados que se solapan -enseñanza y aprendizaje de L2, cognición, pragmática-, lo que, por otra parte, constituye uno de los rasgos característicos de los estudios de lingüística aplicada de hoy. Así, más que de bloques puros cabría hablar de grupos de artículos entrelazados en los que predomina un tema central.

El primer grupo lo componen varios artículos que tratan de cuestiones relativas a la enseñanza de L2 en el aula. En el primero Paul Chandler constata que aunque se ha producido una evolución del papel de la lectura en las aulas de L2 en los Estados Unidos a lo largo de la última década, todavía perviven prácticas pedagógicas tradicionales. El autor analiza seis libros de reciente publicación sobre metodología de la enseñanza de la lectura de L2, destacando los aspectos comunicativos que presentan, que van más allá de la simple comprensión de los textos. En sus conclusiones, Chandler subraya que la lectura no es necesariamente un acto solitario, sino también social, como lo es para los niños de primaria. Para obtener un resultado óptimo de la lectura es preciso el marco adecuado de instrucción con textos interesantes, que pueden ser elegidos por los propios alumnos, así como actividades integradas y personalizadas.

El artículo de Geert Jacobs y Chris Braecke estudia distintas formas de evaluar el aprendizaje de la gramática: preguntas de elección múltiple, traducción, relleno de espacios en blanco y producción. Para ello han analizado cuatro pruebas distintas sobre la estructura del verbo inglés realizadas por estudiantes que tenían el holandés como lengua materna. La conclusión a la que los autores han

llegado es que la traducción puede constituir una herramienta muy apropiada para la evaluación del aprendizaje y que, por lo tanto, es recomendable una revisión de los presupuestos existentes sobre el papel que deben jugar los elementos contrastivos en el aula de L2.

Ana Halbach pone al descubierto las diferencias existentes en el campo de la enseñanza de L2 entre lo que la administración y autoridades educativas legislan y la forma en que los profesores entienden y desarrollan su actividad docente. Para ello se analizan los resultados de un estudio basado en dos fuentes de información. La primera consistió en encuestas realizadas a profesores de L2 de veinte centros de educación secundaria; la segunda recogía los comentarios emitidos por estudiantes universitarios sobre la enseñanza que recibieron en sus años de educación secundaria. Del estudio se deducen conclusiones que pueden ser de aplicación a la futura formación de profesores, si bien la autora anima a realizar más investigación en este terreno.

En el cuarto artículo de esta primera serie, Leger Brosnahan subraya la poca atención que se ha dedicado tradicionalmente al lenguaje no verbal en la enseñanza de la L1 y de la L2, a pesar de ser parte esencial de cualquier lenguaje natural. Constata asimismo que la importancia que se le atribuye, especialmente en el caso de comunicación cara a cara, no se corresponde con la que debería otorgársele. Para cubrir este vacío, el autor aboga por un estudio contrastivo de los lenguajes no verbales de los que hacen uso los hablantes de español y de inglés, como paso previo para la enseñanza de los mismos a los aprendices de inglés y español respectivamente.

María José Coperías comienza su artículo examinando algunas de las más influyentes interpretaciones que ha tenido el constructo competencia comunicativa, tanto para el nativo como para el aprendiz de una L2. A continuación, propone dar un paso más, el de la competencia comunicativa intercultural (ICC). Para ello contrasta el modelo de van Ek con las nuevas reformulaciones de Byram., en las que, entre otros rasgos, se destaca el de la

capacidad negociadora del hablante no nativo. Más adelante analiza algunas de las dificultades que presenta en el aula la enseñanza de la ICC. En las conclusiones la autora destaca la importancia del desarrollo de la ICC en un mundo tan interconectado como el actual.

El trabajo de Esther Usó Juan y Patricia Salazar Campillo es el primero de tres en los que se investigan aspectos de la enseñanza de L2 desde una perspectiva pragmática. En él se analiza cómo cinco libros de texto especializados en inglés turístico desarrollan la competencia pragmática de un rasgo: las peticiones. En su artículo las autoras establecen el método de investigación, clasifican las solicitudes en cuatro categorías, exponen los resultados y hacen un análisis que apunta a la insuficiente variedad en el tratamiento de las solicitudes por encuadrarse en su mayor parte en uno de los cuatro tipos. Antes de concluir se presentan varias tareas tendentes a suplir la carencia de los libros de texto en este punto.

En el artículo de Eva Alcón Soler y Victoria Codina Espurz se expone un experimento llevado a cabo con estudiantes universitarios españoles durante una estancia en el Reino Unido. La investigación tenía como propósito determinar el grado de su progreso en un rasgo de la competencia pragmática hacia las formas nativas. Las conclusiones a las que llegan las autoras están en línea con las aportaciones teóricas y empíricas más ampliamente aceptadas en la actualidad, que aconsejan el recurso al énfasis en la forma como complemento necesario para cubrir aspectos a los que no llegan ni *input* ni *output*. El artículo concluye con la presentación de algunas actividades de aula para mejorar la competencia pragmática de los aprendices.

María Pilar Safont y Mari Carmen Campoy analizan el tratamiento que otorgan tres importantes diccionarios a un aspecto pragmático: las estrategias de realización de peticiones. Tras explicar los métodos de análisis utilizados y recopilar y presentar los datos de su investigación, las autoras llegan a la conclusión -en la misma línea de estudios previos- de que los diccionarios no presentan información pragmática satisfactoria, ya que no

contextualizan suficientemente el uso de la lengua. Esta carencia impide a los diccionarios contribuir a mejorar la capacidad del aprendiz de hacer un uso apropiado de la lengua.

Dentro de este primer grupo de artículos dedicados a aspectos de adquisición de L2, el artículo de Francisco Lorenzo encabeza un subgrupo de tres aportaciones que tratan aspectos afectivos relacionados con la cognición. En la introducción de su artículo, Lorenzo destaca la relativa poca atención que tradicionalmente se le ha prestado a los factores motivacionales en las investigaciones de ASL por considerarse poco relevantes o, en todo caso, difíciles de medir. Sin embargo se producía la paradoja de que, en algunos estudios de corte cognoscitivo, se les ha atribuido una influencia equiparable a la de los propios factores cognoscitivos. El artículo presenta un marco en el que entran en contacto elementos motivacionales como la integratividad, la autorregulación del aprendizaje y la actividad estimular y uno de los mecanismos cognoscitivos más reconocidos en el aprendizaje de L2, las estrategias -sociales, metacognitivas y cognoscitivas-. El autor concluye su trabajo afirmando que los factores afectivos deben desempeñar un papel central en la investigación empírica en ASL, que contribuirá a reformular aspectos cognoscitivos en la adquisición y uso de L2.

En el segundo artículo de esta subgrupo Fernando Rubio expone un experimento llevado a cabo en aulas de secundaria en el que se ponen a prueba técnicas para reducir la ansiedad de los estudiantes (en este caso, alumnas) cuando realizan exámenes orales. Tras introducir el concepto de ansiedad, el autor describe la reevaluación positiva y el experimento llevado a cabo, del que se extraen implicaciones de interés para mitigar la ansiedad de los estudiantes en esas situaciones especialmente estresantes.

Javier Ávila trata de las imágenes mentales como instrumento para promover la creatividad en el aula de L2. En el artículo se analizan con cierto detalle el concepto de creatividad -en la que intervienen ciertos elementos condicionantes como la capacidad para sorprenderse y para concentrarse-, el proceso creativo y el cerebro creativo, explicando la teoría

de las tres capas cerebrales: la reptil, la límbica y la del pensamiento humano. El autor se adentra a continuación en la relación, empíricamente demostrada a lo largo de las últimas décadas, entre imagen mental y creatividad. En la sección final se proponen sugerentes ideas y estrategias - como la visualización- para disminuir la ansiedad y desarrollar la capacidad creativa de los alumnos en el aula de L2.

El artículo de Ávila, que cerraba la serie de los dedicados a la enseñanza y aprendizaje de L2, sirve de enlace con los dos siguientes que tratan de temas de cognición. Tras presentar una definición de metáfora desde la perspectiva de la lingüística cognoscitiva, el artículo de Eva Samaniego destaca el hecho de que a pesar de los muchos estudios realizados en el campo de la traducción, no se haya estudiado suficientemente el papel que juega en los traductores su competencia para traducir la metáfora. Sobre un corpus de textos periodísticos, la autora analiza la manera en que determinadas metáforas de nuevo cuño (noveles u originales) han sido vertidas desde el inglés a la lengua meta, el español, señalando los rasgos que caracterizan tales traducciones, entre las que ocupa un lugar preferente la de su transparencia, incluso en expresiones inexistentes en español.

El artículo de Roderick A. Jacobs examina las dificultades de orden cognoscitivo que ha de afrontar el lector de una narración escrita en una L2. Cuando el lector está leyendo, va construyendo un foco espacio-temporal en el que se integran los distintos elementos de la narración en una interpretación global. A través de algunos textos escritos, Jacobs analiza cómo los lectores provenientes de otras culturas pueden encontrar especiales dificultades para formar un modelo cognoscitivo de los mismos porque el foco, el "centro deictico", cambia constantemente y las pistas lingüísticas que da el autor de la narración pueden no ser suficientes. Los sutiles elementos de la lengua que apuntan aspectos socio-culturales resultan próximos a los lectores que comparten un sustrato sociocultural con el autor, pero constituyen una dificultad para el lector no nativo.

El trabajo de María Isabel Fijo León es el primero del último grupo, compuesto por artículos que analizan el uso de la lengua. En su investigación Fijo explora la utilización de las siglas y acrónimos en el inglés científico y, más específicamente, en el mundo de la medicina y de la enfermería, donde constituyen un rasgo distintivo de esta variedad diastrática. La autora define las siglas y acrónimos, los clasifica por su grado de lexicalización, analiza la formación de los mismos y examina las reglas por las que se rigen. Tras el análisis de un corpus formado por revistas de enfermería, la autora examina en qué grado la formación y uso de las siglas y acrónimos cumplen con las reglas establecidas.

En la primera parte de su artículo, Sonsoles Sánchez-Reyes Peñamaría y Ramiro Durán Martínez ponen de manifiesto la insuficiencia de contemplar una lengua como un mero código que conocen quienes se comunican en ella, ya que este paradigma no tiene en cuenta la dimensión pragmática del lenguaje humano. A continuación analizan el uso de anglicismos en el mundo del derecho español, donde, por otra parte, siempre ha habido una tendencia a hacer uso de términos foráneos, lo que hacía esta variedad diastrática opaca a legos y no iniciados. En opinión de los autores, el uso de anglicismos innecesarios no responde a necesidades de naturaleza semántica, ya que los mismos existen en español, sino a otra de carácter pragmático: el deseo de quienes los usan de aparecer ante la sociedad española como modernos cosmopolitas.

En las primeras páginas de su artículo, Marisa Díez Arroyo analiza algunas de las características del lenguaje publicitario en prensa, como, por ejemplo el hecho de no constituir normalmente la parte del periódico que deseamos leer. Más adelante analiza la dimensión retórica y la pragmático-comunicativa de la publicidad, haciendo un breve recuento de las más influyentes interpretaciones de la perspectiva pragmática hasta llegar a la teoría de la relevancia de Sperber y Wilson, cuyos principios serán los que aplique en el análisis de varios anuncios publicitarios. Los publicistas, para llamar la atención del lector, introducen una incongruencia que éste no

puede resolver derivando las implicaturas más relevantes, lo que le hará recurrir al cuerpo del anuncio, cumpliendo así el deseo del publicista.

Tras definir el concepto de segunda predicación, Francisco González García examina el estatus sintáctico que ésta ha recibido de paradigmas formales y funcionales en los que se ha otorgado un papel a la inferencia pragmática, poniendo de manifiesto alguna deficiencia que tales análisis presentan. El autor propone un principio de construcción e interpretación de estas estructuras. Siguiendo este principio, semántica, pragmática y sintaxis se interrelacionan, según González, de forma tan inesperada como satisfactoria.

En la introducción a su artículo, José María García Núñez define la orientación adverbial como proceso, destacando su componente temático. A continuación, el autor se adentra en el análisis de distintas perspectivas desde las que estudiar el fenómeno: como problema pragmático/semántico o desde una perspectiva gramatical. Más adelante examina los adverbios de orientación hacia el sujeto -en funciones de adjuntos y disjuntos-, la modalidad deóntica, los adverbios dependientes temáticamente y los de acontecimientos.

La aportación de M^a Carmen Merino Ferradá cierra el número 3 de *ELIA*. Su artículo se encuadra en el campo de la pragmática cognitiva. Para la autora, en la construcción de la interpretación final de las palabras semánticamente ambiguas es precisa la intervención de la explicación pragmática. En el proceso de selección de las distintas posibilidades, la teoría de la relevancia explica cómo funciona el procesador, seleccionando y rechazando opciones por no ser adecuadas al contexto y produciendo efectos extra contextuales que no pueden obtenerse de otra manera.

José Miguel Martín Martín

1. Introduction

Although lexical ambiguity is frequently present in everyday communicative exchanges, it usually goes unnoticed. On most occasions context is so constraining that it “directs” the reader/hearer towards one of the interpretations, and the potential ambiguity is satisfactorily sorted out at a subattentive level, without the processor even noticing it. However, this is not always the case. Garden-path utterances are one of those exceptions in which ambiguity seems to become a problem for the processor. These utterances, which characteristically include an ambiguous lexical item (polysemous or homonymous), are special in that they compel the processor to carry out a distinctive interpretation process in which the different senses of the ambiguity are consciously considered. When processing a garden-path utterance, the reader initially constructs an interpretation which must be soon abandoned, as it fails to integrate with the rest of his general background knowledge representations. At this point, the reader is forced to backtrack and choose a different “path” of analysis, which will now yield a second, contextually correct interpretation. Consider the following garden-path utterance:

- (1) High technology has finally conquered the space between your teeth.

Bausch & Lomb.

Interplak. Home plaque Removal Instrument.

(*Cosmopolitan*, January 1992)

The reader will initially interpret *space* in its meaning ‘outer space’. Once it has become evident that this selection does not produce a correct

interpretation of the utterance, a new meaning, 'gap', will be selected and a second interpretation built on the basis of it.

The special characteristics of the interpretation process these utterances undergo raise a number of problems; in particular, the following four issues should be explained: In the first place, how and when, in the interpretation process, the different possibilities arise for the reader to consider them in a conscious way. Secondly, why the reader initially prefers a specific interpretation, independently of this being contextually, or even semantically correct. Thirdly, why the reader rejects the first interpretation he arrived at. And finally, the role that the rejected interpretation plays in the development and the final result of the interpretative process taken as a whole should be specified.

To answer these questions we need to start from a hypothesis about how the interpretation process of an utterance takes place. According to Sperber and Wilson (1995:176-177) a linguistic stimulus triggers an automatic process of decoding, by means of which the reader recovers its semantic representation, or representations if it is ambiguous. Those semantic representations, determined by the grammar, are useful as a source of hypotheses for the second of the communicative processes; that is, the inferential process. Thus, it is the central inferential mechanism that is in charge of selecting one of those semantic representations and developing it into an unique propositional form which will be used later in completing the interpretation process of the utterance.

An analysis which tries to provide an appropriate account of the several mechanisms involved in the interpretation process of utterances in general will have to start from a perspective that combines and integrates the results of psycholinguistic research on lexical access, which is a decoding process, and what an adequate pragmatic theory has to say about the cognitive principles which govern the development of an interpretation from the decoded, which is an inferential process. With garden-path utterances, this need is even more evident, as the construction by the central system of an initial interpretation which will be rejected later, depends directly and is

largely constrained by the particular characteristics of the results obtained in the process of lexical access.

2. Modularity and lexical access in garden-path interpretation

Although many of the most frequently used words in English are polysemous or homonymous, the problem of the potential ambiguity of an utterance rarely comes to light, and it is resolved very efficiently by the processor. This does not mean, however, that the several meanings of the ambiguous word are not activated in the processor's mind: it simply means that this activation does not reach levels of consciousness. This last claim is the main point of discrepancy between the different psycholinguistic models which have been proposed to explain how lexical access takes place in the case of ambiguous words. These models originate from two opposite views about the human cognitive system: the modularity view and the interactive view. The issue under discussion is whether the linguistic processing mechanisms, one of which is the lexical system, operate autonomously, on the basis of very specific information only available to them, or on the contrary, they are not independent systems and function jointly, employing in their computations all kinds of information provided by the different systems (perceptual and central).

Lexical access and ambiguity resolution models differ in the role they concede in this process to contextual information.¹ The first one we will consider, the selective or context-dependent model, based on the interactive view of the linguistic processing system, defends that perception and cognition form a continuum so that all kinds of information can be used as premises in the perceptual inferences. According to this model, context

¹ Many other models have been proposed: the ordered access model, the context-sensitive frequency model, the activation-suppression model. We limit our analysis to the exhaustive and the selective access models because they are the ones which most purely reflect modular and interactive views of human cognition. See Gorfein (1989) and Simpson (1994) for a review of alternative models and experimental results.

directs lexical access in such a way that only the contextually appropriate meaning of the ambiguous word in the utterance is activated in the individual's mental lexicon. The second model we will refer to, the exhaustive-access or context-independent model, based on the premises of the modular view, takes as its point of departure the encapsulation of the lexical processing system. On the basis of this encapsulation, this model argues that all meanings of an ambiguous word receive initial activation in the mind of the processor. It is only in a later stage that contextual information comes into play to select that possibility which seems to be contextually appropriate. Thus, two main issues are investigated:

a) the number of meanings of an ambiguous word which initially receive activation in the mind of the processor, and b) the point in the processing when context exerts its influence, that is, before lexical access takes place (selective access model) or following the activation of multiple meanings (exhaustive access model).

To evaluate the analysis that each of these models would provide in the case of garden-path utterances, consider the following example:

(2) The astronomer married the star

A highly interactive lexical system in which context is acting from the beginning of its computations, would predict selective access of the contextually appropriate meaning, that is, 'celebrity'. However, it has been experimentally proved that individuals deviate when they process an utterance such as (2), selecting the meaning 'astronomical object' in spite of the fact that this violates the selection restrictions of the verb *to marry*.² These results raise a question for the defendants of this model: if the lexical access system has free access to all kinds of contextual information, why is it that individuals, when dealing with a garden-path utterance such as (2), repeatedly select an initial meaning that later proves to be inappropriate and

² See Hirst (1987).

must be abandoned? A second question immediately follows from this: if that meaning is rejected because it fails the process of integration with the rest of contextual information, then on what kind of contextual information is the individual basing this rejection?

To be in a position to answer these two questions, it would be necessary to postulate that the first kind of contextual information, the one on which the individual bases his initial selection, and the second kind of contextual information, that reveals this selection to be erroneous, must be of a very different nature. That is, the first must be limited in a way the second is not. Not admitting this distinction, which goes against the basic postulates of the selective model, implies accepting that the processing of garden-path utterances is a circular process in which the reader never reaches the correct interpretation. This is particularly evident in the previous example, as the ambiguous word is in the final position in the utterance which means that there is no further information which could be considered.

The analysis we propose which, in our opinion, avoids these problems, is a combination of the exhaustive model's proposal, which will account for the modular, automatic process of lexical access, and Relevance theory, a cognitive-pragmatic approach to communication, which explains how and why the reader proceeds in a specific way in the process of selecting one of the possibilities and constructing a final interpretation for these utterances.

According to the exhaustive access model, all the meanings of the ambiguous word which are represented in the processor's mental lexicon will be initially accessed. Thus, in the following garden-path, an advertisement for Wedgwood dishes:

(3) One of the BEST things about our WEDDING was the
SERVICE.

WEDGWOOD. Designs for brides.

(*Cosmopolitan*. July 1992)

all the meanings of *service*, ‘an act of help’, ‘mechanical inspection of a car’, ‘the act of serving food’, ‘crockery’, ‘religious ceremony’, ‘the act of serving a ball in tennis’, etc, will be initially activated.

Once the modular process of lexical access has been completed, the several meanings of the ambiguity with their corresponding semantic representations of the utterance are presented to the central processor, which will select one of them to develop it into a complete propositional form. However, it must be taken into account that, as Sperber and Wilson (1995: 186-187) explain, to carry out this process the central system does not wait until the whole utterance has been decoded. Instead, the input systems present the central system with the results of its operations progressively, in such a way that the results obtained after processing the first constituents act inhibiting those analysis of the following constituents which are incompatible with them.

In garden-path utterances, the influence that the first elements exert has to do with the negative facilitation of one of the meanings of the ambiguous word which is typically present in this kind of utterance. Thus, if preceding the ambiguity there is a word semantically or associatively related to one of its meanings, the level of activation of that meaning will increase as a result of a process of spreading activation. In (3), the presence of *wedding* preceding the ambiguous *service* will increase the level of activation of the meaning ‘church ceremony’. At the same time, this higher level of activation will have the effect of speeding up the process of selection of that meaning, and with it, of the corresponding semantic representation, in a quasi-automatic fashion, without waiting for contextual information to come into play. The speed with which this process takes place is supported by a number of experimental results, which suggest that selection could have been completed between 120 msec and 1000 msec at the offset of the ambiguity.³

³ See Lucas (1987), Onifer and Swinney (1981), Seidenberg et al. (1982) and Swinney (1979).

Does this mean then that lexical access is a non-modular system, whose operations reflect the influence of information coming from higher cognitive systems? The answer is no. We start, following Fodor (1983), from the assumption that there is a distinction to make between a schematic lexicon, located in the input systems, and the real, more complex database, in the central system. The first reflects the existing connections between the lexical nodes, connections which simply indicate associations which do not contain any kind of semantic information or general world knowledge. When one of these lexical nodes receives activation, that activation is spread across all those nodes connected to it. This means that, whichever the context is, it does not have anything to do with this effect of intramodular facilitation that the presence of a specific word preceding the ambiguity could have on one of its meanings.

Thus, if immediately following access, when the selection stage begins, the processor does not yet have available all the necessary contextual information, and one of the meanings of the ambiguity is negatively facilitated, it is very likely that he will make a selection that later proves contextually inappropriate. This is what happens in (3) when the processor initially selects the meaning 'church ceremony' and its corresponding semantic representation (4.a):

- (4) a. One of the best things about the couple in the picture's wedding was the church ceremony.

So far, on the basis of psycholinguistic theories, we have tried to explain *how* the different meanings of an ambiguous word are activated and *what* factors, related to this process, affect the initial selection of a specific meaning, and with it, the selection of a first semantic representation. However, it is also necessary to justify *why* this process develops along these lines. Relevance theory offers the necessary theoretical tools to answer this question in a satisfactory manner.

3. A Relevance account of the selection phase in garden-path interpretation

According to Sperber and Wilson (1995:260), the second (communicative) *principle of relevance* establishes that every act of ostensive communication carries a presumption of its own optimal relevance. This presumption is defined in terms of a balance between the number of contextual effects obtained in the process of interpretation and the amount of processing effort required from the reader in this operation. Processing effort does not simply depend on the linguistic complexity of the utterance being processed, but also on the degree of accessibility of the assumptions which will be part of the context, and the type and number of inferences which will be necessary to compute the contextual effects of the utterance in the constructed context. At the same time, the accessibility of an assumption in memory will depend, among other factors, on whether or not it is part of a mental schema of knowledge in the processor's encyclopaedic memory. Those schemata are organized into a kind of mental network in which the different concepts are linked in such a way that, when one of them is processed, the rest also receives activation, functioning then as an immediate context. In this way, the high accessibility of a context with these characteristics brings down the processing cost of building a context by accessing individual assumptions from memory, and having to combine them to form a context in which to process the utterance.

If we consider again a garden-path utterance, it is easy to confirm how the most immediate context in which the reader initially processes the utterance presents characteristics which are typical of these knowledge schemata. For instance, the schema of a typical wedding in example (3). The speed with which such a context is retrieved from memory together with the increased level of activation of one the meanings due to spreading activation accelerates the development of a propositional form (4.a in example 3) which will be used in deriving an optimally relevant interpretation of the utterance.

However, for an utterance to be relevant on a given interpretation, this interpretation must produce a number of contextual effects, resulting from its interaction with the context. As we have previously explained, the decoding mechanism presents the central system with the results of its computation in a progressive way. This means that, as decoding proceeds, the building of a context also does so, because the words which follow the ambiguity in the utterance give access to new assumptions which will be added to the context, or because the reader extends the initial context in one of three directions:

[...] by adding to it assumptions used or derived in preceding deductions, by adding to it chunks of information taken from the encyclopaedic entries already present in the context or in the assumption being processed, and by adding information about the perceptual environment. (Sperber and Wilson, 1987:703)

In (3), the new assumptions which will be added to the initial context will be those retrieved from memory via the word *Wedgwood*, present in the utterance. When the first propositional form is processed in this extended context, no contextual effects are obtained as it does not interact with it. This could be due to three circumstances: no contextual implications are produced, none of the existing assumptions is reinforced, or none of the existing assumptions is contradicted and eliminated from the encyclopaedic memory of the individual. Once it has been confirmed that the first interpretation found and tested falsifies clause (a) of the definition of optimal relevance, it immediately follows that it also falsifies clause (b), the one relating to processing effort. Recovering the first interpretation costs processing effort. However, as no contextual effects are obtained, the effort employed is gratuitous and unjustified. So, we can conclude that the garden-path utterance, on that first interpretation, is not consistent with the principle of relevance and so this must be rejected.

In spite of this, the interpretation process does not end there; that is, the reader continues looking for a new possibility of interpretation that

produces the desired effects. What prompts the reader to start a second line of interpretation? We find the answer in the second communicative principle of relevance. The expectations of relevance that an act of ostensive communication creates in the reader are the ones that encourage him to keep on processing after the first failure, making him look for relevance in a different direction that produces an interpretation which justifies those expectations.

How does the reader retake a second meaning of the ambiguous word that initially was not selected? According to the *active suppression theory*, which claims that the level of activation of the non-selected meanings is actively suppressed, the individual would have to reprocess the word from the beginning. However, some researchers hypothesize “that human understanders do not ordinarily do this” (Holbrook et al, 1988:385). Holbrook et al (1988) propose an alternative explanation, the *conditional retention theory*, which establishes that the non-selected meanings remain retained until the processor reaches the end of the text. It is then when all of them are immediately suppressed. This proposal serves to explain how the reader can reactivate a second meaning without having to reprocess the ambiguous word.

Once a second meaning has been selected, and with it, a second semantic representation, a new propositional form will be developed; (4.b) in example (3):

- (4) b. One of the best things about our wedding was the
Wedgwood set of dishes.

The reader will now proceed to process it in the available context. This time the utterance, on this interpretation, produces the necessary contextual effects to justify his attention and satisfy his expectations of relevance.

We still have to resolve a problem which arises from the second clause of the definition of optimal relevance, that is, “the ostensive stimulus is the most relevant one compatible with the communicator’s abilities and

preferences” (Sperber and Wilson, 1995:270). The fact that the reader is forced to process the utterance twice before obtaining a relevant interpretation seems to suggest that the stimulus was not the most appropriate one the communicator could have used. An utterance without ambiguities would have allowed the reader to recover the intended interpretation and contextual effects in a direct and straight way, and thus avoided the enormous amount of processing effort employed. In other words, it looks as if a garden-path utterance, on its final interpretation, is relevant, but not in an optimal way. Accepting this claim as valid means accepting that Relevance theory cannot account for garden-paths. In what follows we would prove that this is not the case.

In every act of ostensive communication, the choice of a specific linguistic stimulus is a deliberate process, and as such, carefully studied and planned by the speaker. In garden-path utterances, the selection of a potentially ambiguous stimulus is justified by the speaker’s intention to communicate more than simply a set of assumptions, something which any other utterance would have communicated in a clear, unambiguous way. The deliberate increase in the processing effort demanded from the reader is justified, on the one hand, by the recovery of an extra number of contextual effects, and on the other, by the knowledge that those effects would have not been produced if any other stimulus had been employed. Which are those extra contextual effects? Capturing the reader’s attention, the maintenance of that attention for a certain amount of time, and the increase in the level of memorability of the information communicated in this way. It is interesting to note that these effects do not result in a quantitative increase or improvement of the communicated propositional content, but are effective on a level that goes beyond the purely linguistic. Thus, garden-path utterances come to show that “the fact that someone chooses to express an irrelevant assumption may itself be highly relevant.[...] Relevance may be achieved by expressing irrelevant assumptions, as long as this expressive behaviour is itself relevant” (Sperber and Wilson, 1995:121).

4. Conclusion

The interpretation process of garden-path utterances can be fully explained by postulating the intervention of a modular lexical access mechanism and a central inferential system which, guided by the search for relevance, operates on the output of the first. The rejection of the initial interpretation is explained in terms of the lack of contextual effects. The second principle of relevance justifies the building of a second interpretation that finally produces the desired effects. The processing effort these utterances demand is compensated by the production of extra contextual effects, not obtainable in any other way.

References

- Gorfein, D.S. (ed.) 1989. *Resolving Semantic Ambiguity*. N. York: Springer-Verlag.
- Hirst, G. 1987. *Semantic Interpretation and the Resolution of Ambiguity*. Cambridge: Cambridge University Press.
- Holbrook, J.K., Eiselt, K.P., Granger, R.H. and Matthei, E.H. 1988. "(Almost) Never letting go: Inference retention during text understanding" in S.I. Small, G.W. Cottrell and M.K. Tanenhaus (eds.). *Lexical Ambiguity Resolution. Perspectives from Psycholinguistics, Neuropsychology and Artificial Intelligence*. California: Morgan Kaufmann Pub.
- Lucas, M.M. 1987. "Frequency effects on the processing of ambiguous words in sentence context". *Language and Speech* 30: 25-46.
- Onifer, W. and Swinney, D.A. 1981. "Accessing lexical ambiguities during sentence comprehension: Effects of frequency of meaning and contextual bias". *Memory and Cognition* 9: 225-236.
- Seidenberg, M.S., Tanenhaus, M.K., Leiman, J.M. and Bienkowski, M. 1982. "Automatic access of the meanings of ambiguous words in context: Some limitations of knowledge-based processing". *Cognitive Psychology* 14: 489-537.
- Simpson, G.B. 1984. "Lexical ambiguity and its role in models of word recognition". *Psychological Bulletin* 96: 316-340.
- Simpson, G.B. 1994. "Context and the processing of ambiguous words" in M.A. Gernsbacher (ed.). *Handbook of Psycholinguistics*. San Diego: Academic Press.
- Sperber, D. and Wilson, D. 1995. *Relevance. Communication and Cognition*. Oxford: Basil Blackwell. 2nd ed.
- Swinney, D.A. 1979. "Lexical access during sentence comprehension: (Re)consideration of context effects". *Journal of Verbal Learning and Verbal Behavior* 18: 645-659.

Tanenhaus, M.K., Leiman, J.M. and Seidenberg, M.S. 1982. "Evidence for multiple stages in the contexts". *Journal of Verbal Learning and Verbal Behavior* 18: 427-440.