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Accessing multiple meanings: the case of zeugma

1. Introduction

Zeugma, sometimes referred to as sortal crossing, is a semantic anomaly which occurs when a word or phrase has to be interpreted in two distinct ways simultaneously, thus triggering a punning effect. For example, in sentence (1) the verb *fix* is applied to the object *the problem* in the sense of "solve," and to the second object *the blame* in a different sense, namely "assign." In sentence (2) the verb *expire* oscillates between two different senses, i.e. "die," which applies to the subject *he*, and "lose validity," which applies to the second subject, *his passport*.

(1) *Fix* the problem, not the blame.
(2) Ted could well *expire* before his passport does.

The possibility of creating a zeugmatic structure is one of a number of criteria for distinguishing ambiguity from vagueness. As pointed out by Zwicky and Sadock (1975), the zeugmatic effect is possible only in structures in which two or more words or phrases are modified or governed by a single lexically ambiguous word, i.e. one that has more than one distinct sense. The punning effect does not arise if the key word lacks sharply demarcated senses and permits an unspecifiable range of possible interpretations, as is the case with *cool* or *open* in sentences (3) and (4), respectively.

(3) The day was *cool* and so was his shirt.
(4) Jane *opened* the curtains and the windows.

Though the adjective *cool* generally represents the quality of being between warm and cold, its meaning varies: in sentence (3) it indicates that the day in question was neither hot nor cold and that the shirt permitted its wearer relief from heat. Similarly, in sentence (4), the unambiguous verb *open* is understood differently when referring to the activity to opening the curtains and differently when referring to the activity of opening the windows. Such cases will be treated here as instances of vagueness, though the term 'semantic underspecification' would probably be less polemical, considering the many different positions that exist in linguistic literature on what constitutes vagueness (Fine, 1975; Kempson, 1977; Channell, 1994; Franken, 1997; Pustejovsky, 1998; Zhang 1998).

In this paper I would like to apply the ideas recently developed within the Relevance Theory, especially those connected with on-line concept construction and lexical adjustment processes, in order to examine several issues connected with processing and representing zeugmatic structures. Hoping to determine what makes it possible for the language user to simultaneously entertain two disparate meanings of one linguistic expression I will make an attempt to show how duality of sense in zeugmatic structures can be represented mentally and theoretically. I will also consider the linguistic and cognitive factors involved in triggering the zeugmatic effect in some cases and in blocking it in others.

2. Word meaning in the relevance theoretic framework

In the model of utterance interpretation offered by the Relevance Theory (Sperber and Wilson, 1986/1995, 2002), the principles that govern interpreting verbal inputs follow directly from the principles that govern human cognition. As spelled out in the Cognitive Principle of Relevance, given in (5), Processing cognitive stimuli is geared to achieving the greatest possible cognitive gains at the lowest possible cost. In keeping with the Communicative Principle of Relevance, given in (6), ostensive verbal stimuli, such as utterances, raise in the addressee the expectation that in return for directing his attention and processing resources he will achieve adequate gains.

(5) **Cognitive Principle of Relevance:**
Human cognition tends to be geared to the maximisation of rel-evance. (Wilson and Sperber, 2002: 255)

(6) **Communicative Principle of Relevance:**
Every ostensive stimulus conveys a presumption of its own optimal relevance. (Wilson and Sperber, 2002: 256)

The two mental activities performed by the addressee during the process of interpreting utterances are linguistic decoding and pragmatic inference. On being presented with an utterance, whether spoken or written, the language user automatically decodes it into structured sets of encoded concepts, i.e. logical forms, which serve as input to the pragmatic processes of forming the hypotheses about the utterance's explicature and implicatures, i.e. the explicitly and implicitly communicated assumptions, constituting speaker meaning. The procedure employed by the addressee, given in (7), is a direct consequence of his presumption of the optimally relevant character of attended verbal inputs. When deriving meanings, whether at word or utterance level, the addressee takes the track of least processing effort in deriving cognitive effects; he considers possible interpretations as they become available and accepts the first interpretation which satisfies his expectations of optimal relevance as the one intended by the speaker.

(7) **Relevance-theoretic comprehension procedure**:
(a) Follow a path of least effort in computing cognitive effects: Test interpretive hypotheses (disambiguations, reference resolutions, enrichments, implicatures, etc.) in the order of accessibility.
(b) Stop when your expectation of relevance is satisfied.
(Wilson, 2004: 260)

For instance, in the exchange presented in (8), on hearing Ted's response to her question, Ann will develop it (via decoding, reference resolution, disambiguation, pragmatic enrichment) into the explicature given in (8a), which, together with the contextual information she can supply, will allow her to derive the strong implicature, given in (8b), which constitutes the answer to her question, and possibly to derive other weakly communicated implicatures such as (8c) and (8d).

(8) Ann: Will you have your car serviced today?
Ted: My mechanic has expired.

(8a) *Explicature*: THE SPEAKER'S [CAR] MECHANIC HAS **EXPIRED**$_1$ [=DIED].

(8b) *Strong implicature*: The speaker will not have his car serviced on the day of the utterance.

(8c) *Weak implicature 1*: The speaker may not be able to have his car serviced in the near future.

(8d) *Weak implicature 2*: The speaker will have to find another mechanic.

In this inferential model of utterance comprehension words and phrases are assumed to encode mentally-represented concepts which become activated in the mind of the language user making available three types of information: lexical, logical and encyclopedic. The lexical entry of a concept specifies the phonetic structure of the linguistic form that encodes the concept as well as its phonological and grammatical properties, including its lexical category. The logical entry specifies the inference rules which apply to logical forms of which that concept is a constituent. The encyclopedic entry of the concept comprises knowledge about the objects, events and/or properties instantiateing the concept, including folk and specialist assumptions, cultural beliefs and personal experiences stored in the form of propositional representations, scenarios or scripts and mental images.

On this view, a lexically ambiguous word, such as *bank,* would encode several concepts, such as BANK$_{1,}$ BANK$_2$, BANK$_{3,}$ etc, which have the same lexical entry but whose logical addresses are different and which provide access to a different set of encyclopedic data. One of the tasks the hearer has to conduct during the process of interpreting an utterance containing the word *bank*, such as (9), (10) or (11), is to select the concept intended by the speaker, based on the assumption made available by the concepts and other concept present in the logical form of the utterance. A possible representation of the word in the mental lexicon has been given in Table (1).

(9) The pilot *banked* the aircraft sharply to avoid a crash.
[BANK$_1$ (=tilt)]

(10) The worker *banked* the furnace up with coke.
[BANK$_2$ (=heap up)]

(11) My father *banked* half his salary every month.
[BANK $_3$ (=deposit in a bank)]

Table 1.

A possible representation of the word *bank* in a speaker's mental lexicon:

conceptual address:	BANK$_1$	BANK $_2$	BANK $_3$
linguistic entry:	V_{tr}, /bænk/	V_{tr}, /bænk/	V_{tr}, /bænk/
logical entry:	inferential links to concepts: TILT, SLANT, TIP, SLOPE	inferential links to concepts: HEAP, PILE UP, AMASS ARRANGE AT AN ANGLE	inferential links to concepts: DEPOSIT IN A BANK
encyclopedic entry:	particular schema: an action performed by a person (e.g. pilot or driver) on a motorcar or aircraft causing it to incline laterally specific mental image	particular schema: an action involving amassing some material (e.g. snow, coal, sand) and forming it into a slope specific mental image	particular schema: an action performed by a person involving taking money to a special establishment for safekeeping specific mental image

It is a matter of contention whether vague expressions, such as *cool*, are vague because, as argued by Franken (1997), they encode concepts which are vague themselves, or whether they encode concepts which require fine-tuning in order to yield a relevant interpretation. For instance, in (12), the adjective *cool,* whose possible mental representation is given in Table (2), would encode a concept COOL that serves as a springboard for constructing the occasion-specific concept COOL*, which is derived via an inferential lexical adjustment process, during which the comprehender selects some of the assumptions the lexically encoded concept makes available and modifies them in the context of the assumptions made available by other concepts occurring in the discourse.

(12) On a hot day Ted likes to wear a *cool* shirt.
[COOL* (=permitting relief from heat)]

Table 2.

A possible representation of the word *cool* in a speaker's mental lexicon:

conceptual address:	COOL
linguistic entry:	Adj, /ku:l/
logical entry:	inferential links to concepts: NEITHER HOT NOR COLD
encyclopedic entry:	particular schema: - allowing a feeling between warm and cold (e.g. room, drink, garment) - imparting a sensation of coolness (e.g. a breeze) - permitting relief from heat (e.g. a garment) specific mental image(s)
ad hoc concept	COOL*

The idea recently developed in the Relevance Theory is that in on-line communication people adjust virtually all of the mentally-represented concepts, including the disparate concepts encoded by ambiguous words, thus creating occasion-specific, or *ad hoc* concepts, derived from the encoded concept under considerations of relevance. For example, in (13) and (14) the verb *banked* unambiguously refers to amassing some material and forming it into a sloping ridge, yet something different is involved in a person piling up snow along a path and in ocean waves creating a sandy mound round a lagoon.

(13) The janitor *banked* the snow along the path.
BANK $_2$* (=heap up with a shovel)]
(14) The ocean *banked* the sand round the lagoon.
[BANK $_2$**(=heap up by forces of nature)]

As demonstrated by Carston (2002a, 2002b), Barsalou (1983, 1987) or Wilson (2004), the process of lexical adjustment may result in narrowing, broadening or even changing the linguistic denotation of the encoded concept.

In the case of narrowing, the word expresses a concept more specific than the encoded one. For example, sentence (15) does not normally convey the obvious truth that the speaker has some temperature but rather that her temperature is high enough to merit comment. In (16) the noun *lamb* refers to the flesh of a young sheep served as food and in (17) to the young of the animal called sheep.

(15) I have a *temperature*. (Wilson, 2004: 344)
(16) At dinner Ted especially liked the *lamb*.
(17) At the farm the children especially liked the *lamb*.

In broadening, the concept communicated by the use of the word is relaxed, either slightly or so much as to include cases that may fall beyond its denotation. The many varieties of broadening include approximation, hyperbole, category and metaphorical extension. In approximation, given in (18), and in hyperbole, given in (19), the linguistically encoded meaning becomes a proper subpart of the derived meaning. In category extension, such as (20), and metaphorical extension, such as (21), the denotations of the basic and the *ad hoc* concepts might overlap, or their denotations might not intersect at all.

(18) The children stood in a *circle*.
[APPROXIMATION; (CIRCLE =a formation resembling a circle)]
(19) Your suitcase *weighs a ton.*
[HYPERBOLE ; (WEIGH A TON =be very heavy)]
(20) Last month Cindy was pestering us to buy her a gerbil. Now it seems a hamster is the new *gerbil*.
[CATEGORY EXTENSION; (GERBIL =a new kind of pet animal)]
(21) Don't be such a *rabbit;* stand up for your rights!
[METAPHORICAL EXTENSION; RABBIT =a timid person)]

The possible outcomes of the different processes can be graphically represented in the following five diagrams (see Carston, 2002: 353), in which L stands for the linguistically encoded meaning, and C* stands for the derived meaning, or the *ad hoc* concept:

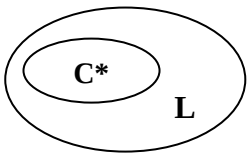

Diagram 1: Concept narrowing

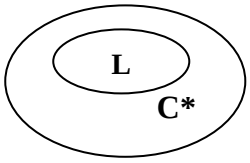

Diagram 2: Concept broadening (approximations)

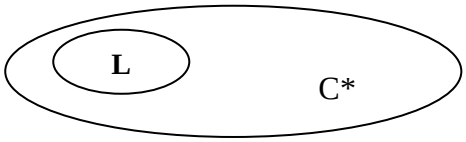

Diagram 3: Concept broadening (hyperboles)

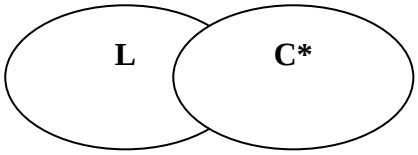

Diagram 4: Concept broadening (some cases of metaphorical and category extensions)

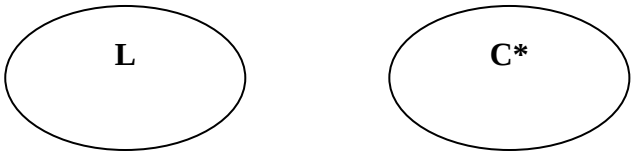

Diagram 5: Concept broadening (some cases of metaphorical and category extensions

3. Representing and processing zeugmatic structures

How can the model of lexical pragmatics outlined here be used to handle the issues we are trying to address in this paper? What can it tell us about the way zeugmatic structures are mentally represented and processed? How can it account for the fact of comprehenders' accessing two meanings simultanously?

Zeugma employs both ellipsis and parallelism. It often takes the form of a series of similar phrases joined or yoked together by a word which

is first expressed, then implied, as in example (1), though in some cases, such as example (2), a pro-form is used. This indicates that deriving the explicature of a zeugmatic structure involves constructing not one but two propositions, each with a distinct set of truth-conditions, resulting from the diverse concepts each of them contains. For instance, during the decoding phase of utterance interpretation the comprehender of (2), repeated as (22), has to decide which concept is encoded by the ambiguous verb *expire.* Following the procedure presented above, he uses information stored in the encyclopedic entries of other concepts present in the logical form under construction in order to form a hypothesis about the specific sense he should select. The pronoun *he* suggests the sense pertaining to human beings, i.e. "die," while the presence of the concept PASSPORT suggests the sense pertaining to documents, i.e. "lose validity." The only way to resolve the resulting semantic conflict is to assume that the utterance contains two concepts sharing the same lexical entry and conveys two diverse propositions containing these two concepts. The possible explicature that can be derived has been presented in (22a):

(22) Ted could well *expire* before his passport does.
(22a) TED$_X$ COULD WELL **EXPIRE$_1$** [=DIE], BEFORE TED$_X$'S PASSPORT **EXPIRES$_2$** [=LOSES VALIDITY].

In interpreting (23), where the verb *sank* applies to the noun phrase *his boat* in its literal sense and to the phrase *his dreams* in a metaphorical sense, the addressee follows the same procedure of drawing from the encyclopedic knowledge of the concepts made available by the utterance in order to test the hypotheses about the meaning of the word *sank* in the context of its use. The presence of the word *boat* gives access to a concept indicating a vessel used for traveling on water, which can go down before the surface of the water and fall to the bottom of the sea. At the same time, the presence of the concept encoded by the word *dreams* forces the addressee to extend the pivotal concept encoded by the word *sink* so that it can apply to people's dreams. Again, the sentence will only make sense if it is understood to express two propositions containing two different though related *ad hoc* concepts, which again share the same lexical entry. Example (23a) shows a possible outcome of the interpretation process.

(23) His boat and his dreams *sank.*

(23a) HIS BOAT **SANK$_{\text{LITERAL}}$** [=WENT TO THE BOTTOM] AND HIS DREAMS **SANK*$_{\text{METAPHORICAL}}$** [=DECREASED IN NUMBER, SCOPE OR INTENSITY].

There is a somewhat bizarre kind of zeugmata, such as (24) or (25), in which the key word has a different grammatical subcategory on each of its two different readings.

(24) All my friends are *getting* Firsts (=first class university degrees) and married.

(25) The farmers *grew* potatoes and bored.

The explanation the relevance theory can provide for such utterances might be that in the process of utterance interpretation the addressee draws not only from the encyclopedic but also from the lexical entry of the encoded concept, which makes accessible information about the grammatical properties of the word instantiating the concept. As in the other cases, a relevance-driven adjustment process will allow the comprehender to make the decisions about the subcategory as well as the meaning of the words *getting* and *grew* and derive and explicature represented as (24a) and (25a), respectively.

(24a) ALL THE SPEAKER'S FRIENDS ARE **GETTING$_{\text{TRANSITIVE}}$** [=RECEIVING] FIRSTS AND ALL THE SPEAKER'S FRIENDS ARE **GETTING$_{\text{INTENSIVE}}$** [=BECOMING] MARRIED.

(25a) THE FARMERS$_X$ IN THE VALLEY **GREW$_{\text{TRANSITIVE}}$** [=CULTIVATED] POTATOES AND THE FARMERS$_X$ **GREW$_{\text{INTENSIVE}}$** [=BECAME] BORED.

4. Factors involved in triggering and blocking the zeugmatic effect

Let us now turn to the question of how it is possible for a hearer to entertain two senses of one word at once? This odd phenomenon seems to be a direct consequence of the relevance-theoretic procedure the comprehender employs in interpreting verbal inputs. If two disparate concepts connected with a single lexical expression are equally prominent at the cognitive level,

both will be accessed at the same time and simultaneously used in the interpretation process. These two disparate concepts can be encoded by the pivotal word or pragmatically derived in the process of lexical adjustment. However, in order for the zeugmatic effect to arise, the two *ad hoc* concepts must be sufficiently distinct from each other in terms of their denotations. The prediction would thus be that apart from homonymous words the obvious candidates for triggering the zeugmatic effect are metaphorically used words and idiomatic expressions. Indeed, examples where a word either oscillates between a literal and a metaphorical meaning, such as examples (26) – (29), are particularly common as are zeugmata built around an expression serving as part of a literally meant phrase and of an idiomatic expression, such as examples (30) and (31):

(26) He *drowned* his sorrows and his cat.
(27) *Rend* your heart, and not your garments. (Joel 2:13)
(28) This is the city of *broken* dreams and windows.
(29) ... and *covered themselves with* dust and glory.
(Mark Twain, *The Adventures of Tom Sawyer*)
(30) The addict *kicked* the habit and then the bucket.
(31) By the time we left the bar, I'd *bought* her story, as well as her three drinks.

On the other hand, sortal crossing should not arise if the denotations of the two derived concepts intersect or are subsets of each other. This might explain why approximations, such as (32), and narrowings, such as (33), do not normally yield a zeugmatic effect in coordinated constructions. In (32), the encyclopedic information provided by other concepts present in the set of propositions under processing does not allow the comprehender to accurately find-tune the basic concept FLAT into two dissimilar concepts FLAT* and FLAT**. As for utterance (33), it cannot be taken to mean that Ted liked the meat (concept LAMB*) and the children liked the animal (concept LAMB**), since both concepts, i.e. LAMB* and LAMB** are merely subsets of the same basic concept LAMB.

(32) My garden is *flat* and so is my ironing board.
(33) Ted and the children liked *the lamb*.

Interestingly enough, hyperboles, such as (34), and some narrowings, such as (35), can in fact produce zeugma.

(34) This insect *has a brain the size of a pinhead* and so does my boss.
(35) Rembrandt and our janitor *used a brush*. (Laskarides et al., 1996)

In example (34), the encyclopedic information provided by the lexical items *this insect* and *my boss* precludes the addressee from forming the hypothesis that both referents could have brains of exactly the same size and makes him search for a more relevant hypothesis, such as the one provided in (34a).

(34a) THIS INSECT **HAS A BRAIN THE SIZE OF A PINHEAD*** [=HAS A BRAIN OF A SPECIFIC SIZE] AND MY BOSS **HAS A BRAIN THE SIZE OF A PINHEAD**** [=IS VERY UNINTELLIGENT].

A detailed discussion of sentence (35) was can be found in Lascarides, Copestake and Briscoe (1996), who treat it as an example of pragmatic ambiguity resulting from the fact that the unambiguous word it contains, i.e. *brush*, gets conflicting default interpretations in different contexts. A relevance-based explanation (Solska, forthcoming) would be that a more general concept BRUSH, or rather the complex concept USE A BRUSH, makes available an ordered array of encyclopedic assumptions from which the comprehender of (35) can select an appropriate subset. In order to do so, he will form hypotheses about what is involved in using a specific kind of brush and will test these hypotheses against the encyclopedic data activated in his mind by such concepts as REMBRANDT and JANITOR. Searching for an interpretation that fulfills his expectations of relevance he will first consider the most general representation and will narrow it down to a more specific one. A comprehender with some knowledge of the Dutch painter will manage to adjust the more general concept into two occasion-motivated ones and derive an explicature given in (35a). A comprehender ignorant of Rembrandt's artistic achievements will be unable to see that the sentence expresses two different concepts and will remain oblivious to the zeugmatic effect.

(35a) REMBRANDT **USED A BRUSH*** [=FOR PAINTING PICTURES] AND OUR JANITOR **USED A BRUSH**** [=FOR PAINTING WALLS].

It would seem then that it is possible to find some borderline cases which may but do not have to be perceived as zeugmatic. Depending on the contextual assumptions resulting from the content of encyclopedic entries which individual language users can bring to bear, even unambiguous and vague words can occasionally produce sortal crossings.

5. Conclusions

Zeugma occurs relatively rare and is often seen as a semantic anomaly. We may, however, conclude from the analysis provided here that there is in fact nothing anomalous about the processes which trigger it. The zeugmatic effect is caused by the same mechanisms which are always employed by language users in fleshing out the meaning of utterances of any kind.

A more unexpected finding revealed by the analysis presented above is that approximations, unlike metaphorical and hyperbolical uses of a word, do not seem to produce crossed readings. This finding poses a problem for the relevance-theoretic position on metaphor (Wilson, 2004, Carston and Powell, 2005), which is that metaphors do not represent a natural kind but are one of many types of concept loosening forming a continuum of cases including approximations and hyperbolical uses. The fact that approximations and metaphorical extensions behave in drastically different ways in parallel constructions shows a possible need to the revise the relevance-theoretic treatment of metaphor.

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