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Metonymy-Guided Discourse Inferencing. A Qualitative Study

ABSTRACT

Cognitive-linguistic research on metonymy has argued cogently that metonymy is a crucial factor guaranteeing discourse coherence. Barcelona (forthcoming) includes a detailed study of the metonymies guiding the pragmatic inferences claimed to be invited by the reading of a brief text. The analysis of the fragment, though internally consistent, is based on my own close reading of the text. In the paper I report on a qualitative study investigating whether native speakers of English derive the same inferences and whether they are guided by metonymy in this derivation. The results seem to confirm my claims in the earlier study.

Keywords: metonymy, pragmatic inferencing, qualitative research, reading comprehension

1. Preliminaries

The aim of the article is to describe and discuss a detailed qualitative study investigating the metonymic guidance of the discourse-pragmatic inferences derived by the participants. The results (described in sections 4 and 5 and discussed in section 6, seem to confirm my earlier claims about the role of metonymy in pragmatic inferencing.

In the rest of this section, I will first briefly present the concept of metonymy I will be assuming throughout the article (1.1). Then I will briefly discuss the important role of metonymy in discourse-pragmatic inferencing (1.2), with the corresponding review of previous relevant literature.

1.1. Notion of metonymy

The notion of metonymy I adhere to is a "consensus" cognitive-linguistic notion, which I have defined in the following terms:

> Metonymy is an asymmetric mapping of a conceptual entity, the source, onto another conceptual entity, the target. Source and target are in the same frame and are linked by a pragmatic function, so that the target is mentally activated. (Barcelona 2011, p. 52)

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The term "frame" is preferred to the term "domain", frequently employed in definitions of metonymy, like the one by Lakoff and Turner (1989, p. 103). Both domains and frames are cognitive models, but while a domain is a broad classificatory scheme of experience such as LIVING BEINGS, ANIMALS, PEOPLE, etc., a frame is a knowledge-rich model of a recurrent, well-delineated area of experience (Fillmore, 1985), equivalent to Lakoff's (1987) "propositional ICMs", or Kövecses and Radden's (1998, p. 48) "metonymy-producing relationships" (see Radden & Dirven, 2007, pp. 9–12, for further details on this issue). By "pragmatic function" (Fauconnier, 1997) I mean the privileged connection holding between the roles of two entities in a frame, such as that between AUTHOR and WORK (within the frame of LITERARY PRODUCTION). With the claim that conceptual metonymy is an asymmetric mapping, I mean that it is not a symmetric mapping of structure, like conceptual metaphor, which consists in a set of sub-mappings of entities and knowledge items of the source onto relationally equivalent items in the target: In the conceptual metaphor LIFE IS A JOURNEY, the beginning of the journey is mapped onto the beginning of life, the difficulties (e.g., obstacles) in the journey onto life's difficulties, etc. See Barcelona, 2002a, 2003a, 2015, 2011, and Benczes et al. (2011) for details.

This and similar definitions, especially Kövecses and Radden's (1998), though reflecting the basic agreement in cognitive linguistics on the nature of metonymy as a primarily conceptual phenomenon, are surrounded by some controversies, which cannot be discussed here for lack of space. These concern such issues as the distinction from metaphor (Barnden, 2010), "active-zone" metonymies (Langacker, 2009), the generic WHOLE FOR PART, PART FOR WHOLE, PART FOR PART typology of metonymy (Barcelona, 2019; Panther & Thornburg, 2018; Ruiz de Mendoza & Pérez Hernández, 2001).

1.2. Metonymy and discourse-pragmatic inferencing

Metonymy is a conceptual connecting device between elements in our experience, a "natural inference schema" (Panther & Thornburg, 1998, 2003a, 2018), not confined to the lexicon or to any grammatical level. Not even to oral language. Metonymy, therefore, guides discourse-pragmatic inferencing, interacting with general pragmatic principles, such as Grice's maxims or Relevance, and is a crucial factor guaranteeing discourse coherence. Its role in discourse-pragmatic inferencing is generally recognized in cognitive linguistics. We find it at work in anaphora resolution (Langacker, 1999, p. 234–245; Ruiz de Mendoza & Díez Velasco, 2004), especially in indirect anaphora (Emmott, 1999); in indirect speech acts (Brdar-Szabó, 2009; Panther, 2022; Panther & Thornburg, 1998, 2003a; Thornburg & Panther, 1997); in the derivation of implicatures and other types of discourse inferences (Barcelona, 2002b, 2003b, 2005, 2007a, 2007b, 2009, forthcoming; Panther & Thornburg, 2003a, 2003b, 2018; Ruiz de Mendoza & Galera, 2014) and other meanings, such as attitudinal meanings (Barnden, 2018; Littlemore, 2015),

and in other discourse-related phenomena: conceptual tautology, euphemism, film and drama conventions, literary discourse, art and image, gesture, sign language (Barcelona, 2018; Dżereń-Głowacka, 2007; Gibbs, 1994; Kwiatkowska, 2007; Mittelberg, 2019; Rodríguez Redondo, 2018), and many others.

Let us now examine a few relatively simple examples. Gibbs (1994, pp. 329–330) gives this example:

(1)
John was hungry and went into a restaurant. He ordered lobster from the waiter. It took a long time to prepare. Because of this he only put down a small tip when he left.

An automatic inference from this text is "John paid for his food before leaving". According to Gibbs, this inference is guided in part by a metonymy operating within the RESTAURANT frame, which I would call EVENT (LEAVING A TIP) FOR CO-OCCURRING EVENT (PAYING FOR ONE'S FOOD).

An instance of metonymy-guided anaphora resolution occurs in (2):

(2)
He speaks excellent French even though he's never lived there.

The antecedent of *there* is inferred to be the metonymic target of *French* (LOCATED [LANGUAGE] FOR LOCATION [FRANCE]).

For more complex examples, see, among others, Barcelona (forthcoming), Ruiz de Mendoza and Díez Velasco (2004).

2. The qualitative study reported in this article: Justification.

The claim that metonymy routinely guides pragmatic inferencing by speakers is a reasonable hypothesis advanced by cognitive linguists like the author of this article, given the linguistic data we observe and our interpretation of those data, i.e., our own inferences based on those data. If we conclude that a metonymic operation connects the linguistic data and our own inferences, then we try and suggest the abstract metonymic pattern, of those proposed in the specialized literature, that connects the linguistic data to the inferences: EFFECT FOR CAUSE?, ACTION FOR PURPOSE?, CONDITION FOR RESULT?

The problem with this procedure is twofold: 1) Do other speakers, or at least some of them draw the same, or at least similar inferences from a particular text (written or spoken) as the ones drawn by a particular cognitive linguist analyzing that text? It is a well-known fact that speakers often vary in their interpretations of one and the same text. 2) Are other speakers, or at least some of them, guided by the same or at least by some of the same conceptual metonymies as the ones presumably guiding the analyst's inferences in relation to the same text, by different metonymies, or by no metonymy at all?

The inferences drawn from examples like (1) and (2) are hardly problematic, since they are quite straightforward (but the inference from (1) might be challenged by some speakers based on their interpretation of the scope of *only* as excluding payment and including only the tip, as a protest for the slow preparation).

This is an empirical issue that can only be resolved by means of several types of empirical research. One of them is careful qualitative research. The rest of the article is devoted to presenting the results of a qualitative study aimed at finding some empirical support for the hypothesis that metonymy regularly guides pragmatic inferencing[1]. In Barcelona (forthcoming) I include a detailed investigation of the conceptual metonymies claimed to guide the pragmatic inferences invited by a small fragment (19 lines) of the only scene in Act 1 of O´Neill's play *Long Day's Journey into Night*. The fragment is reproduced in the Appendix. My analysis of that conversational written text, though internally consistent, was based on my own close reading and was inevitably subjective and introspective, but not arbitrary (Gibbs, 2007). Therefore, I decided to carry out the qualitative study described in this paper.

3. The qualitative study reported in this article: Description

Qualitative research is a type of empirical research where the data are not necessarily in the form of numbers (Punch, 1998, p. 4). It is used to investigate phenomena in terms of the meanings people bring to them. The participants were nine volunteer female American undergraduate college students, aged 20–21, all native speakers of American English, with no prior training in linguistics, who had never read or watched the play before[2]. The questionnaire was answered anonymously. All participants were seated in one ample classroom with sufficient separation from each other to prevent watching other participants' answers. The questionnaire (see below and Appendix) was answered on May 16, 2018. The completion of the questionnaire lasted 30 minutes altogether, but one participant only took 15 minutes (m), another two needed 20 m, and the remaining six needed between 21 and 30 m.

The procedure used was this:
1. I gave the participants a few brief oral instructions (to seat them and to hand out the questionnaire copies).
2. The participants read the brief written instructions at the beginning of the questionnaire.

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[1] The study was briefly presented orally in 2019 at the 15th International Cognitive Linguistics Conference (Kwansei Gakuin University, Japan) and in more detail at an invited plenary lecture in the same year at the conference Culture-Cognition-Communication (Maria Curie-Sklodowska University, Lublin, Poland).

[2] They were all students at the *Programa de Estudios Hispánicos en Córdoba*. I am grateful to them and to Dr Kim Griffin, Resident Program Director, for their help.

3. They read the above-mentioned fragment of the play.

4. They answered the questionnaire in writing.

5. I collected the nine completed questionnaires.

This is the *structure* of the questionnaire[3]:

The first section asks for information about the participants' age, mother tongue and prior familiarity with the play.

The second section includes eight open-answer (o–a) questions (Questions 2–9) on what a certain part of the text ''suggests' to the participants on various topics (e.g., a given character's attitude). This type of question was chosen to avoid biasing the participants towards one particular answer. The answer to each o-a question is followed by: a) An additional question asking the participants to give their reasons for their previous reply. And b) a separate table (in a different page) with 3-5 possible interpretations of the relevant part of the text, asking participants to accept (YES) or reject (NO) those interpretations (this table was not presented after o–a 8 and 9). The purpose of these tables was to check the consistency of the participants' reactions with their answers to the o–a questions. This second section was aimed at investigating the degree of intersubjective validity of the inferences I advanced in my earlier analysis of the same text and to find out whether the respondents reasoned in terms of the conceptual metonymies I had proposed in that earlier analysis, in terms of other metonymies, or in terms of no metonymy at all.

The third section includes five possible *overall* inferences from the text, asking subjects to agree or disagree with them and to give their reasons for their answer. They replace the "further interpretations" tables with respect to Questions 8 and 9, since these questions are, in turn, overall questions on the two characters. These inferences had also been proposed in my previous detailed analysis of this text, which will be reported on in my forthcoming book (Barcelona, forthcoming), together with some of the results of this qualitative study. This section was designed with the same purpose as the second section, but I could not present it as a series of o-a questions, given the forty-minute limit the participants would be able to devote to the study.

4. Open-answer questions: Results and analysis

In this section, the answers of the participants to the o-a questions, their reasons for those answers and their reactions to the additional "interpretations" are analyzed, and the conceptual metonymies possibly guiding their reasoning are suggested. This information is summed up in a set of analytical tables. Given space limits, I will only present the detailed analysis of the answers to questions 2 and 4, will

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[3]   The items and elements of the questionnaire mentioned in this section can be seen in the Appendix. For lack of space, it only includes a few representative parts.

make a passing comment on the answers to question 3, and will provide a short summary of my analysis of the answers to the other o-a questions.

4.1. Analysis of Question 2 (Q 2): *What does the first sentence in this paragraph ("Tyrone's arm is around his wife's waist as they appear from the back parlor") suggest to you about Tyrone's affective relationship with Mary?*

The paragraph referred to is the final paragraph in the stage direction at the beginning of the text. I found two main types of answers to Q 2 but only one main type of reasons for these answers. I view the answers to the question as the possible metonymic targets of the metonymic sources constituted by the reasons provided by the participants. In column A the most frequent types of answers are summed up, together with a literal example of those types of answers. In column B, the predominant reasons given for the answers are reproduced, together with a literal example of one of those reasons. In column C, I suggest the metonymy/ies possibly guiding the respondents' reasoning.

Table 1. Analysis of the first main type of answer (T = Tyrone / M = Mary

A. Most frequent types of answers (n = total no. of subjects giving each type)	B. Most frequent types of reasons offered by these subjects	C. Metonymy/ies possibly guiding activation of A by B
A.1. Mutual love (2). Of these: +comfort with each other (1) +expected in marriage (1) Example of an answer: "That they love each other and that they are comfortable with each other"	Physical contact (touching each other, T holding M's waist). Example of a reason: "They are physically touching"	(BEHAVIORAL) EFFECT (TOUCHING, X PUTTING X'S ARM AROUND Y'S WAIST) FOR EMOTIONAL CAUSE (LOVE)

Table 2. Analysis of the second type of answer

A. Most frequent types of answers (n = total no. of subjects giving each type)	B. Most frequent types of reasons offered by these subjects	C. Metonymy/ies possibly guiding activation of A by B
A.2. (Mutual) Affection (4). Of these: -Only affection of T for M (2) *Example literal answer*: "They are affectionate with each other"	Physical contact (touching each other, T holding M's waist, etc.) Example literal reason: "His arm around her waist implies casual, easy affection, they are happy together"	(BEHAVIORAL) EFFECT (TOUCHING, X PUTTING X'S ARM AROUND Y'S WAIST) FOR EMOTIONAL CAUSE (AFFECTION)

Table 3. Less frequent answers (each offered only by one subject) and metonymies

A. Less frequent types of answers (n= total no. of subjects giving each)	B. Types of reasons offered by these subjects	C. Metonymy/ies possibly guiding activation of A by B
A.3. T's continued interest in M (+Mutual love) (1) Literal answer: "It suggests that Tyrone is still interested in his relationship with her"	Physical contact (surprising at old age) Literal reason: "At an old age you don't see as much physicality in relationships, and when it is shown it usually implies that the couple is still in love"	(BEHAVIORAL) EFFECT (X STAYING PHYSICALLY CLOSE TO Y AND TOUCHING Y) FOR EMOTIONAL CAUSE (X'S INTEREST IN Y) + PERSONAL CATEGORY (OLDER PEOPLE) FOR TYPICAL BEHAVIOR (LESS PHYSICAL CONTACT)
A.4. Good relationship (+T's jealousy) (1) Literal answer: "I feel their relationship is good. They are happy and maybe Tyrone is a bit jealous"	Physical closeness and touch to express possession Literal reason: "I think that because closeness and touch indicate comfort and trust in the relationship it can also mean Tyrone wants everyone to know his wife is his."	SYMPTOM (PHYSICAL CLOSENESS, TOUCHING) FOR STATE (BEING IN A GOOD RELATIONSHIP) + EFFECT ("POSSESSIVE" BEHAVIOR) FOR CAUSE (POSSESSIVE ATTITUDE)
A.5. T likes physical contact (1) Literal answer: "Tyrone likes physical contact"	Physical closeness Literal reason: "He is holding her close to him"	SYMPTOM (X HOLDING Y CLOSE TO X) FOR ATTITUDE (X LIKING PHYSICAL CONTACT)

In sum, the *main* inferences ("targets") drawn by the subjects from the behavior described are *mutual affection* and *mutual love*, as reflected in their answers (6 out of 9 answers). The main reason ("source") offered by the subjects are *affectionate physical contact*. And the main metonymy seemingly guiding this reasoning is (BEHAVIORAL) EFFECT (PHYSICAL CONTACT) FOR (EMOTIONAL) CAUSE (LOVE, AFFECTION…)..

The less frequent answers are metonymically prompted by similar reasons / sources (physical contact or closeness with additional elements like possession or expected behavior at old age), but the answers / targets are somewhat different (continued interest plus mutual love, good relationship plus jealousy), and the main metonymy proposed is not only EFFECT FOR CAUSE.

Most additional interpretations (Table 4) are consistent with the main answers to Q 2 (except for those in bold).

The detailed analysis of the answers to *Question 3 (Q 3)* has been deleted for lack of space. This o-a question is very similar in its focus to Q 2, since it asks about the participants' interpretation of T's playful hug to M (see Appendix). Most answers / targets (5/9) mention mutual love, affection, and happiness, while the rest point out emotional closeness and T's greater involvement or T's purpose

Table 4. Additional interpretations

INTERPRETATIONS	YES	NO
	1-9 = subject code	1-9 = subject code
(a) Tyrone seems to control his wife.	**4, 5, 8**	1, 2, 3, 6, 7, 9
(b) Tyrone seems to love his wife.	1, 2, 3, 4, 5, 6, 7, 8	**9**
(c) Tyrone seems to like his wife a lot.	1, 2, 3, 4, 5, 6, 7, 8,9	-------
(d) Tyrone seems to treat his wife as a stranger.	-----	1, 2, 3, 4, 5, 6, 7, 8, 9

of marking M's weight gain by hugging her. Most reasons / sources mention the playful hug (7/9), but also youthful behavior (1/9). The main metonymy is again BEHAVIORAL EFFECT (HUGGING) FOR EMOTIONAL CAUSE (LOVE, AFFECTION). Most of the additional interpretations are consistent with these answers.

4.2. Analysis of Question 4 (Q 4): *Why does Mary interpret Tyrone's words "You're a fine armful now, Mary, with those twenty pounds you've gained" as meaning that she has gotten fat?*

The question directly asks the subjects about the possible reasons for *Mary's* inference. Therefore, this time the participants were not directly asked what T's words suggested to *them* as readers. The sources of the possible metonymic reasoning are the reasons suggested by the participants (A in Table 5) and the target is Mary's inference ("I've gotten fat, you mean, dear").

The two main types of answers to Q 4 (sources) for M's interpretation of T's words (target) that were identified are in Table 5.

Table 5. Analysis of the main types of answers (sources) to Q 4

A. Most frequent types of answers (n= total no. of subjects giving each type)	C. Metonymy/ies possibly guiding activation of A
A.1. T's mention of M's increase in body width (5) Of these: + T's mention of M's remarkable weight gain (3) (see A.2 below) *Example literal answer*: "Probably because he's been touching her (with the hug and his arm around her waist) so she's thinking about her physical body, and he mentions the weight she's gained. When people gain weight, they sometimes refer to themselves as fat or fatter."	- (MENTIONING) **EFFECT** (Y'S BODY FILLING UP X'S ARMS / Y'S BODY FITTING TIGHTLY IN X'S ARMS WHEN X HUGGING Y / WHEN X PUTTING X'S ARM AROUND Y'S WAIST) **FOR** (MENTIONING) **CAUSE** (Y HAVING GOTTEN FAT)

A.2. T's mention of M's remarkable weight gain (6) Of these: +weight increase in a short amount of time (1) + T's mentioning weight increase constitutes inadequate behavior (1) (connected to A.3) *Example literal answer*: "Mary thinks he means she's gotten fat because he mentions her weight gain. Even though he brings it in a playful way he didn´t have to mention how much she gained."	(SUGGESTING) CAUSE / EVENT (X'S REMARKABLE WEIGHT INCREASE) FOR (SUGGESTING) EFFECT / CO-OCCURRING EVENT (X'S HAVING GOTTEN FAT)

In type A.1, the dominant point for 5 respondents is T' mention of M's increase in body width / size, supplemented, for three of them, with T's mention of M's weight gain. In Type A.2, the dominant point for six respondents is T's mention of M's remarkable weight gain, combined for one of them with a negative judgment of T's behavior, and for another with the speed of this weight increase. We find a total of 11 answers between A.1 and A.2, the reason being that in several cases the same participant mentions several of these topics.

Table 6. Analysis of the less frequent types of answers (sources) to Q 4

A. Less frequent types of answers (n= total no. of subjects giving each type)	C. Metonymy/ies possibly guiding activation of A'
A.3. Gaining weight: negative connotations for women + The fact that T points this out (1) *Example literal answer*: "Gaining weight usually isn't seen as positive for women and he is acknowledging that he noticed".	- (SUGGESTING) CAUSE (WOMEN GAINING WEIGHT) FOR (SUGGESTING) EFFECT (WOMEN BEING NEGATIVELY AFFECTED). - EFFECT (X STATING THAT Y HAS GAINED WEIGHT) FOR CAUSE (X HAVING NOTICED THAT Y HAS GAINED WEIGHT).

This answer highlights the negative connotations that weight gain has "for women" and T's (inadequate) mention of M's weight increase.

In sum, the main reasons (sources) suggested for M's interpretation (target) are T's mention of M's increase in body width, and T's mention of M's remarkable weight increase. And the main metonymies that the participants seem to have pointed out as guiding M's inference from T's words are (MENTIONING) EFFECT (X'S INCREASE IN BODY WIDTH) FOR (SUGGESTING) CAUSE (X'S HAVING GOTTEN FAT) and CAUSE / EVENT (X'S REMARKABLE WEIGHT INCREASE) FOR EFFECT / CO-OCCURRING EVENT (X'S HAVING GOTTEN FAT).

Table 7. Additional interpretations

INTERPRETATIONS	YES	NO
	Subject no.	Subject no.
(a) Because she ate very little breakfast.		1, 2, 3, 4, 5, 6, 7, 8, 9
(b) Because Tyrone says she has gained twenty pounds.	1, 2, 3, 4, 5, 6, 7, 8, 9	
(c) Because she ought to reduce	**4, 5,**	1, 2, 3, 6, 7, 8, 9
(d) Because Tyrone says she can "fill" his arm with her waist.	1, 2, 3, 4, 5, 6, 7, 8, 9	
(e) Because she eats too much	**2**	1, 3, 4, 5, 6, 7, 8, 9

Most interpretations (except for those in bold) are consistent with the main answers (reasons / sources) to Q 4 given by the respondents.

4.3. Analysis of the answers (targets) to o-a Questions 5, 6, 7, 8, and 9 (abbreviated as Q n).

Only the main answer and the main reason for each Q can be included in this sub-section, to keep within space limits. The other answers and reasons, the examples of literal responses for Q 6-9, the specific comments on each answer, and the tables with "additional interpretations" had to be left out.

Table 8. Analysis of answers to Q 5-9

Open-answer question	A. Main type of answer	B. Main type of reason offered by subjects	C. Metonymy/ies possibly guiding activation of A by B
Q 5: *What does Tyrone mean by saying "I've the digestion of a young man of twenty, if I am sixty-five"?*	T means that he has fast metabolism / can eat a lot (8/9) *Example literal answer*: "He means that he can eat whatever or as many foods as he wants without gaining a lot of weight, like a young man, even though he is older, (…)"	Young people usually enjoy easy, fast metabolism, unlike old people Example literal reason: "It's a common idea that young people have fast metabolisms while old people do not."	EVENT / PROPERTY (HAVING A YOUNG MAN'S DIGESTION) FOR CO-OCCURRING EVENT / CONCOMITANT PROPERTY (HAVING A GOOD DIGESTION / EATING A LOT WITHOUT GAINING WEIGHT) + CATEGORY (OLD PEOPLE) FOR SALIENT PROPERTY (HAVING SLOW METABOLISM)
Q 6: *Why does Tyrone ask Mary "Is that why you ate so little breakfast?"*	T wants to know if M is eating little because she's worried about her weight (7/9)	M says she ought to reduce	GOAL (REDUCING, LOSING WEIGHT) FOR MEANS (EATING LITTLE).

Q 7: *What does Mary mean by saying "No one could deny that"?*	M means that it is obvious T can eat a lot (5/9)	M shows her agreement with T ("You surely have…")	No clear metonymic connection between "reasons expressed" and answer.
Q 8: *Could you please tell us what kind of a person Tyrone seems to be from what you have read?*	A kind older man who loves his wife (6/9)	Affectionate physical and verbal behavior	EFFECT (LOVING/ KIND BEHAVIOR) FOR CAUSE (LOVE / AFFECTION TOWARDS HIS WIFE)
Q 9: *Could you please tell us what kind of a person Mary seems to be from what you have read?*	Loving and kind-hearted, playful, but too self-conscious (5/9)	Affectionate behavior, playfully teasing, saying she should lose weight	- BEHAVIORAL EFFECT (VERBAL BEHAVIOR [PLAYFULLY RETURNING TEASING REMARKS TO SOMEONE]) FOR EMOTIONAL / ATTITUDINAL CAUSE (FRIENDLY ATTITUDE AND OR FEELING OF LOVE TO THAT PERSON). - BEHAVIORAL EFFECT / SYMPTOM (X STATING THAT X SHOULD LOSE WEIGHT) FOR CAUSAL STATE / ATTITUDE (X BEING CONSCIOUS OF X'S PHYSICAL APPEARANCE)

The responses to all the questions except Q 7 support the inferences and the metonymic reasoning leading to those inferences that I proposed in my own case study on this text (Barcelona forthcoming). The answers to Q 7 varied notably (some respondents said that M meant to highlight T's good health, his youthful appearance or his need to be reassured that he was in good health). Those to Q 9 also varied notably. Four out of nine respondents pointed out M's passivity (she "acts as a stereotypical wife") as well as her insecurity. Most of the additional interpretations chosen by each participant were congruent with their answers to Q 5–9.

5. Reactions to proposed overall inferences: Results and brief analysis
Again, a lot of detail in this part of the qualitative study had to be left out, especially the less frequent answers and reasons (see Appendix, "Inferences"). The questionnaire now took this form:
Inferences
(a) "Tyrone seems to be often unaware of the implications of his words."
YES / NO

Reasons

(The participants had some blank space immediately below to briefly give their reasons for their reaction.) The questionnaire had the same form as regards inferences (Inf) b–e. The analysis of the reactions is presented in Table 9.

Table 9. Analysis of the reactions to the overall inferences (Inf) proposed in the questionnaire.

Proposed overall inferences	A. Main type of reaction	B. Main type of reason offered by subjects	C. Metonymy/ies possibly guiding activation of A by B
Inf a: "T seems to be often unaware of the implications of his words."	YES (8/9)	T's reference to M's weight gain	FACT /EFFECT (X NOT AVOIDING THE UNWANTED IMPLICATIONS OF X'S WORDS) FOR STANDARD EXPLANATION / CAUSE (X NOT BEING AWARE OF THOSE IMPLICATIONS).
Inf b: "T loves M very much, even with her extra weight, and he would keep loving her even if she gained still more weight."	YES (8/9)	T reassures M and shows he loves her as she is	BEHAVIORAL EFFECT (LOVING VERBAL BEHAVIOR OF X TO Y (X SAYING THAT Y LOOKS FINE) FOR EMOTIONAL CAUSE (X LOVING Y VERY MUCH)
Inf c: "M implies that T eats too much and that he is a glutton."	NO (8/9)	M is just teasing and does not mean that	No clear metonymy. Perhaps: FACT (VERBAL ACTION: X TEASING Y) FOR STANDARD IMPLICATION (X NOT SERIOUSLY CRITICIZING Y)
Inf d: "M shows an affectionate teasing attitude towards T."	YES (6/9)	M responds with playful, harmless irony.	BEHAVIORAL EFFECT (X'S PLAYFUL, TEASING VERBAL BEHAVIOR TO Y) FOR CAUSE (X HAVING AN AFFECTIONATE, TEASING ATTITUDE TO Y).
Inf e:"T and M seem to have a good relationship."	YES (6/9)	M and T: kind to e/o, physically affectionate, teasing e/o playfully.	BEHAVIORAL EFFECT / SYMPTOM (X SMILING AFFECTIONATELY AT Y, Y CARING ABOUT X…) FOR CAUSE / STATE / SITUATION (X AND Y HAVING A GOOD RELATIONSHIP)

Curiously, most participants rejected Inference c, although T makes that inference himself. But most of them accepted the other overall inferences ("targets"), thus confirming my own inferences in my previous analysis of the text. The reasons ("sources") they gave seem to confirm to a large extent the metonymies that I argued in that analysis to guide the derivation of those inferences. Note that the latter are "overall" inferences, that is, second order, global inferences invited by the whole text, not local inferences derived from a part of the text. Admittedly, eliciting the reaction to these inferences directly rather than by asking the respondents first to draw their own inferences by means of o-a questions and then asking them to provide their reason may have minimally biased their answers.

6. Discussion

Throughout the questionnaire, the respondents derived several pragmatic inferences from certain parts or from the whole of the text. These inferences were revealed through their answers to the o-a questions, through their reactions to the additional interpretations proposed by the questionnaire after most o-a questions, and through their reactions to the five overall inferences tested in the third section of the questionnaire.

The inferences derived by each participant were congruent with those derived from most of the other participants. Most of these inferences were also congruent with those I had advanced in my earlier analysis and so confirmed it to a large extent.

But they were also widely different from each other in minute points of detail. This is an important fact that lack of space prevented me from commenting on in depth above. It reflects the well-known fact that different speakers do not process the same information uniformly and is a further reason for the use of qualitative studies.

The "reasons" given by each participant for their answers to the o-a questions (except for Q 4, whose answer was in fact a possible reason for one of M's explicit inferences), and those they stated for their reactions to the inferences in the third section of the questionnaire, were in most cases congruent with each other and with my own earlier analysis, again within a wide variety in points of detail.

The results of the qualitative study reveal that the participants had used metonymic reasoning in their connection between their reasons for their answers (sources) and the answers themselves (targets) that seems to respond to major high-level metonymy patterns (EFFECT FOR CAUSE, CATEGORY FOR PROPERTY, EVENT FOR CO-OCCURRING EVENT, etc.). The *main result* of the study is that it suggests that readers are regularly guided by metonymy (together with general pragmatic principles and encyclopedic knowledge) when drawing pragmatic inferences from texts. This result has far-reaching implications for the theory and practice of discourse analysis, communication studies and linguistics in general.

As for the *limitations* of the study, it must be acknowledged that despite my careful attempt at ensuring objectivity, my subjective judgment was still involved in my categorization of the participants' answers and reasons, and in the determination of the precise metonymic patterns involved. As regards the latter issue, I was helped by the metonymy database developed by our research group (Blanco Carrión et al., 2018).

The use of "indirect" (psycholinguistic) and other empirical methods (see González Márquez et al., 2006) would doubtless supplement this study. However, there has been too little experimental research on metonymy from a CL perspective to date (Toth, 2018, p. 174–175), and even less on metonymy and discourse inferencing.

Acknowledgements

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Appendix

Excerpts from the questionnaire in the qualitative study[4]

INSTRUCTIONS

This is just an experiment to test how people draw inferences when they read a text.
There are no good or bad answers.
The answers are anonymous.

Steps to be followed

Read this text and then answer a few questions in the remaining sheets.
Please answer *all* of them even if the answer seems obvious to you.

Text

A small fragment of the initial conversation in the only scene in Act 1 of Eugene O'Neill's play *Long Day's Journey into Night*

SCENE
(A part of the initial stage direction)

Living room of James Tyrone's summer house on a morning in August, 1912.
Mary Tyrone and her husband enter together from the back parlor, coming from the dining-room.
    Mary is fifty-four, about medium height. James Tyrone is sixty-five but looks ten years younger.
    Tyrone's arm is around his wife's waist as they appear from the back parlor. Entering the living room, he gives her a playful hug.
1. TYRONE. You're a fine armful now, Mary, with those twenty pounds you've gained.
2. MARY (*smiles affectionately*). I've gotten fat, you mean, dear. I really ought to reduce.
3. TYRONE. None of that, my lady! You're just right. We'll have no talk of reducing. Is that why you ate so little breakfast?
4. MARY. So little? I thought I ate a lot.

---

    [4]   The punctuation mark **(. . .)** indicates the parts of the original questionnaire left out of the excerpt.

5. TYRONE. You didn't. Not as much as I'd like to see, anyway.
6. MARY (*teasingly*). Oh you! You expect everyone to eat the enormous breakfast you do. No one else in the world could without dying of indigestion. (*She comes forward to stand by the right of table.*)
7. TYRONE (*following her*). I hope I'm not as big a glutton as that sounds. (*With hearty satisfaction.*) But thank God, I've kept my appetite and I've the digestion of a young man of twenty, if I am sixty-five.
8. MARY. You surely have, James. No one could deny that.

(*She laughs and sits in the wicker armchair at right rear of table* (. . .).

NOTE: THE LINES IN THAT DIALOGUE HAVE BEEN NUMBERED FOR EASY REFERENCE

QUESTIONNAIRE
Question 1
How old are you? _____
Are you a native speaker of English (please circle your answer)? YES / NO
Have you ever read or watched this play? YES/NO

Question 2
NOW LOOK AT THE FINAL PARAGRAPH IN THE STAGE DIRECTION (THE ONE BEGINNING WITH "*Tyrone's arm is around his wife's waist*")

What does the first sentence in this paragraph ("*Tyrone's arm is around his wife's waist as they appear from the back parlor*") suggest to you about Tyrone's affective relationship with Mary?

Please indicate your brief reply here:

Give your reasons for your answer here:

- -
PAGE BREAK HERE IN ORIGINAL QUESTIONNAIRE
- -

Now please say whether you agree (put an X under "YES") or disagree (put an X under "NO") with the following interpretations of Tyrone's words.
        NOTE: You can mark more than one interpretation with "YES".

(. . .)

Question 3

What does the second sentence in the last paragraph of the stage direction ("*Entering the living room he gives her a playful hug*") suggest to you about the relationship between Tyrone and Mary and about Tyrone's state of mind?

(. . .)

- -

PAGE BREAK HERE IN ORIGINAL QUESTIONNAIRE

- -

NOW PLEASE INDICATE WHETHER OR NOT YOU AGREE THAT THE FOLLOWING INFERENCES OR STATEMENTS ABOUT TYRONE, MARY AND THEIR RELATIONSHIP ARE ALREADY SUGGESTED BY THE TEXT THAT YOU HAVE READ.

IF YOU AGREE, PLEASE BRIEFLY TELL US WHY IN THE SPACE PROVIDED

Inferences:

(a) "Tyrone seems to be often unaware of the implications of his words."
YES / NO

Reasons

(b) "Tyrone loves Mary very much, even with her extra weight, and he would keep loving her even if she gained still more weight"
YES / NO

Reasons

(. . .)