The semantics and pragmatics of conjoined sentences

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Abstract

It is widely known that conjoined sentences with *and* can communicate a wide range of relations between its conjuncts. Therefore, linguists in semantics and pragmatics fields have long tried to examine the nature of those relations and also, put together a plausible approach towards *and*-utterance interpretation. This paper aims to look at some of the most remarkable accounts that have been given for the variability in the interpretation of conjoined statements. Although totally discarded by current literature, a semantic ambiguity account for the word *and* is the first thing that comes to one's mind. However, evidence has been put forward against this approach: (i) the fact that it should give account for a very large range of meanings, (ii) the fact that some juxtaposed counterparts give rise to the same interpretation and (iii) the universality of the many meanings of *and* in different languages. When it comes to pragmatic approaches, Paul Grice was one of the first authors that theorised about conjoined sentences in the light of pragmatics. Within a Gricean framework, the sequential interpretation of some conjoined sentences is the result of an implicature arising from Grice's Maxim of orderliness. Many authors have argued that this approach may be unable to account for the whole issue, and evidence suggests that this theory is not consistent in some cases. Within Relevance Theory, the interpretation of conjoined sentences is regarded as an enrichment of the explicitly communicated level of an utterance, and it is governed by the principle of relevance which is rooted in the cognitive processing of a set of essential assumptions. This last theory is able to cover a wide range of conjoined sentence interpretation including narrative and some non-narrative sentences. However, there is a set of non-narrative cases that seem to be problematic for any account in which the word a*nd* is taken to equal its respective logical operator & (such as the Gricean and Relevamce Theory), at first sight, because they do not give rise to the same interpretation as their juxtaposed counterparts. In this regard, Blakemore and Carston have tried to account for these cases within the relevance theoretic framework, but Kitis and Txurruka have also done their bit and put forward very interesting remarks that could work with a relevance theoretical account. I conclude by saying that *and*-utterance interpretation seems to be a matter of context-sensitive cognition, hence Relevance Theory is the most complete account to date; and that future research lines could put the focus on the nature of the word *and*, which has

long been considered to have the same semantics as its respective logical operator since Grice.

Key words: *and*-utterance, conjoined sentence interpretation, the Gricean theory of conversation, Relevance Theory, problematic cases.

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1. Introduction

According to the first entry in the Oxford English Dictionary, a conjunction is "a word that joins words, phrases or sentences, for example 'and', 'but', 'or', or 'because'". Needless to say, the English language contains more conjoining particles than the four acknowledged in the definition above, some of which work as coordinators, whilst some others create subordinating relations between the constituents they conjoin. However, this paper will not address the latter kind of conjuncts, but coordination. In particular, I will put the focus on the coordinating connective *and*.

In order not to get confused with the different kinds of sentences that can certainly contain the word *and*, it is necessary to draw a clear line between two concepts: the connective *and* and the language conjunction. While the latter only joins the propositions which are expressed by sentences, the connective *and* can connect words or phrases as well as sentences. Sometimes, those constituents that are smaller than sentences actually express whole propositions. Therefore, *and* can be analysed as a sentential connective in those cases too.

(1) Moira and Harry left.

(Vicente, 2021)

In this statement, the conjuncts ([Moira] and [Harry]) are smaller units than a sentence. However, (1) could be rephrased as "Moira left and Harry left" so as to convert both constituents into sentential units. However, this does not apply every time the word *and* conjoins phrases and words (Vicente, 2021). Even if I will constantly be making use of the term *and* for amenity purposes throughout the paper, it is essential to bear in mind that I will be referring to the language conjunction and concentrating on instances in which the conjunction joins two propositional constituents.

This three-letter word is one of the most recurrent words in the English language. In fact, a word frequency analysis conducted in 2001, ranked *and* as the top

three most frequently used English word (Leech et al, 2001). Yet, at the same time, it is, as stated by Carston (1994), "the apparently most unmarkable one of these" (p.1) among the connectives *and*, *but* and *or*. From a merely logical point of view, compound statements joined by *and* have predictable truth conditions: an *and*-sentence is, in principle, true if the propositions expressed by all the propositions are truthful to the states of affairs in the real world (Vicente, 2021).

However, as "unmarkable" (Carston, 1994, p. 1) or plain as *and* may seem, the reality is that linguists have long been fascinated by it because "among all coordinating conjunctions (e.g., or, but, nor) it has the least semantic and syntactic limits, the least specific meaning, and the highest context dependency" (Lang 1991, as cited in Hertwig et al, 2008, p. 740). This connective does not only work as a logical operator in natural language. There is a wide range of possible relationships between the conjuncts that *and*-utterances join.

The three most common interpretations conveyed by conjoined statements are illustrated by these examples taken from Carston (1992):

(2) It's spring in England and it's autumn in New Zealand.

(3) He handed her the scalpel and she made the incision.

(4) She fed him poisoned stew and he died.

While example (2), the word *and* equals the coordinating particle &, example (3) communicates a temporal reading of the states of affairs described by the two conjuncts. The making of the incision is clearly interpreted to happen after him handing her the scalpel. The conjuncts in (4), on the other hand, are related in a cause-consequence way, the ingestion of poison seems to be the cause of his death.

The logical, temporal and causal interpretations of *and*-sentences are the most common ones, as mentioned before; but this phenomenon goes further. Note these two other examples as well:

(5) We spent the day in town and I went to Harrods.

(6) I left the door open and the cat got in.

(Carston, 1992)

Clearly, (5) does also convey some kind of temporal interpretation, but it differs from the reading one gets from (3). The same happens with (6), there is a causal relationship between leaving the door open and the cat getting in, but it is not the same as the cause-consequence relationship between the conjuncts in (4).

Not only does *and* create relations between the constituents that it joins, but it can also work as a device for communicating other types of information.

(7) Her husband is in hospital and she is seeing other men.

(Kitis, 2000)

In statement (7), *and* is an "'emotional device' that communicates the speaker's emotional attitude, surprise, or even outrage" (Hertwig et al, 2008, p. 740). In other words, the interpretation that one would get from an utterance (7) is that the speaker regards what "she" is doing as something immoral, surprising and/or upsetting.

If one were to examine more *and*-sentences, the list of interpretations and different usages of the word *and* would become endless. Being aware of this phenomenon, the two linguistic fields that are related to the study of meaning, semantics and pragmatics, have tried to find a possible explanation for the derivation of such various interpretations of the same type of statements (Carston, 1992).

Having reached this point and because they are both related to the issue this paper is dealing with, it is fundamental to set the distinction between pragmatics and semantics, since their fields of study are often targets of misconceptions. Even if it could be said that both fields merge to create a general theory of what speakers mean when producing an utterance, they are independent fields of linguistic study (Szabó, 2009). Semantics studies the meaning of a linguistic expression without taking the context into account. It deals with what is known as *sentence meaning*; the meaning that is determined by the actual meaning of the words and how they are grammatically organised within the sentence. On the other hand, pragmatics could well be defined as the study of context. Its major concern is known as *speaker's meaning*; the meaning that

a specific speaker wants to communicate with a specific utterance to a specific hearer and in a specific context (Vicente, 2021).

Consequently, conjoined sentences and their various interpretations have been examined by these two areas of study. Largely, the interpretive variability of conjoined sentences has been accounted for in the light of general pragmatic principles of communication. Linguists have tried to understand the nature of the word *and*, the arising of such a wide array of interpretations of *and*-statements (Carston, 1992).

The aim of this paper is to concentrate on the variability in the interpretation of conjoined statements and to analyse the different semantic and pragmatic approaches that have been proposed in order to explain it. In the pages that follow, I will seek to demonstrate that a relevance-theoretic approach towards the interpretation of *and*-utterances is the most complete one to date, by giving substantial arguments and illustrating them with examples in natural language. This paper has been organised as follows: in the first section, I will give a semantic ambiguity account for *and*-utterance interpretation and submit proof given in the literature against it; and then, I will move on to the pragmatic approaches. In this second part, I will put the focus on the two most well-known accounts that have been postulated in the literature: the Gricean theory of conversation, and Relevance theory. In the last section, I will exhibit some cases which are problematic for a pragmatic account, and I will try to give an explanation of their occurrence.

2. Semantic accounts

Having noted decontextualized examples of sentences containing *and* and having observed the various readings that they may have, one could firstly be drawn to think that the word *and* may be semantically ambiguous (Carston, 1994). That is to say, we would expect *and* to have more than one meanings such as, (i) "and then" for the temporal interpretation of an utterance, or (ii) "and as a result" for the cause-consequence interpretation. Therefore, the listener would have to infer the meaning of the utterance depending on the context by means of a disambiguation process.

Nevertheless, this account for the many interpretations of *and*-utterances is totally discarded in the literature.

2.1. Evidence against semantic ambiguity

2.1.1. Too many meanings

As I have mentioned when introducing the various meanings that *and*-sentences can convey, once we start listing sentences which contain *and* in natural language, the number of interpretations that we encounter seems to be endless. In fact, there are "fine-grained variations" (Carston, 2002, p. 224) when it comes to what primarily seemed to be the same type of interpretation; and in addition to that, some of those variations are contradictory to each other. These examples by Carston (1988) make the point very clearly:

(8) She gave him her key and he opened the door.

(9) Mary was in the kitchen and she was listening to the radio.

(10) He fell into a deep sleep and dreamed he was flying.

These three sentences are *and*-utterances and they all have a temporal interpretation of some kind. Nonetheless, a more careful consideration of these examples reveals different sub-interpretations. In (8), the giving of the keys is inferred to happen first, and the opening of the door would follow the first event; thus, it has a successive temporal interpretation. In sentence (9), the two states of affairs seem to be happening at the same time; hence, it has a simultaneous temporal interpretation. Carston (1988, p. 159) describes sentence (10) as having "some sort of temporal containment", hence it does not convey the same temporal reading as the other two.

Not only are there various readings across different sentences, but also, the same sentence may have more than one underlying interpretation. For instance, some sort of spatial reading is inferred in (9), the reader infers that the listening of the radio happens in the kitchen. The assumption of a semantic ambiguity account in this example would fail to explain why the word *and* takes two meanings (the simultaneous temporal and the spatial interpretations).

This matter already suggests that the fact of *and*-utterance interpretation being so wide has to do with human cognition more than the actual nature of the word itself.

2.1.2. Juxtaposed counterparts

Further evidence against a semantic ambiguity approach towards *and* is derived by the non-conjunctive counterparts of *and*-utterances. The fact that the juxtaposed counterparts of some examples convey an identical relation between its components as their conjunctive versions has long been used by linguists as an indicator in favour of a pragmatic account (Carston, 2002).

(11)   She gave him the key. He opened the door.

(Carston, 1998)

If the word *and* is eliminated and replaced by a full stop from example (8), the temporal successive reading remains, as can be seen in (11). The listener still interprets that the event related in the first conjunct took place before the latter. Thus, the sequential interpretation of the utterance seems not to depend on the semantics of *and* (Carston, 1998).

2.1.3. Same meanings in all languages

Last but not least, when looking at words that are undeniably considered to be semantically ambiguous, we realise that ambiguity is idiosyncratic. This means that the multiple meanings that a word may have are inherent to the language they belong to. For example, according to the Oxford English Dictionary, the English word *bank* can take up to nine different meanings; but each of these meanings is translated differently into different languages. If we were to address the bank of a river in French, we would use the word *rive*, but if we were to address the bank as the organisation that provides financial services, instead, we would use the word *banque* (Carston, 1994).

This is not the case of *and*. The vast array of its meanings is represented by the same conjunction in each language: *et* in French, *y* in Spanish, *eta* in Basque, etc. There seems not to be any language in which at least three of the meanings (&, & then and & as a result) are encoded by different words. On that account, the meanings of the word

and would not be idiosyncratic, as they should if semantically ambiguous, but universal (Carston, 1994).

3. Pragmatic accounts

3.1. Gricean account

One of the first linguists that tried to give a pragmatic explanation to the phenomenon that this paper addresses was Paul Herbert Grice. "He was keen to counter the philosophical tendency at the time to postulate various distinct but related senses for words, multiple ambiguities." (Carston, 1994, p. 3).

3.1.1. Theoretical background

Grice explored the essence of meaning and intention in natural language; and one of the subjects that he approached was how the connective *and*, alongside *or* and *if*, differed in everyday language use from the logical meanings they are assigned to (&, V, →, respectively). In his view, *and* is semantically identical to the logical operator &. The key to an *and*-utterance acquiring extra meanings lies in a concept that he named *implicature*, which he introduced in his William James Lectures at Harvard in 1967, when he "laid down the foundations for a theory of conversation" (Wilson & Sperber, 1981, p. 155). Everything is gathered in his best-known paper *Logic and Conversation*, which was published in 1975 (Delgado, 2021).

Having observed that what is communicated by an utterance in natural language goes beyond what is said, Grice suggested the Theory of Conversational Implicatures. He knew that the meaning of an utterance was not only conveyed by the sum of meanings of each word in the utterance plus their syntactic arrangement. Instead, the context played a major role in what was meant. His theory was based on the idea that the implicit meaning of an utterance is "inferred and predictable" and he proposed the concept of an *implicature*, which worked as a bridge between what was said and what was communicated (Imanuddin, 2008). Grice assumes that implicatures arise on the basis of what we expect from a conversation; and he proposed *The Co-operative Principle* in order to describe those expectations.

(12)   *The Co-operative Principle*

Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged.

(Grice, 1975)

Basically, this principle assumes that all the interlocutors enrolled in a conversation will talk in a way that will benefit the conversation and not confuse the listeners. In other words, there is a series of principles that govern conversation, which is understood as a cooperative action (Wilson & Sperber, 1981), and we follow these principles in order to have effective conversations. He identifies nine maxims and he classifies them in four categories.

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MAXIM OF QUANTITY:

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

2. Do not make your contribution more informative than is required.

MAXIM OF QUALITY: 'Try to make your contribution one that is true' (supermaxim).

1. Do not say what you believe to be false.

2. Do not say that for which you lack adequate evidence.

MAXIM OF RELATION: 'Be relevant'.

MAXIM OF MANNER: 'Be perspicuous' (supermaxim).

1. Avoid obscurity of expression.

2. Avoid ambiguity.

3. Be brief (avoid unnecessary prolixity).

4. Be orderly.

(Grice, 1975)

In short, according to Grice, the participants in a conversation are expected to give the appropriate amount of information that is required, in a truthful, relevant and perspicuous manner. Therefore, interlocutors are able to make inferences on the basis of those expectations through a special reasoning process.

As far as conjoined sentences are concerned, an explanation to the successive temporal reading that is inferred from some *and*-utterances has been put forward in the light of Grice's theory. The Gricean approach, which some scholars like Levinson have taken, suggests that this interpretation is the result of a *Generalized Conversational Implicature* attributed to the 'Manner 4: Be orderly' Maxim. Let us illustrate it with an example: The speaker utters sentence in (8) and in doing so communicates its literal meaning. In the spirit of cooperation, the speaker is assumed to follow the nine Maxims, and the addressee supposes that this is the case. Therefore, the speaker is being orderly in his utterance; that is to say, they are describing the events in the order in which they happened, and the listener infers the order of the events thanks to the implicature arising from the assumption that both interlocutors are cooperating in the conversation.

(13)   "She handed him the key and he opened the door."

What is said: She handed him the key; he opened the door.

What is implicated: She handed him the key first; he opened the door after that.

What is communicated: She handed him the key, and then, he opened the door.

(Delgado, 2021)

Nonetheless, current literature suggests that Grice's approach may be unable to address the issue as a whole, and also, the theory appears to have some inconsistencies as is going to be presented in the following section of this paper.

3.1.2. Evidence against Gricean account

3.1.2.1. Changes in temporal structure

If a temporal reading of an *and*-utterance is determined by the order in which the events are mentioned, the presence or absence of the conjunction itself should not trigger any changes in its interpretation. However, we encounter instances in natural language in which the conjoined version and its juxtaposed counterpart are interpreted as having different temporal structures.

(14)   a. Max fell; he broke his arm.
         b. Max fell and he broke his arm.

(15)   a. Max fell; he slipped on a banana peel.
         b. Max fell and he slipped on a banana peel.

(Bar-Lev & Palacas, 1980)

(14) agrees with Grice's theory, in both (14a) and (14b) the listener infers a successive temporal interpretation, Max fell firstly, and then he broke his arm. The absence of *and* in (14a) and the presence of it in (14b) do not give rise to any alterations in the interpretation; but the theory does not hold in (15). While (15b) does indeed have a successive interpretation of the events, in (15a) the temporal structure is completely reversed. Max slipping on a banana peel is interpreted to happen before his falling. This indicates that the temporal interpretation may not always be established by the order in which the constituents are organised in a sentence (Txurruka, 2003).

3.1.2.2. Only explains temporal interpretation

The Gricean account for this phenomena accounts exclusively for successive temporal structures in *and*-utterances, yet as seen through the paper, there are a lot more possible interpretations to *and*-utterances, hence, "the pragmatic story (…) needs to encompass a much wider range of conjunctive relations" (Carston, 2002, p. 223). *And*-utterances are not limited to the narration of events, and thus, an explanation based on the orderliness of the conjuncts is not adequate for their interpretation.

(16)   a. Paul is a linguist and he can't spell.

        b. Paul can't spell and he is a linguist.

(Blakemore & Carston, 1999)

The order in which the conjuncts are placed is irrelevant in these cases. Conversational implications in (16) go beyond narration; the aim of these sentences is not locating events in time. An utterance (16a) would most likely be interpreted as aiming to communicate the contrast between Paul being a linguist and his being illiterate; and (16b) would be interpreted the same way.

3.1.2.3. And = &?

In her paper *The Natural Language Conjunction*, Isabel Gómez Txurruka mentions another piece of evidence which would suggest that Grice's theory could not possibly be the case. This time, the issue focuses on the truth-conditionality of the connective.

If one is to accept Grice's theory, one will also assume that the word *and* and the logical operator & are semantically identical and the interpretation that arises from conjoined statements is a pragmatical inference made at the implicit level. Thus, the word *and*, at the explicit level, would have the same truth conditions as &.

(17)   **Truth table - Logical Conjunction &**

P	**Q**	**P&Q**
T	T	T
T	F	F
F	T	F
F	F	F

Essentially, P&Q will be true only when both constituents P and Q are true. Consequently, according to Grice's theory, an *and*-utterance can only be asserted when both conjoined constituents are true; but in fact, this is not always the case.

(18) Stand up, and I'm going to break your arm.

<div align="right">(Bar-Lev & Palacas, 1980)</div>

(18) is an *and*-sentence in which "stand up" equals P and "I'm going to break your arm" equals Q. However, it goes without saying that this utterance does not have the intention to communicate an assertion. Instead of that, we interpret the sentence as a conditional: "If you stand up, I will break your arm". This utterance is not communicating a truthful statement, and therefore, the word *and* is not working as the logical conjunction & (Txurruka, 2003).

3.1.2.4. Conjoined sentences within other logical operators

As acknowledged before, in the light of the Gricean analyses, the sequential reading of an *and*-statement is a pragmatical inference made at the implicit level. The temporal interpretation arises at the level of *what is implicated*. The formula would look like this:

(19) *What is said*: P & Q
    What is implicated: P preceeded Q

<div align="right">(Carston, 1994)</div>

In logical language, in a proposition "P & Q", the order of the conjuncts is not relevant in terms of truth condition. That is to say, the reversed version "Q & P" would have identical truth conditions as its inverted equivalent. If both conjuncts P and Q are true, both versions "P & Q" and "Q & P" are meant to be truthful. Bearing this fact in mind, Cohen (1971) points out that if the proposition expressed at the level of *what is said* equals the logical operator, changing the order of P and Q should not have any effects in the truth conditions of the statement. However, when analysing conjoined sentences embedded within negation, disjunction and the conditional, those predictions turn out to be false.

(20) a. He didn't steal some money and go to the bank; he went to the bank and stole some money.

   b. Either she became an alcoholic and her husband left her or he left her and she became an alcoholic.

   c. If the old king dies of a heart attack and a republic was declared Sam will be happy, but if a republic was declared and the old king dies of a heart attack Sam will be unhappy.

<div align="right">(Cohen, 1971)</div>

The truth-conditions of the conjuncts in (20a) should contradict each other if we were to assume that the proposition expressed at the level of *what is said* is equivalent to that of the logical operator: the order of the conjuncts in this case is indeed relevant when interpreting the truth conditions of this sentence, because in fact, it is a perfectly interpretable statement. In the same vein, (20b) would be a proposition of the following kind: "Either P or P", hence would be viewed as redundant, but it is not, because once again, the order of the conjuncts plays a role in its truth conditionality. Last, but not least, (20c) leads us to draw the same conclusion. In principle, the proposition expressed at the level of *what is said* would be of the following kind: "If P then Q but if P then not Q". It should turn out to be a contradiction, but it is not due to the fact that the order of the conjuncts needs to be taken into consideration when determining the truth conditions of the sentence (Carston, 1994).

What Cohen demonstrated by means of these examples is basically that "the distinction between the two levels (*what is said* and *what is implicated*) seems to collapse" (Carston, 1994, p. 10). Therefore, contrary to Grice's account, which advocates for a merely logical operator at the explicit level of utterance interpretation, it is argued that there needs to be some sort of pragmatically inferred information in the propositions expressed at the level of *what is said* in conjoined sentences. This issue has been addressed by relevance theorists as will be described in the next section of this paper.

3.2. Relevance-theoretical approach

More recent literature has focused on a relevance-theoretical framework, which recognizes that "utterance interpretation falls within the domain of *cognitive psychology*" (Wilson, 1993, p. 7). *Relevance: Communication and Cognition* (1986) gathers up the fundaments of the relevance theory framework, first developed by Deirdre Wilson and Dan Sperber.

3.2.1. Theoretical background

The theory is based on the idea that human cognition is relevance-oriented. That is to say, our cognitive system, composed by perception, memory and inference, is designed to select information which is relevant to us (Delgado, 2021). Therefore, according to this theory, we infer the most relevant interpretation of an utterance; or in other words, we understand messages by interpreting them in contexts that provide the most likely set of useful ideas. In order to do so, one uses information provided by the context to choose an interpretation that will suit the conversation.

When defining relevance, Wilson and Sperber identify two variables that constitute *The Principle of Relevance*. Firstly, they assert that a piece of information is relevant when it gives rise to what they label a *cognitive effect*, this is, when it interacts with the context in three potential ways: strengthening an old assumption; contradicting and thus, eliminating an old assumption; or combining with an old assumption to yield a new one. Secondly, they refer to the processing effort that those *cognitive effects* need. Basically, what they affirm is that there is a set of factors that affect the effort needed to process an utterance: recency of use, frequency of use, linguistic complexity, logical complexity, accessibility of context, and size of the context (Delgado, 2021).

Summing up, *The Principle of Relevance* suggests that (i) "other things being equal, the greater the contextual effects, the greater the relevance" (Sperber & Wilson, 1986, p. 119) and that (ii) "the smaller the effort needed to recover the effects, the greater the relevance." (Wilson, 1993, p.7). These two factors contribute to the notion of *optimal relevance* which takes place if and only if:

(a) it is at least relevant enough to be worth the hearer's processing effort.

(b) it is the most relevant one compatible with the speaker's abilities and preferences.

<div align="right">(Wilson, 1993)</div>

Consequently, the assumption of *optimal relevance* suggests that the hearer believes that the speaker has been as relevant as possible within the context. Therefore, the interpreter is meant to find the most accessible interpretation following those aforementioned criteria: *cognitive effects* and processing effort. "In principle, any set of premises yields an infinite number of logically valid conclusions" (Wilson, 2016, p. 6), but only one interpretation is selected by the interpreter, and all the other less accessible possibilities are discarded. The hearer considers interpretations in order of accessibility and once she/he has found one that satisfies her/his expectation of relevance, the process of quest finishes. It is fundamental to bear in mind that the hearer is not intending to find the most relevant interpretation, but the most optimally relevant one.

Another important notion that Relevance theory approaches is the explicit-implicit distinction. Unlike Grice, who made a clear semantic-pragmatic cut between *what is said* and *what is implicated*, authors that have worked within the relevance theory framework, such as, Robyn Carston have argued that the inferential element of utterance comprehension goes beyond implicatures. According to her (1988), there needs to be some pragmatically inferred aspects of meaning that take place at the explicit level. For Grice, the level of *what is said* is simply composed by the proposition that is explicitly expressed alongside the truth conditionality of the utterance, whilst *what is implicated* involves the pragmatically recovered propositional content that the speaker intended to communicate when uttering the sentence. However, Carston, within her extended work on the issue, has put forward many examples, one of which is illustrated below, to support the fact that "frequently a great deal must be recovered pragmatically for this level to achieve full propositionality" referring to the level of *what is said* (Carston, 1994, p. 8).

(21) It's raining.

<div align="right">(Oxford University Linguistics Society, 2020)</div>

In utterance (21), the speaker is not explicitly uttering the location of the raining; hence this information needs to be pragmatically inferred. According to the Gricean analyses, the inference of the location in this example would fall at the level of *what is implicated*. Carston states that this information surely affects the truth-conditionality of the utterance: "What will make that utterance true or false is whether or not it is raining in the location that the speaker has in mind." (Oxfor University Linguistics Society, 2020, 12:06). Therefore, she proposes that this inference is actually part of the explicit content of the utterance. Thereupon, in Relevance Theory, the two levels of propositional content of an utterance are:

Explicature: An assumption communicated by an utterance U is explicit [hence an 'explicature'] if and only if it is a development of a logical form encoded by U. [Note: in cases of ambiguity, a surface form encodes more than one logical form, hence the use of the indefinite here, 'a logical form encoded by U'.]

Implicature: An assumption communicated by U which is not explicit is implicit [hence an 'implicature'].

(Carston, 2002, p. 116)

Having considered the theoretical basis, we will move on to examine how it would apply to conjoined sentences. In order to do so, we are going to contemplate a very illustrative example by Carston (1994) herself.

(22) She handed him the cloth and he wiped the windscreen.

Because of the prior knowledge that we have "about cloths, about wiping windscreens, about one person's handing something to the other for that other to do something with" (Carston, 1994, p. 20), an utterance (22) can easily be interpreted in these two different ways:

(23) a. She handed him the cloth and a few seconds later he wiped the windscreen with that cloth.

b. She handed him the cloth and simultaneously he wiped the windscreen with the tie.

If we observe the two aforementioned criteria, we realise that both these interpretations (23a) and (23b) give rise to *cognitive effects*, both propositions are an enrichment of utterance (22). In fact, we may say that (23b) would be more relevant in that sense, because it would most likely give rise to more *cognitive effects* than (23a) by virtue of its unusual nature (it is quite unnatural to wipe the windscreen with a tie if the person has a cloth in hand). However, according to the theory of relevance, the cognitive effort when interpreting an utterance has to be kept to the minimum. Certainly, if we were to analyse those two interpretations in order of accessibility (which is a variable in the processing effort), (23a) seems to be far more accessible than (23b) because of our understanding of how those things and actions relate in the real world; and because interpretation (23a) does give rise to an adequate number of *cognitive effects*, this one will be the interpretation that the hearer selects. The process of searching will finish and the other less accessible interpretations, such as (23b) will be discarded (Carston, 1994).

At this point, there are two other aspects that need to be considered when analysing conjoined statement within a relevance framework. First of all, "the various relations of chronology and consequence which so many conjunctive utterances communicate are not implicatures but rather pragmatically determined aspects of what is said" (Carston, 1994, p. 11). Going back to example (22), although not linguistically encoded, the pragmatical enrichment depicted in (23a) is considered to be made at the *explicature* level, because in fact, it affects the truth-conditionality of the proposition. Secondly, as the processing effort that the optimally relevant interpretation of any utterance takes should always be justifiable, the processing effort in an *and*-utterance is said to be justified "if the conjoined proposition yield effects over and above the effects of each of the conjuncts taken individually" (Blakemore & Carston, 1999, p. 8). Namely, the proposition expressed by an utterance containing *and* is analysed altogether rather than as two different propositions.

4. Problematic cases for pragmatic accounts

Up to this point, the cases of *and*-sentences that have been contemplated in this paper have mostly been examples which have a sequential or consequential interpretation. It may be said that those cases are instances of the so-called narrative cases. The objective of those sentences is the narration of events. However, I have also presented other types of statements in which the aim is not narrating events, like the one in (2) and (7) that I repeat below. In the literature, these are called non-narrative cases.

(2) It's spring in England and it's autumn in New Zealand.

(7) Her husband is in hospital and she is seeing other men.

As acknowledged in section 3.1., Grice suggested that the word *and* is semantically empty, that is to say, the linguistic semantics of *and* equal the logical operator &, and any interpretation that arises from a conjoined sentence is a matter of a pragmatic inference. The relevance formula that I have addressed in the last section, which seems to work for narrative cases, goes along this line as well. In the non-narrative case (2), the assumption of & equating the word *and* does not seem to be an issue either, because, in fact, its only function is coordinating the two conjuncts. However, there is a sub-set of non-narrative cases, like the one in (7) which seem to clash with this assumption and thus, they could be, in principle, regarded as problematic for a pragmatic approach. In this next section, I am going to introduce some of these cases and try to find a plausible explanation for their occurrence.

If we take a look at conjoined statements like (7) illustrated above, we instantly notice that the aim of them is not narrating events. Rather, as stated in the introduction, the objective of the speaker when uttering (7) is to show an attitude towards the sentence he/she uttered. Example (24) is a similar case:

(24) Paul is a linguist and he can't spell.

(Blakemore & Carston, 1999)

The speaker uttering (24) intends to highlight the strangeness of being a linguist and, at the same time, being unable to spell. In some way, he/she is conveying his/her

attitude towards this fact. The order of the conjuncts in these cases seems not to be relevant or to make very little differences as can be seen below in (7') and (24'); the same kind of interpretation seems to arise in both versions (Kitis, 2000):

(7') She is seeing other men and her husband is in hospital.

(24') Paul can't spell and he is a linguist.

However, if we look at the juxtaposed counterparts of those sentences, the interpretation turns out to be totally different (Carston, 2002). It seems as if the second conjunct was an explanation of the state of affairs described in the first one, as strange as they may sound:

(7'') Her husband is in hospital. She is seeing other men.

(24'') Paul is a linguist. He can't spell.

As we have seen in section 2.1.2, the fact that some conjoined sentences and their juxtaposed counterparts give rise to the same type of interpretation has been proffered as evidence against a semantic ambiguity account of the word a*nd* (Carston, 2002). Therefore, for a framework in which *and* is taken to be semantically identical to the logical operator &, such as relevance theory or Grice's theory of conversation, these cases in which the word *and* is working as an "emotional device", in principle, seem to be a problem. In that respect, Carston (2002) gives a satisfactory explanation along the lines of Relevance Theory by alluding to the processing of conjoined sentence interpretation. It is certain that the interpretation for examples like (7) and (24) consists of a single processing unit, as the speaker uttering (24) is not intending to convey the proposition expressed in each conjunct independently. That is to say, the aim of the speaker uttering (24) is to express that Paul fits both descriptions (being a linguist and being unable to spell). When it comes to their juxtaposed counterparts and how our cognitive systems interpret them, Carston (2002) argues that "we are explanation-seeking creatures, so that, in general, when we register a new fact/assumption about the world, we look for an explanation for it" (p. 237). Therefore, when there are two different processing units (two different utterances), as in (7') or (24'), human cognition tends to seek for an explanation to the first sequence in the second one.

A similar effect seems to arise in sentences such as the two in (25):

(25) a. I met a great actress at the party; I met Vanessa Redgrave.

    b. I met a great actress at the party and I met Vanessa Redgrave.

<div align="right">(Carston, 2002)</div>

Unlike its conjoined counterpart, the interpretation of sentence (25a) is only possible if each segment expresses one proposition and they are processed individually for relevance. The second segment is interpreted as an elaboration of the first one. In fact, the second sentence in (25a) could easily be understood as the answer to a "Who?" question to the first sentence. In this same vein, the second sequences in the examples that we considered in (7') and (24') could also be understood as an answer to a "Why?" question to the first one. The following sentences depict more examples in which this phenomenon occurs in the juxtaposed versions, but the effect is blocked in their conjoined counterparts:

(26) a. John broke his leg. He tripped and fell.

    b. John broke his leg and tripped and fell.

(27) a. I had a great meal last week. I went to Burger King.

    b. I had a great meal last week and I went to Burger King.

<div align="right">(Blakemore & Carston, 1999)</div>

The tripping and falling in (26a) could be interpreted as an answer to the question "How did John break his leg?", and at the same time, the going to Burger King in (27a) could be an answer to the question "Where did you have a great meal?". However, this question and answer effect is blocked in (26b) and (27b), where the reading of the statements is totally different (one in which conjuncts are in some kind of a contrasting relation).

This argument of a conjoined sentence being a single processing unit is satisfactory in terms of explaining why the interpretations of the conjoined sentences differ from the interpretation of their juxtaposed versions; but Kitis (1995) draws the attention to the fact that, as aforementioned, the presence of *and* in some cases like (7)

and (24) has an emotional effect. In that sense, Kitis (2000) suggests that there ought to be more to the word *and* than its minimal truth-functional semantics: In examples like (7) and (24), where there is a contrast between the two constituents, a speaker could use the connective *but* instead of *and*. However, the emotional effects that arise from the version with the connective *and* does not seem to arise in the examples with *but*.

(28) Her husband is in hospital but she is seeing other men.
(29) Paul is a linguist but he can't spell.

Kitis (2000) considers that "when the speaker wants to register his or her critical stance towards the situation depicted in the conjoined propositions, s/he resorts to the use of *and* rather than *but*"(p.366), and she explains this by means of a frame theory: as *and* is normally used to link conjuncts within the same frame, and *but*, as a contrasting connective, is used "to 'call up' a distinct frame" (Kitis, 1995, as cited in Blakemore & Carston, 1999, p. 14), it is when a speaker makes use of the word *and* between two contrasting conjuncts that the emotional interpretation arises, because it is calling up two different frames with a connective that is not meant for doing that.

These two approaches, as the authors themselves have suggested need not to be incompatible with one another. Relevance Theory, as demonstrated by Carston (2002) and Blakemore & Carston (1999), is able to address the difference in the interpretation of the conjoined and the juxtaposed versions of a set of non-narrative cases. Kitis' proposal does not contradict this account, but it complements it by giving "a more profound explanation at the level of underlying assumptions that give rise to and constrain these functions"(Kitis, 2000, p. 384).

In the same vein, Isabel Gómez Txurruka makes a contribution regarding the nature of the word *and* that, in my view, could also be compatible with the relevance theoretical approach that Blakemore & Carston (1999) adopt. She addresses the issue of cases like (26) and (27) in her paper *The Natural Language Conjunction "and"* (2003). The relations that can be inferred in the juxtaposed versions of those examples are what coherence theorists identify as "elaboration" relations (Blakemore & Carston, 1999). Txurruka (2003) takes a discourse-based approach and she proposes that *and* is not compatible with a subordination discourse topic. Even if not all discourse relations can

yet be classified, there are some that are known for being coordinator discourse topics, and others which are known for being subordinator discourse topics in the literature:

(30)

Coordinators: narration, result, parallel, conditional, (…)

Subordinators: explanation, instance, background, elaboration, evidence, generalization, reformulation, (…)

(Txurruka, 2003)

According to Txurruka (2003), "*and* blocks any Subordinator that lexical or world knowledge might lead the interpreter to try to infer" (p. 270). This would explain why *and*-utterances such as the ones in (26b) and (27b) cannot be interpreted as their juxtaposed versions. The presence of the word a*nd* does not let the elaboration discourse relation which arises in (26a) and (27a) yield in (26b) and (27b).

Last but not least, we will have a look at another type of non-narrative cases of *and*-sentences, the type in which the order of the conjuncts is not determined chronologically. For the sake of a better understanding, the example that is illustrated below is taken from Blakemore and Carston (1999).

(31) Bill went to bed and he took off his shoes.

This example could be interpreted as a narrative case, although the chronology of the events would be a bit weird. However, Blakemore and Carston set a context in which a parent is convincing their child to take off their shoes before going to bed, and he/she uses Bill's (the older brother's) example so that the child is persuaded to do the same. In that case, an utterance (31) could not be interpreted as a narrative sentence and the order of the conjuncts would not be parallel to the order in which the actions took place in real life. This utterance with that intention would have a fall-rise intonation of this kind:

(32) BILL went to bed and | HE took off HIS shoes.

(Blakemore & Carston, 1999)

Again, there is a fact in this example that favours a relevance theoretic account: the whole utterance needs to be processed as a single unit, since the parent is intending to tell the kid that both states of affairs, Bill going to bed and taking off his shoes, happened. However, the problem here is how we could account for a speaker not uttering actions in the order in which they took place if we are advocating for optimal relevance. That is to say, how can that extra processing effort be justified? We need not forget that we are not talking about an utterance of which the aim is to narrate events. Rather, this utterance in this specific context is interpreted "as an example or argument which demonstrates the falsity of an assumption held by the hearer (*I will not take off my shoes*)" (Blakemore & Carston, 1999, p. 10). Therefore, this is not the case of a backwards reading statement, but a non-narrative case. What Blakemore and Carston (1999) point is that "the speaker is exploiting the principle of relevance by deliberately choosing a formulation which does not reflect the scripted and most accessible order" (p. 12). The fall-rise intonation pattern and the reversed order of events that would normally follow suggest the interpreter that they are in front of a marked interpretation. Consequently, the hearer is put into extra processing effort, and in order for this extra effort to be justified, the hearer must look for an interpretation which will yield more cognitive effects than the most accessible interpretation, which would be the narrative interpretation (Blakemore & Carston, 1999).

5. Conclusion

After having introduced the variability in the interpretation of conjoined sentences, in this paper, I have gone through different approaches towards *and*-utterance interpretation, and examples of the numerous interpretations that arise from those.

In the first section, I argued why an ambiguous semantics for the word *and* is currently not contemplated in the literature as a possible account for the various interpretations that sentences containing this word can communicate. Therefore, the next section of the paper has focused on two of the most well-known pragmatic theories of communication and their principles: the Gricean theory of conversation and Relevance theory by Sperber and Wilson. Grice set the grounds of a new era in

pragmatics, by bringing to the forefront the importance of factors other than linguistic codes in communication. Although his theory of conversation meant a revolution in the field, its application to *and*-utterance interpretation seems to have some pitfalls as we have seen through the paper. As for Relevance Theory, Sperber and Wilson were able to bring forward an elegant theory which was based on the way human cognition functions. Their approach towards human cognition as an optimal relevance seeking system is able to give a proper account of the narrative interpretations that arise from conjoined statements as has been illustrated above by means of numerous examples. Finally, I have presented a sub-set of non-narrative cases which could, at first sight, be regarded as problematic for a pragmatic account in which the word *and* is taken to be semantically identical to the logical particle &. Mainly Carston (2002) and Blakemore & Carston (1999), alongside many other authors, have given a rather successful explanation of the occurrence of these cases in the light of Relevance Thoery, but I have also gone through two more authors who have worked on this issue and they have done their bit in the literature: Eliza Kitis and Isabel Gómez Txurruka. Their proposals open up the possibility of the word *and* not being semantically identical to &, and still, conjoined sentence interpretation being compatible with a relevance theoretical pragmatic account.

Having observed the current state of the literature, I would conclude by saying that the interpretation of *and*-utterances cannot possibly be derived in a default way as the Gricean approach would predict. Rather, it seems that conjoined statement interpretation is highly context-sensitive and that the reason for its variability lies in human cognition. Consequently, it could be said that Relevance Theory is the most complete approach towards *and*-utterance interpretation to date. Not only does it cover the arising of a very wide range of narrative and non-narrative interpretations, but also, no (or very vague) evidence has been put forward against it.

It may also be stated that, as some aforementioned writers have noted as well, a theory need not obligatorily be incompatible with another, especially when accounting for problematic cases. For instance, as we have seen in the last section of this paper, in those cases in which the order of the conjuncts makes no difference and the word *and* seems to be working as an emotional device, both Blakemore & Carston (1999) and Kitis (2000) propose very interesting approaches which could work together, as they

themselves have stated in their works: "the difference between the two approaches is a difference of orientation." (Kitis, 2000, p. 384). While Relevance Theory focuses on the different functions of the word *and* and the various readings of conjoined statements, Kitis is concerned with finding out the reason why some of those functions and readings arise and some others are blocked. As I see it, the same happens with Txurruka's (2003) take on this issue, her discourse based approach towards conjoined sentence interpretation does not have to be incompatible with a relevance theoretic framework. Txurruka's theory sets a frame in which elaboration and explanation relations are blocked by the nature of the word *and*, and Relevance Theory is able to address how those conjoined sentences are interpreted in contrast of their juxtaposed counterparts.

This leads me to make another point regarding the word *and*. It has long been assumed recent literature that the word *and* is semantically identical to the logical operator &, as Grice suggested. Even Relevance Theory has, as seen through all the examples in the paper, gone along with the assumption of the minimal semantics for the word *and*. We have seen that there are no reasons to firmly assure that the semantics of *and* is limited to its truth-condition. Both Kitis and Txurruka make very interesting remarks as for the nature of this word, as we have seen in the last section. In that respect, it would be appealing for future research lines to concentrate on this one issue.

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