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DEPARTAMENT DE FILOLOGIA ANGLESA I DE GERMANÍSTICA

**Entailments and Presuppositions:
An Introductory Study**

Treball de Fi de Grau/ BA dissertation

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TABLE OF CONTENTS

Index of tables (and figures).....	ii
Abstract	1
1. Introduction	2
2. Entailments.....	4
2.1 An Overview of Entailments	4
2.2 Truth values and truth conditions	7
2.3 Material Implications and Strict Implications.....	10
2.4 Types of Entailment.....	11
3. Presuppositions.....	15
3.1 An Overview of Presuppositions	15
3.2 Linguistic Presupposition Triggers.....	18
3.3 Grice's Principle and Presuppositions.....	21
4. Conclusion.....	26
References	30

INDEX OF TABLES (AND FIGURES)

Table 1. Truth Table for Entailments.....	5
Table 2. Truth Table for Presuppositions.....	16

Abstract

The present work will attempt to provide a brief overall account of entailments and presuppositions, two linguistic phenomena who are mostly taken for granted in our everyday conversations. They are automatic processes executed unconsciously, often with no apparent reasoning behind them. This automaticity is what makes this topic so deceptively simple. We all know what ‘taking something for granted’ is, yet it is still hard to describe the nature and the reasoning behind this thought. Due to the analogous nature of these two processes, they are often erroneously mixed. Entailments and presuppositions are not the same, even though they are occasionally mutually inclusive and they reciprocally trigger each other at times.

There is a vast amount of literature dealing with entailments and presuppositions, often dealing with them in a separated way. This literature deals frequently with philosophical and logical theories to explain these processes, making this topic usually not accessible for readers looking for an introductory approach. Therefore this paper will try to stay away from advanced philosophical theories or strict logics formulas, in order to bring them forth into the position of relevance that these phenomena deserve.

Keywords: Entailment, Presupposition, Proposition, Truth Value, Grice,

1. Introduction

Although this paper tries to be linguistic in nature, it is interesting to briefly appreciate how cultural phenomena eventually shape languages. On a cultural note, we are nowadays part of a “reductive” way of life, in which progressively things keep getting simplified, optimized and the ultimate achievement is the minimization of efforts and resources. Humans as species want the utmost functionality within the minimum space and effort. This society of reduction has also its effects on linguistics, and this is where the present topic of the paper, entailments and presuppositions come into play.

Entailments and presuppositions allow us to be pragmatically and semantically comprehensible whilst keeping the amount of essential uttered words to a minimum. Entailments and presupposition occur automatically, and are one of the most customary and conventional conversational instruments present in our day-to-day life.

The amount of ellipsis and therefore all the implications and missing content our brains are expected to understand and apply is astounding, and unconsciously sorted out in less than seconds. For instance, when an individual goes to the bakery, and the baker asks him what he wants, usually the client does not answer the baker describing his life goals for the future, as it is presupposed by different implications why he is in that establishment. There are even times when entailments and presuppositions even work without words, as occasionally physical associations already demand some degree of interpretation as entailments or presuppositions (i.e. by pointing at something, the hearer might assume the speaker want that thing, or that he is presently referring to that particular object).

Entailments and presuppositions are phenomena far too undervalued for their vast functionality, they are often ignored or taken for granted. Their theoretical versatility and depth is a barrier many will find, at first it intimidates and it may be the reason explaining the lack of linguistic awareness it is paid to them.

Therefore this current paper will attempt to give a brief account for them, in order to bring them forth into the position of relevance that they deserve. Their almost analogous nature renders them almost similar, as Saeed asserts: “In some respects presupposition seems to be like entailment: a fairly automatic relationship, involving no reasoning (...)” (Saeed, 2009:101), nonetheless this paper will provide a theoretic approach for the two of them and will attempt in the concluding remarks to prove how, independently of their similitudes, they may be set apart. Firstly, Entailments will be presented, with a brief review of its literature in Section 2.1, followed by the introduction of essential concepts such as truth values and truth conditions in Section 2.2 and material implications and strict implications in Section 2.3. The subsequent Section 2.4 will be the last one dealing with entailments, and will review some of the diverse types of entailments. Then, the next main section of the work, dealing with presuppositions will be opened with an overview in Section 3.1, similarly as in 2.1. The succeeding section 3.2 will introduce several linguistic presupposition triggers, and the last Section 3.3 of the presupposition part will introduce Grice’s principles and how they might be linked to presuppositions. The final Section 4 will provide a few brief ways of differentiating entailments and presuppositions and some concluding remarks on the topic.

2. Entailments

2.1 An Overview of Entailments

In his introductory work on linguistic semantics, Lyons (1995) defines entailments as a “(...)relation that holds between p and q – where p and q are variables (...), if the truth of q necessarily follows from the truth of p (and the falsity of q necessarily follows the falsity of p), then p entails q.” Rephrased in simpler terms: “p entails q, if and only if (iff) the truth of p guarantees the truth of q” (Huang 2007:16; Levinson 1983:174). In these definitions the notions of “p” and “q” appear several times, so an early clarification on this matter is required. There are various theories concerning the origins of the denotation of propositions with the letters “p” and “q”. There are contentions arguing that “P, Q and R” were firstly used in Principia Mathematica to denote propositional letters (Whitehead & Russell:1910), and have been henceforth used in mathematics, logic and linguistics. There are alternative claims vouching for the argument that “P” is for the initial letter in “proposition”. Consequently, the selection of “q” and “r” and so forth is purely based on alphabetical positioning.

Returning to the topic at hand, see (1) for an example of an entailment.

- (1) a. Susan murdered Peter. p
 b. Peter is dead. q

In (1), the truth of (1.b) follows logically from the truth of (1a). Entailment is defined as a relation between propositions, and they should not be confused by the term “*sentences*”, or at least at the present introductory level. A proposition is what a sentence, or a string of words, says about the world. The same sentence said by different speakers may say completely different things about the world, for instance:

(2) Neil is on the Moon today.

Depending on who utters this, the final statement will vary. If, for instance this sentence is uttered by a NASA director talking about Neil Armstrong, this will mean something completely different from this same statement uttered by a friend of Neil's, the local baker, with completely different intentions from those of the NASA director. These are only two different interpretations, but the reader may come up with as many as possible, proving the point that this sentence can present numerous propositions, or assertions about the world.

This is an additional example in which different sentences present the same proposition:

(3) a. *El cielo es azul.*

b. The sky is blue.

c. *Der Himmel ist blau.*

Sentences (3a), (3b) and (3c), despite being presented in different words, express the same propositional content, or the same proposition.

In propositional logic, entailment is expressed by Implication (or \rightarrow)¹, and expressed in words, it would be displayed as “if/when.....then...”². As clarified before, there are only two truth-values possible in propositional logics: a proposition will always be either T (true), or F (false).

¹ Propositional Logics is mainly concerned with connectors such as the conjunction & (only “and”), the disjunction \vee (or), the implication \rightarrow or \supset (if/when...then...), the equivalence (iff) and the negation \sim (not).

² A more advanced way to express this same concept in propositional logics and philosophy would be: $\neg (A \wedge \neg B)$.

See the Table 1, extracted from Indarti's (2015) study on entailments:

Entailment		
<i>p</i>		<i>q</i>
T	→	T
F	→	T or F
F	←	F
T or F	←	T

Table 1. Truth Table of Entailments

This table should be read depending on the direction of the arrows. Taking into account the direction of implication (\rightarrow or \leftarrow), it can be read in 6 different ways:

- a. When *p* is true, then *q* is true
- b. When *p* is false, then *q* is either false or true
- c. When *q* is false, then *p* is false
- d. When *q* is true, then *p* is either true or false

Principally this table shows how the entailing propositions interact with the entailed ones. To shed some light into this entailment table, a detailed and careful explanation using example (1) will be carried out.

- (1) a. Susan murdered Peter. *p*
- b. Peter is dead. *q*

In this case, if (1a) '*p*' holds a T value, then '*q*' must be logically also T, as there is no way in this reality to be murdered and still be alive. However, if it is the case that "Susan murdered Peter" (*p*) is false, then the entailed '*q*' does not necessarily hold any entailing relation to '*p*', as Huang's (2007:16) definition of entailment stated: "p entails q, if and only if (iff) the truth of p guarantees the truth of q". Peter may be dead, but this

does not guarantee that Susan murdered him, so there is not a clear relation between ‘p’ and ‘q’, therefore rendering this entailment invalid.

In the case of ‘q’ being false, if Peter is not dead, then it must mean that Susan did not murder him, making it also hold a false value, this case is pretty straightforward.

Nonetheless, when the second proposition ‘q’ is decoded first and holds a true value, this does not imply the necessary truth value accordance in ‘p’, meaning that the entailments does not necessarily take effect, as seen in (3):

- (4) a. He has bought fish tonight p
 b. He has spent money tonight. q

If (4b) is to be considered true, it does not automatically entail (4a), as the subject could have bought fish (in this case ‘q’ would entail ‘p’). If anything had been bought³ instead of fish , ‘p’ would happen to be false and non-entailing.

Hence, the conclusion that might be extracted from examples (1) and (4) is that the entailing relation between propositions will not automatically occur when ‘p’ has a false truth value, or ‘q’ has a true truth-value (this openness is what the table presents as “T or F”).

2.2 Truth values and truth conditions

The concepts of “truth” and “falsity” are very often used in the definition of entailment, independently of the field of research: Indeed, they have also been extensively used so far; (and have appeared multiple times throughout the previous section), which can only mean that they are to some degree relevant for the understanding of what entailments encompass. What authors mean when they refer to the “truth” or “falsity” in

³ (Only in the cases, and societies in which it is considered that the verb ‘buy’ semantically entails the action of spending money)

a sentence is what it is understood as the truth-values of a sentence. Concerning the topic of “truth and falsity”, Iten (2000:1) claims that “no matter the background of a theorist (...) sooner or later they find themselves making use of the notions of truth and truth conditions.” Strawson (1971: 178) encapsulates this in a more formally:

(...) it is a truth implicitly acknowledged by communication-theorists themselves that in almost all the things we should count as sentences there is a substantial central core of meaning which is explicable either in terms of truth conditions or in terms of some related notion (...)
(Strawson 1971:178)

In order to prudently provide an accurate account for entailments, a brief introduction to the concepts of truth-value and truth-conditions is required, as Iten (2000) and Strawson (1971) claimed.

The truth conditions of a proposition are somewhat the conditioners of its final truth-value. A great deal of academic tradition, both from the philosophic academia and the logic academia has been dedicated to characterize what should be understood with the concept of “Truth Value”. They can be considered as “values that convey information concerning a given proposition” (Yaroslav & Heinrich, 2010:1). According to Church (1956:17), the explicit use of two truth-values appears for the first time in a paper by C.S. Peirce in the American Journal of Mathematics, (1885:180–202). Frege, on the other hand, was the first to introduce in his 1892 work “*Über Sinn und Bedeutung*” this concept into logic and philosophy. Frege (1892), as agreed by a considerable part of the academic corpus, claimed that:

Every assertoric sentence (...) is to be regarded as a proper name, and its Bedeutung, if it has one, is either the True (das Wahre) or the False (das Falsche). (Frege 1892)

With this, the principle of compositionality was introduced to propositional linguistics, which contended that the meaning of a complex linguistic construction is determined by the meanings of its components. Additionally, the truth or falsity of a linguistic unit is an indicator that at least one proposition has been expressed (Cruse 2000:1). On the other side of the spectrum, the imperative and direct interrogative sentences do not have a truth value. Instead, they have an answer value, for instance:

- (5) a. What day is it today? ← no truth value can be attributed to the question, as its function precisely is to achieve an answer which will bring the speaker closer to the unknown truth.
- b. It is Wednesday today. ← The truth value of the answer will be conditioned by the fulfilling of the truth conditions of the speakers' reality. i.e. If it is really Wednesday then it will be True, if not, False.

As for the truth conditions, Isen (2000:1) explains: "The truth conditions of a given proposition will be the set of necessary and sufficient conditions for its truth [or falsity]". In other words, they are the conditions that the world must fulfill for the proposition to be true (or false). Truth conditions are subject to the reality of this world, they are unconscious conditions which relate language to intuition and perception of reality. Davidson (1984) alleged that being able to understand what a proposition means is knowing its truth condition. However, as in most fields, there are exceptional cases in which despite recognizing the meaning of the proposition, the truth conditions may present complications such as in "counterfactual or subjunctive sentences, sentences about probabilities and about casual relations, adverbs [creating what is occasionally

called conventional implicature (Cruse 2000:1)], attributive adjectives, mass terms, sentences about belief, perception and intention, verbs of action that imply purpose” et cetera.

2.3 Material Implications and Strict Implications

Entailment should not, in any case, be mistaken by what is understood as “material implication” by propositional logicians. From the standpoint of material implications, a proposition ‘ p ’ materially implies another proposition ‘ q ’ iff (if and only if) it is never the case that ‘ p ’ is true whilst ‘ q ’ is false. With example (6), this aforementioned definition may become clearer:

(6) a. This is a horse p

b. All bachelors are unmarried. q

The crucial difference between entailment and material implication lies in the semantics and context of the propositions. There will not be a case which (6a) is true and (6b) false, and notice how their meanings are not in any way connected semantically either. In other words, material implications do not pay attention to the relation of meanings between the propositions. Thusly, (6a) and (6b) will happen to be a material implication. One of the most common ways of constructing a material implication is by means of introducing analytic sentences. These are propositions which automatically and necessarily are true, (as tautologies) independently of any context or the preceding propositions, such as:

(7) a. All bachelors are unmarried

b. My uncle is a man.

c. This proposition is either true or false.

d. You are either dead or alive.

The counterpart of these kind of sentences are the paradoxical propositions, which automatically express false propositions, i.e:

(8) a. This white dog is black

b. My uncle is a woman.

Regarding the topic of analytic propositions Lyons (1995:2) considers that “any proposition that is not analytic is, by definition, synthetic”. Synthetic propositions are those which may express the truth in some contexts, and false in others as in:

(9) a This wall is red

b. All dogs are brown

Returning to the analytic propositions, any of these propositions (and any other analytic sentence conceivable), combined with any other proposition (as far as they are not semantically connected) will always generate a material implication.

Therefore, it can be concluded that material implications can never be entailments (or strict implications), as they lack the main characteristic of the latter. And that is the semantic relation held between propositions. Cruse (2000:2) further differentiates entailments from material implications by coining entailments as “Strict implications”, conceptually contrasting them to ‘Material Implications’.

2.4 Types of Entailments

Entailments can be categorized into different types, depending on the criteria of the judge. The first kind of entailments are the lexical entailments. Goddard understood entailments through a lexical analysis, as he described entailments as a “(...) relationship

that applies between two sentences, where the truth of one implies the truth of the other because of the meanings of the words involved” (1998:17). In other words, entailments acknowledged due to the meanings of the words involved. The first feature that may act as a trigger for lexical entailments is hyponymy, as observed by Kempson (1997) and Allan (1986). Kempson claimed that “a relation of entailment arises between two assertions whenever an argument or predicate in one assertion is hyponymous to an argument or predicate in the other” (Kempson, 1997:80), and on the same lines, Allan (1986:181) asserted that “If two assertions differ only in the substitution of a hyponym for a superordinate term, then one of the assertions entails the other”.

- (10) a. I bought a dog
- b. I bought an animal
- c. I bought a living thing

Proposition (10a) entails (10b) and (10c) since a dog is an animal and a living thing, however, as has been previously appreciated in the truth table for entailments (Table 1) this relation is not interchangeable, as (10b) does not entail (10a); and (10c) does not entail (10b) nor (10a). In other words, hyponymy does not invariably entail the corresponding sentence with the superordinate (Cruse 2000:150-160).

Hyponymy is a hierarchical sense relation which exists between two terms in which the sense of one is included in the other (Finch 2000:166). Hyponymy can be thought of as a vertical relation between lexical items, whereas other relations behave in a horizontal pattern, such as synonymy.

Another trigger of entailments which has been alluded earlier is equivalence, also known as synonymy. This equivalence between propositions creates a “mutual

entailment”, an entailment in which “the two sentences always express the same proposition” (Cruse 2000:30) such as (10a) and (10b). This example belongs to the first degree of synonymy: the absolute synonymy, in which the items altered behave analogously in all contexts. Case in point, two lexical items considered to be absolute synonyms will share the same contextual conditions of appropriateness. In every context in which one is correct, the other will be normal too.

(11) a The meeting began at 10 o’clock.

b. The meeting commenced at 10 o’clock.

Additionally, another special type of entailment termed “metaphorical entailment” can be mentioned. This type of entailment is “the imparting of a characteristic of the source domain (the metaphorical image) to the target domain (the concept receiving metaphorical treatment) by logical means” (Lakoff & Johnson, 1980:89–91). Put differently, metaphorical entailments characterize the internal systemacity of the metaphor, they explain how and why metaphors work. Consider (12), where (a→b)(from Lakoff & Johnson 2003:2):

(12) a. Time is money

b. Time is a valuable commodity

The entailments looked at so far have all found their origin in lexical differences. But there are other types of entailments which find its source in syntactic elements, such as in the voice (active and passive). Finch (2000:163) maintains that active and passive versions of the same sentence will entail one another, as (13a) and (13b) (from Finch 2000:132).

(13) a The cat chased the mouse

← Active voice

b. The mouse was chased by the cat ← Passive voice

Yule (1996) also breaks up entailments into two different groups: background entailments and foreground entailments. Consider Yule's example (14) and (15) in order to present them in practical way (Yule 1996:33).

(14) Rover chased three squirrels p

(15) a. Something chased three squirrels q

b. Rover did something to three squirrels r

c. Rover chased three of something s

d. Something happened t

If we were to present this example formally, it would be presented (in a basic way) as $p \rightarrow (q, r, s, t)$. When the speaker uttered proposition (14) 'p', he was committing to the truth of a large number of background entailments (Yule, 1996:33), even more than those included here. There will be occasions when the utterer of 'p' may want to prioritize certain entailments first, depending on the information prioritized in the conversation. This is usually done by stressing certain parts of the proposition, indicating which part of the proposition is the most relevant for the entailment, i.e.:

(16) Rover chased three SQUIRRELS ← the speaker indicates that the foreground entailment is the one expressing that Rover chased three of something (15c).

(17) ROVER chased three squirrels ← the stress focus is in "Rover", indicating that the entailment which the hearer should

prioritize (or the foreground entailment) is

15a.

3. Presuppositions

3.1 An Overview of Presuppositions

Historically, the concept of presupposition *per se* dates back to medieval times, as Mullally (1945) presents in a passage from Petrus Hispanus' *Tractatus*⁴. However, Frege was the author who is generally recognized as the precursor of the philosophical study of presuppositions, in his work "*Über Sinn und Bedeutung*" (Frege, 1984), to be precise. Concerning presuppositions, there has been a lack of agreement regarding its definition.

Even today a generally accepted definition of presuppositions is still hard to pin. Despite not having a distinct description, there is, as Beaver claims "(an) agreement that the goals of presupposition theory must include determining the special status of such propositions, and explaining why and under what conditions this status obtains" (Beaver, 1997:17). Atlas proposes the following definition (which he himself admitted to be unsatisfactory) of presuppositions:

A presupposed proposition is a semantical entailment from the affirmative statement and the content of the conversationally implicated, specific interpretation of the negative statement in a context, an interpretation that is beyond the literal meaning of the semantically nonspecific negative sentence. (Atlas, 2005;129 in Capone, 2017;22-37)

To exemplify what a presupposition is, and to facilitate the understanding of the previous lengthy definition, consider example (18):

⁴ "*Prima est quoddiction reduplicativa praesupponit aliquod praedicatum iness aliqui subiecto et denotat quod illud super quod adit immediate sit causa inhaerentiae illius*" The literal translation in English would be: The first is quoddiction reduplicative presupposes some predicate is no such thing as a subject and points out that it goes directly to the cause of his inherent

(18) “As [I] wrote this, [I] presupposed that readers would understand English.”

(Beaver and Geurts, 2011)

When this example was written, the author presupposed that readers would be able to comprehend English, otherwise it would have been written in another language. The writer also presupposed that there would be more than one reader, understood by the inclusion of “readers” in the plural form. The reader in turn, presupposed that it was written by an individual, otherwise the singular [I] would not have included, and so on and so on. The reason behind this is to briefly evidence hereby the vast number of things we all unconsciously presuppose with a single example, proving the overlooked relevance of this topic.

The failure in defining presuppositions stems from the conflict pointed out by Beaver, who wondered whether “[presupposition] is best thought of as a semantic or a pragmatic notion” (Beaver, 1997:941). In semantic terms, in a more Strawsonian approach, “(...) a sentence (semantically) presupposes another if the truth of the second is a condition for the semantic value of the first to be true or false” (Beaver, 1997:941).

This should become reminiscent of the definition of entailment (examples (1) or (4)). Conversely, there have been authors that have analyzed presuppositions as “appropriateness conditions to be satisfied in the conversational context” (Stalnaker 1974, Karttunen 1974, Heim 1982,). This type of presupposition was labelled by Stalnaker (1972, 1974) as “*pragmatic presuppositions*”, or as “*non-linguistic presuppositions*” by Capone (Capone, 2017). The latter approach to presuppositions shares similarities with Grice’s definition of the Co-operative Principle (1975). However, it is appropriate to declare that “the semantic/pragmatic debate is little aired nowadays, since so many researchers

espouse hybrid theories on which the labels semantic and pragmatic are hard to pin”
 (Beaver, 1997:941)

To express presupposition formally, Yule (2000:26) uses the symbol “>>” to express “presupposes”. As seen in the subsequent example (19c) (Bill, Romoli, Schwarz & Crain, 2015:2):

- (19) a. The bear didn’t win the race p
- b. The bear participated in the race q
- c. p >> q

Presuppositions also may be presented in form of truth-table, as done before with entailments. See the following Table 2 from Saeed (2009:102)

Table 2: Truth Table for Presuppositions

A first composite truth table for presupposition

p	→	q
T	→	T
F	→	T
T or F	←	T

In the previous composite table, three possible outcomes may occur:

- (20) i. If p (the presupposing sentence) is true then q (the presupposed sentence) is true.
- ii. If p is false, then q is still true.
- iii. If q is true, p could either be true or false.

This allows us to depict a very important difference (if not the most important) between entailments and presuppositions, which will be dealt with after presuppositions have been properly presented.

Before starting with the contrasting views in the conception of the presupposition, a brief account of linguistic forms which are agreed to be indicators of potential presuppositions in Section 3.2. Afterwards it will proceed with an attempt to argue how the co-operative principle, and as a consequence, all the maxims and implicatures constituted in it may be considered a type of presupposition in the following Section 3.3

3.2 Linguistic Presupposition Triggers

In the study of presuppositions, when it comes to their analysis there has been a debate whether presuppositions share a homogeneous nature (position defended by Yule and Beaver) directly linking them with a large number of words, phrases, and structures (Yule, 2000:27) or whether presuppositions have a heterogeneous nature, rendering triggers arbitrary. This position was defended by Stalnaker, who defended that “one can explain many presuppositions in terms of general rules (...) without building anything about presuppositions into the meanings of particular words or constructions” (Stalnaker, 1974:212). The presuppositions resulting from specific linguistic triggers are generally considered to be conventional, or semantic presuppositions. Due to the introductory and informative nature of this paper, the former position supported by Yule and Beaver will be acknowledged and further developed, and some presupposition triggers will be introduced. It is very important to remark that “the fact that an utterance contains a semantic trigger that is (normally) responsible for a presupposition does not mean that the (potential) presupposition will ascend to become an (actual) presupposition of the speaker meant utterance” (Capone, 2017:26). Namely, the presence of a linguistic form categorized as a trigger will not always produce an actual presupposition.

The following linguistic constructions are the main triggers listed by Beaver (1997:943):

The first linguistic trigger are the definite NPs (Strawson, 1964). This class of definite NPs additionally includes names (van der Sandt, 1992) as in (21), possessives; and “this” and “that” clauses (Strawson, 1950) as observed in (22). The presuppositions stemming from this triggers receive the name of “*existential presuppositions*”(Yule, 1996: 27)

(21) The author is **William Gibson**.

→Presupposition: William Gibson exists

(22) **That** President in Spain was not really good.

→Presupposition: There was a President in Spain.

Secondly, an additional potential trigger are quantificational NPs, conceding the presupposition of the existence of a non-trivial quantificational domain (Roberts, 1995; Cooper, 1983; Fintel, 1995)

(23) I have asked to **every student in my class**

→Presupposition: There are students in the class apart from the speaker

Additionally, there is a large amount of literature dealing with factive verbs as linguistic triggers, as Kiparsky (1970), Stalkner (1974), or Gazdar (1979). Some examples of factive verbs which may act as triggers are ‘*regret*’, ‘*know*’, ‘*realize*’, ‘*be sorry*’ or ‘*be proud*’. The presupposed information following factive verbs is described as a factive presupposition. (Yule 1996:25)

Cleft sentences can also act as triggers when they are found as an it-cleft: *'it was x that y-ed'* presupposes that something *'y-ed'* (Delin, 1995; Prince 1986)

(24) **It was Tony who punched me**

→Presupposition: I got punched.

Wh-questions might also act as triggers as well, generation the presupposition of the existence of an entity answering the question, or speakers expectation of such an entity (Beaver, 1997:2). Counterfactual conditionals mostly presented as 'If-clauses' and subjunctive are also registered as potential triggers for presuppositions (Kasper, 1992).

(25) **If I weren't ill, I would** definitely come

→Presupposition: I am ill.

Although not being an exact linguistic trigger, intonational stress is nevertheless itemized as well in Beaver (1974) Contrast or focus in an utterance may sometimes trigger presuppositions. (Halliday, 1967; Chomsky, 1971; Prince, 1986)

(26) **HE** failed the exam, **not me**.

→ Presupposition: Somebody failed the exam.

Sortally restricted predicates, in other words, predicates such as *'bachelor'* or *'uncle'*, which force the presupposition that the predicated individual is an adult male. In this case, this kind of triggers make presuppositions which behave analogously as analytical sentences (mentioned in Section 2.3)

(27) Víctor is a **bachelor**

→Presupposition: Victor is an adult male

Another type of trigger are the signifiers of actions and temporal/aspectual modifiers: temporal clauses headed by *'before'*, *'after'*, *'since'* might happen to act as triggers in certain cases(Beaver & Condoravdi, 2003).

(28) I jumped **before I lost control of the bike**

→Presupposition: The control of the bike was lost.

Iterative adverbs such as 'too' and 'again' presuppose repetition. Also the lexical prefix re- may occasionally also act as a trigger.

(29) I had to **resit** my English exam

→Presupposition: It was not the first time the subject sat the exam

Lastly, less recurrent supplementary triggers have been acknowledged, as for instance implicative verbs (e.g. 'manage', 'succeed') (Karttunen, 1971), discourse connective such as *'although'* and *'because'*, verbs such as *'dream'*, *'imagine'*, and *'pretend'*, which assume that the presupposed content may not be true (30) and Keenan's pragmatic felicity conditions (use of polite forms) (Keenan, 1971).

(30) **I dreamed that I was** in Hawaii.

→ Presupposition: I am not in Hawaii.

3.3 Grice's Principle and Presuppositions

Stalnaker (1972) understood presupposition as a property originated from speakers, not from propositions. For him, presuppositions are those propositions which (the speaker) believes to constitute the accepted background information for the conversation. The hearer will be prepared to adjust her/his beliefs in order to "bring the common ground in line with the requirements imposed by the utterance". For example, if the speaker utters

(31)

(31) John killed his wife.

the hearer will have to accept the belief that John had a wife in the first place. Stalnaker considers presuppositions to be “constraints imposed by sentences on the context in which they are uttered” (Stalnaker in Simons, 2005:5) He understood the concept of “context” as that which the speaker considers the common ground (or the content which will have to be presupposed by the hearer) in the present conversation. Therefore, presuppositions will act as constraints on the content of assertions. A unique characteristic of presuppositions is its dynamic nature. In pragmatic models, presuppositions evolve alongside the evolution of the conversation. Hamlin (1970), Stalnaker (1974) and Lewis (1979) were the precursors of this idea, as they faintly proposed dynamic models in which “the (joint) commitments of speakers and hearers evolve as new assertions are made and their content becomes part of the linguistic context available for future utterances” (Beaver & Geurts, 2011;17). Beaver formally introduces this model of presuppositions in *The Kinematics of Presupposition* (1992), where he was the first to explicitly present the accommodation model. This model, unlike most of its contemporary discussions about presuppositions, was fairly simple to understand. He defended that

due to the uncertainty about what the speaker takes the common ground to be, the hearer has to entertain multiple alternative context sets, with some ranking of which is the most plausible. (...) Accommodation is then what happens when the update is not defined on what was previously considered to be the most plausible context, in which case the hearer drops that context from contention”
(Beaver & Geurts, 2011;18)

In other words, when the conversation starts, the hearer does not really know what the speaker is thinking about or the direction the speaker wants to take the conversation, so the hearer will contemplate all the possibilities, and as the conversation progresses,

there will be a process of fluctuation between all the possibilities, and the most plausible contexts will be considered prior to the others (this will occur simultaneously with the conversation, and as long as the interaction evolves). We can then say, that the new contexts which have become more relevant have been updated, and so, new presuppositions have been accommodated. Imagine the following examples (29) and (30) (Cruse, 2000: 371)

(32) “She has a mole on her left cheek”

(33) “They managed to place a mole in the rival organization”

In example (32) the hearer will be predisposed to understand ‘*mole*’ as a ‘*small black spot on the skin*’, basically because the hearer will employ significantly less cognitive effort in creating a plausible scenario in which “mole” is understood as a dark spot in the skin, rather than involving an actual animal or a spy on the face of the woman. Nevertheless, these interpretations would still be plausible if the speaker further accommodates them. The same thing happens in (33). All the options are technically plausible, but the one which entails less cognitive effort, and thus a preferential relevance is the interpretation of the ‘*mole*’ as a ‘*spy*’.

This accommodation procedure takes place occasionally with other unconscious processes such as completion or enrichment. When the speaker’s proposition is “not fully encoded in explicit linguistic form, the information conveyed by the overt linguistic form of the utterance needs to be supplemented”⁵ (Cruse, 2000: 352). These processes are closely engaged with presuppositions coincidentally. The two aforementioned processes usually interact with each other, as it will be illustrated with the help of (34):

⁵ This extract may encapsulate in a condensed way what a presupposition is at its most elemental level.

(34) A: What time is your train?

B: 10.30.

B': My train leaves at 10.30

B' is the resulting proposition which originates as a result of the process of completion done unconsciously from (34)B. Following this insertion of new parts by completion, the inserted expressions must be identified with referents in the world. In other words, it is a sort of “hyperlink”, in which a linguistic expression receives a tag with a real world idea/thing. e.g “*My train*” refers to a specific train, in a specific rail, in a specific station, and so on. And “*at 10.30*” refers to a specific time on a specific day. And all of this subconscious information and processes are founded by means of the presupposition.

The process of a presupposition will be in the production of an utterance by the speaker, which will enable the hearer to make the correct inferences with minimum expenditure of cognitive effort. It is generally assumed that speakers and hearers in a conversation are generally cooperating with each other (most of the times). People having a conversation are not normally trying to confuse, trick and lie to their interlocutor. Consequently, it is the equivalent of saying that for presuppositions to be understood, there has to be an unspoken and pre-consented acceptance of Grice’s ‘Cooperation Principle, which he describes as:

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, 1975:41-58)

This principle is presented as a set of maxims, which outline the ideal prototypical conditions of ideal cooperation in a conversation, allowing the adequate interpretation of

presuppositions. This link with presuppositions was not asserted directly by Grice, however other pragmatists (who are notoriously neo-Gricean pragmatics) identify all the maxims and sub-maxims charted by Grice as non-linguistic presuppositions. Basically, these maxims elaborate the unspoken rules in a conversation. They are not supposed to be taken as resolute rules, but as flexible guidelines. The first maxim is the maxim of quality, and relates to the truth of what it is told by the speaker. It reads as follows:

(35) (i) *Do not say what you believe to be false.*

(ii) *Do not say that for which you lack adequate evidence.*

The second maxim is the maxim of quantity, and it is concerned with the quantity of information provided:

(36) (i) *Make your contributions as informative as is required for the current purposes of the exchange in which you are engaged.*

(ii) *Do not make your contribution more informative than is required.*

The third maxim is that of relation:

(37) (i) *Be relevant.*

There is a close conceptual connection between these three principles. Quantity, quality and relation principles are in a way, interconnected, and for that reason Levinson (1983) presented a definition in which all of the previous maxims were combined: “(Make) the strongest statement that can be relevantly made that is justifiable by your evidence” (Levinson 1983:106 in Cruse 2000:356). The last of the four maxims is the maxim of manner:

(38) (i) *Avoid obscurity.*

(ii) *Avoid ambiguity.*

(iii) *Avoid unnecessary prolixity.*

(iv) *Be orderly.*

Further conversational principles exist apart from Grice's Co-operative principle, for instance the additional conversational principles introduced by Leech (1983). The first and most detailed one was the Politeness Principle, an independent pragmatic principle functioning along with the co-operative principle. The other supplementary principles are the Irony Principle, and the Banter Principle. These principles are not relevant for the present discussion; therefore a further detailed account will not be necessitous.

4. Conclusion

By now, after a relatively extensive introductory overview of entailments and presuppositions has been provided, some final observations should be offered and considered for further investigations. Entailments and presuppositions are non-exclusive phenomena, they do not restrict each other, furthermore, they usually interact with each other. As Leech (1974) asserted, "both are types of meaning dependence held between one sentence or utterance and another." , If the reader paid close attention in Section 3.2 (Linguistic Presupposition Triggers), the reader should have been aware how the examples were presented, see the previous example (18) (in Section 3.2) in order to shed some light into this matter:

(21) The author is William Gibson

→ Presupposition: William Gibson exists.

Notice how this would read if we were to read it as an actual sentence: "The author is William Gibson" ENTAILS (→) the presupposition that William Gibson exists. The concurrence of the two is workable, they are mutually inclusive, even to the point where they reciprocally act as triggers to each other.

Another step advocating for this close relation may be found way back in this work, in Section 2.4 (Types of entailments). It might be argued how background entailments behave analogously as presupposition. Formally put it, the commitment to the truth of a large number of background entailments (Yule, 1996:33) is resembling to the phenomenon of accommodation of presuppositions, in which “the hearer has to entertain multiple alternative context sets with some ranking of which is the most plausible” (Beaver & Geurts, 2011:18)

This does not in any case imply that they are the same however, remember how in Section 3.1 (Introduction to presuppositions) some signs of difference started to spring up. And the answer allowing for a relatively simple way of setting apart entailments and presuppositions is negation. See entailment (39)

- (39) a. I saw my professor today p
- b. I saw someone today q

If we negate proposition 39(a), then p no longer entails q, consider (40):

- (40) a. I did not see my professor today p
- b. I saw someone today q

so the whole entailment process fails, however if we apply and compare the same negating process in a presupposition pair, things might vary:

- (41) a. The mayor of Liverpool is in town. p
- b. There is a mayor of Liverpool. q

Let us negate 41(a) to see if it happens the same as in (40):

- (42) a. The mayor of Liverpool is not in town. p
- b. There is a mayor of Liverpool. q

As seen throughout examples (39) to (42), negating the entailing proposition affects the entailment process, but the negation of the presupposing proposition does not affect the presupposition.

Another potential difference is that whereas “entailment is a relation restricted to assertions, presupposition can involve other types of predication as well”(Levinson 1997:219 & Leech 1976:292), as the imperative and direct interrogative sentences do not have a true value, as previously remarked on Section 2.2 (Levinson 1997:219 & Leech 1976:292). Consider this thought with a tangible example:

- (43) a. The book you took from the teacher is interesting (assertion)
- b. When did you take the book from the teacher? (direct question)
- c. See that you take back the book you took from the teacher (imperative)
- d. What an interesting book you took from the teacher! (exclamation)

All these previous sentences carry the presupposition that you took a book from the teacher. The process of entailment is not possible since it is not possible for direct interrogations, imperatives, or exclamation sentences to carry any truth value whatsoever.

By now, some basic notions of what presuppositions and entailments should be open to consideration. It is no easy task to instantly consider all the potential they bring to semantics and pragmatics. The theoretical potential in these phenomena is vast, and the amount of literature dealing with it is complex and absorbingly varied. A significant amount of time should be devoted to fully understand the implications of entailments and presuppositions and go past an introductory approach like the present one. They are one of those topics which is deceptively simple to see, yet so hard to understand and describe. These processes are done unconsciously and seamlessly, therefore we tend to take them

from granted. But if we actually paid enough attention, we would see that they are ensued in nearly every sentence we use.

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