

THE TRUTH-CONDITIONAL/NON-TRUTH-CONDITIONAL AND CONCEPTUAL/PROCEDURAL DISTINCTIONS REVISITED*

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Abstract

This paper investigates two different types of linguistic meaning, namely truth-conditional/non-truth-conditional meaning and conceptual/procedural meaning. The paper has a two-fold purpose. Firstly, it argues that the assumed parallelism between truth-conditional/non-truth-conditional and the conceptual/procedural meaning must be questioned due to the fact that there are some linguistic expressions the meaning of which both contributes to the truth conditions and constrains the interpretation of utterances in which they occur. Secondly, the conceptual/procedural distinction is not mutually exclusive, as claimed by Blakemore (1987). The paper will provide a set of linguistic expressions that can encode both conceptual and procedural meaning. Such expressions will be called the conceptuo-procedural expressions. The paper will be structured as follows. Section 1 discusses the relation between linguistic meaning and truth conditions and gives an analysis of some linguistic elements the meaning of which does not contribute to the truth conditions of the utterances in which they occur. Section 2 provides a criticism of two previous approaches to the analysis of non-truth conditional meaning i.e., Frege's and Grice's approaches. Section 3 discusses how linguistic meaning is analysed in Relevance Theory (RT) as concepts and procedures. Section 4 provides some linguistic expressions the meaning of which can be analysed in both conceptual and procedural terms. Section 5 is a conclusion.

1. Linguistic meaning and truth conditions

Theorists and ordinary language users consider language as a medium of exchanging information about the world. In the fields of linguistics and the philosophy of language, this has been referred to as the relation between natural language and truth conditions. Strawson (1971) points out that the notions of truth and truth conditions can account for linguistic meaning, as he puts it:

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 notions.

(Strawson 1971:178)

As the above quote indicates, speakers use language to say something about the world or describe a state of affairs. They relate between sentences (representational entities)

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and affairs in the real world (truth-conditional entities). The relation between the two entities is judged as either true or false.

The most prominent truth-based approach of linguistic meaning is undeniably Davidson's (1967, 1984) truth-conditional theory of linguistic meaning. This approach is based on the pairing up between natural language sentences and the real world, in the sense that the meaning of a sentence is given by its truth conditions—the conditions that have to obtain for the sentence to be true. Consider the following example:

(1) The table has four legs.

According to the truth-based approach of linguistic meaning by Davidson, the sentence in (1) is true if and only if 'the table referred to by the sentence in (1) has four legs'. This is captured by a T-sentence, (2), where *s* stands for the sentence and *p* stands for a state of affairs.

(2) *s* is true iff *p*

The truth-conditional account of linguistic meaning constructed by theorists such as Strawson (1971) and Davidson (1967, 1984) cannot account for linguistic elements whose meaning does not contribute to the truth-conditions of utterances in which they occur. These elements include *pronouns*, *requests* and *questions*, *sentence adverbials*, *focus adverbs* and *connectives*. I will not go through a detailed analysis of the non-truth-conditional nature of these linguistic elements but rather introduce them briefly below.

1.1. Non-truth-conditional elements

1.1.1. Pronouns

There are some linguistic expressions the linguistic meaning of which does not contribute to the truth-conditions of utterances in which they occur. Among these expressions are 'pronouns'. It is clearly obvious that the linguistic meaning encoded by pronouns cannot be captured in terms of the contribution to the truth-conditions of utterances containing them. However, such expressions constrain the interpretation of the utterance and play a role in determining the truth-conditional content by providing some indicators to the referents to be assigned:

(3) **He** will give **it** to **her**.

The highlighted linguistic expressions in the above sentence are non-truth-conditional *per se*. However, their linguistic meaning affects the truth-conditional content by constraining the interpretation and leading the hearer to assign referents to the highlighted expressions. No truth-conditions can be assigned to (3) before referents to the marked expressions are supplied. Once that is done, propositions such as the following can be expressed and communicated by (3):

(4) **Peter** will give **the book** to **Mary**.

(5) **John** will give **the letter** to **Clare**.

It seems that theorists who have discussed ‘non-truth-conditional meaning’ have excluded pronouns as elements of sentence semantics, simply because the linguistic meaning encoded by pronouns affects the truth-conditions of sentences containing them. I will return to pronouns later in section 4.1 and discuss the procedural relevance-theoretic account of pronouns (Wilson and Sperber 1993, Carston 2002 and Hedley 2005).

1.1.2. Sentence adverbials

Theorists such as Wilson and Sperber (1993) maintain that sentence adverbials such as illocutionary and attitudinal adverbials neither contribute to nor affect the truth-conditional content of utterances in which they occur. However, unlike requests and questions, utterances containing such adverbials can be given truth conditions. But what is encoded by these illocutionary or attitudinal adverbials does not contribute to these truth-conditions:

- (6) **Seriously**, John is a genius.
- (7) **Sadly**, I missed my train.

The truth-conditions of (6) and (7) are equivalent to the propositions expressed by these two utterances minus the illocutionary adverbial *seriously* and the attitudinal adverbial *sadly*. An utterance of (6), for instance, can communicate two propositions:

- (8) JOHN_x IS A GENIUS
- (9) Y_{SPEAKER} IS SAYING SERIOUSLY THAT JOHN IS A GENIUS

However (8) is the truth-conditions of the utterance, not (9). The same analysis goes for the utterance of (7). One should not confuse these adverbials with their ‘manner’ counterparts which contribute to the truth-conditions of utterances containing them. Manner adverbials are not separated by a comma in writing.

- (10) John is speaking **seriously**.
- (11) Peter sighed **sadly**.

Unlike the utterance of (6), which communicates two propositions as illustrated in (8) and (9), the utterance of (10) communicates only one proposition i.e. JOHN IS SPEAKING IN A SERIOUS MANNER.

1.1.3. Requests and questions

It is generally agreed that the utterances of non-declarative sentences such as orders and questions cannot be given truth-conditions. The reason for this is that such utterances do not refer to any state of affairs in the first place. Thus, the notion of truth or falsity cannot apply to them. Consider the following examples for demonstration:

- (12) Open the gate.
- (13) Are you vegetarian?

The utterance in (12) is a request which is usually complied with or disregarded, and the utterance in (13) is a question which can be given an answer or not. Thus, these utterances cannot be judged as true or false. Iten (2005:18) points out that some linguists have noticed that there are propositions that can be closely related to requests and questions. Thus, the equivalent propositions to (12) and (13) are (14) and (15), respectively:

- (14) X_{HEARER} OPENS GATE $_Y$
 (15) X_{HEARER} IS VEGETARIAN

Given that, what is communicated by (12) and (13) can be roughly paraphrased as (16) and (17):

- (16) The speaker is requesting the hearer to open the gate.
 (17) The speaker is asking whether the hearer is vegetarian.

Iten points out that the non-truth-conditional character of the meaning of (12) and (13) is due to the non-declarative syntax and not the meaning of their words such as *open*, *gate* and *vegetarian*. These words are obviously truth conditional.

1.1.4. Focus adverbs

In addition to illocutionary and attitudinal adverbials, there are other adverbs such as *even*, *too* and *also* which do not contribute to the truth-conditions of the utterances containing them. These adverbs are referred to by Iten (2005:23) as ‘focus’ particles. Consider the following examples:

- (18) **Even** Peter is on holiday.
 (19) Peter is on holiday **too**.
 (20) Peter is **also** on holiday

The linguistic meaning encoded by the highlighted adverbs in the above utterances does not contribute to the truth-conditions of these utterances. In other words, (18), (19) and (20) are true if and only if *Peter is on holiday*. However, there is obviously something more communicated by each of the highlighted adverbs, which depends on where the focus lies in each utterance. For instance, if the focus of *even* in (18) lies on *Peter*, then the utterance will suggest that Peter’s being on holiday is less likely than other people being on holiday. If the focus of *even* is *on holiday*, then the assumption will be that Peter’s being on holiday is less likely than his doing something else.

1.1.5. Discourse markers

Other linguistic expressions the linguistic meaning of which does not contribute to the truth-conditional content of utterances in which they occur are discourse markers (DMs). Such expressions include *but*, *therefore*, *so*, *after all*. They have been referred to in the literature as ‘pragmatic markers’ or ‘pragmatic connectives’, in addition to some other labels.

Theorists such as Blakemore (1987, 2002), Blass (1998), Rouchota (1998) and Iten (1998, 2000, 2005) point out that the linguistic meaning encoded by DMs does not contribute to the truth-conditions of utterances containing them. Consider the following examples:

- (21) John is a lawyer **but** he is in prison now.
- (22) John is in prison now **although** he is a lawyer.
- (23) Thaksin Shinawatra will buy Manchester City FC. **So**, he is a millionaire.
- (24) Thaksin Shinawatra will buy Manchester City FC. **After all**, he is a millionaire.

The use of the highlighted expressions does not affect the truth-conditional content of the sentences or clauses they connect. What each marker encodes is an extra proposition that controls the relation between the truth-conditional content of the clauses they connect. For example, (21) is an utterance of two clauses connected by *but*. *Prima facie*, there are two propositions expressed by this utterance: (i) John is a lawyer; (ii) John is in prison now. And, there is a third (extra) proposition encoded by the linguistic meaning of *but* namely, (iii) there is a contrast between John's being a lawyer and his being in prison. This extra proposition does not contribute to the truth-conditions of the utterance of (21). The utterance is true if and only if 'John is a lawyer' and 'John is in prison'. The sense of contrast encoded by *but* does not affect the truth or falsity of (21). If the speaker of (21) does not have the meaning of contrast in mind, this will not make her¹ utterance false. Similar analyses can be provided for (22), (23) and (24).

2. Previous approaches to non-truth-conditional meaning

The treatment of the non-truth-conditional linguistic meaning goes back to the beginning of the 20th century. The phenomenon was first highlighted by the German mathematician, logician, and philosopher, Gottlob Frege (1918). This section presents two main approaches to the non-truth-conditional nature of linguistic meaning. The first approach is led by Frege and the second one is led by Grice. The following presentation of these two approaches draws heavily on Iten (2005).

2.1. Frege's treatment

Frege (1918) recognises some problems with the traditional truth-conditional approach to linguistic meaning. He maintains that the linguistic meaning of a given sentence does not yield a fully propositional form which can be given truth conditions. He also maintains that there are elements in linguistic meaning which cannot be analysed in truth-conditional terms.

Frege argues that the meaning of a given sentence is determined by the sense and reference of that sentence. According to Frege, the 'reference' of a sentence is its truth-value, while the 'sense' of a sentence is its truth-conditions. For instance, the reference of a proper name is the object this proper name stands for. And the reference of a logical connective is the function this connective carries from one set of truth-values to another. The reference of a connective such as *and* in a sentence (P and Q)

¹ As a general practice in Relevance Theory, this paper uses 'she' to refer to the speaker and 'he' to the hearer.

will be the function which takes one from the value ‘true’ for P and ‘true’ for Q to ‘true’ for P and Q.

It is true that, in Frege’s framework, the sense of a sentence determines its reference. However, it becomes quite difficult sometimes to see how the sense of words in a sentence is characterised. In other words, it is quite hard in some situations to find out how the linguistic expressions in a certain sentence (or an utterance of a sentence) contribute to truth-conditions. Take, for instance, the case of personal pronouns such as ‘he’ and ‘she’. Such pronouns cannot be analysed as contributing to the truth-conditions of their utterance as we have discussed earlier because sentences including them do not yield fully propositional forms which can be given truth conditions. However, such pronouns play a role in determining the truth-conditions and reaching the fully propositional form by constraining the interpretation and leading the hearer to assign referents to the pronouns.

Frege realises that ‘reference’ and ‘sense’ are not enough to reach the meaning of sentences. He introduces the notion of ‘tone’ or ‘force’ which has a complementary relationship with ‘sense’ and ‘reference’ to determine the meaning given by a certain sentence. Consider (13), repeated here as (25) for convenience:

(25) Are you vegetarian?

The sentence in the above example is a non-declarative sentence. It does not have a truth-value or truth-conditions, which means that it does not have reference or sense in Frege’s terms. To get around this problem, Frege gives another sentence which consists of the sense of (25) plus the indication of its force as given in (26) below:

(26) <you are vegetarian, force of a question>

The elements that cannot be captured in truth-conditional terms, (i.e. do not have sense and reference), are referred to by Frege as force or tone. For instance, the force (tone) in sentence (25) is the interrogative syntax which makes the sentence usable as a question. If Frege’s analysis is true, illocutionary and attitudinal adverbials such as *seriously*, *unfortunately* and *regrettably* do not determine reference. In this way, they do not contribute to the truth-conditions of the sentences in which they occur but rather to the tone or force of these sentences (Iten: 2005:33).

In sum, Frege analyses the meaning of words and sentences in terms of reference, sense, tone and force. He uses the first two to refer to the truth-conditional side of linguistic meaning, while the other two are used to refer to the elements which cannot be captured in terms of truth conditions such as non-declarative sentences and illocutionary/attitudinal adverbials. However, Frege’s analysis has got a number of problems. The most important one is that it is not clear what constitutes linguistic meaning. Is it reference, sense, tone or force? The reference of a sentence could not be identified with its meaning. According to Frege, the reference of a sentence is its truth-values (whether it is true or false). On this account, all true sentences have the same reference ‘true’ and all false sentences have the same reference ‘false’. If reference is the meaning of the sentence, then all true sentences have the same meaning. This shows that reference is not a sufficient or even necessary condition for meaning. Furthermore, it is not clear how Frege’s notion of tone accounts for the linguistic meaning. The notion, as Iten (2005:33) points out, is little more than a convenient label for what is

non-truth-conditional. Frege did not provide any account of the meaning of certain expressions such as sentence adverbials and attitudinal adverbials and how they contribute to the tone of a sentence.

2.2. Grice's construal

Grice (1975, 1989) distinguishes two types of meaning: natural and non-natural meaning. For instance, 'These black clouds mean rain' would be an example of natural meaning for Grice, while 'This red light means STOP' would be an example of non-natural meaning for him. Grice views human communication as a matter of non-natural meaning. Grice also draws a distinction between sentence meaning and utterance meaning and maintains that utterance meaning goes beyond sentence (linguistic) meaning.

According to Grice, non-natural meaning is expressed by either 'saying' or 'implicating'. For him, saying (or what is said) is closely related to the conventional meaning of words uttered. However Grice argues that there are some words such as *but*, *therefore*, *moreover* the conventional meaning of which is not part of what is said. In this sense, the contribution made by such words could not be captured in terms of truth-conditions:

Now I do not wish to allow that, in my favoured sense of "say," one who utters S1 [*Bill is a philosopher and he is, therefore, brave*] will have *said* that Bill's being courageous follows from his being a philosopher, though he may well have said that Bill is a philosopher and that Bill is courageous. I would wish to maintain that the semantic function of the word 'therefore' is to enable a speaker to *indicate*, though not *say*, that a certain consequence holds.

(Grice 1989, p. 121)

In order to account for the conventional meaning encoded by such words, Grice introduces the notion of 'conventional implicature' where the linguistic encoding is seen as contributing to what is implicated rather than what is said in a certain utterance.

Grice (1989:122) maintains that the linguistic meaning encoded by expressions such as *but*, *therefore* and *moreover* indicates a performance of non-central (or higher-order) speech acts such as 'contrast', 'concluding' and 'adding'. Consider the following example:

(27) Clare is a senior lecturer at Oxford **but** her husband is a shoe-maker.

For Grice, there are three speech acts performed in the utterance of the above sentence: two lower speech acts of 'assertion' as given in (28) and (29) and one higher-speech act, commenting on the two assertions as given in (30):

(28) Clare is a senior lecturer at Oxford.

(29) Her husband is a shoe-maker.

(30) There is a *contrast* between asserting (28) and (29).

The third higher-order speech act performed and communicated in (30), which is the result of the linguistic encoding of the expression *but*, does not contribute to the truth-conditions of (27). If it turns out that the speaker of (27) does not have any ‘sense of contrast’ in mind, it would not make her utterance false. In other words, the utterance of (27) is true if and only if ‘Clare is a senior lecturer at Oxford’ and ‘her husband is a shoe-maker’ no matter whether a ‘contrast’ between the two propositions is involved or not.

In Grice’s terms, what is truth-conditional is a part of what is said (linguistically encoded) and what is non-truth-conditional is a part of what is implicated (contextually derived). On this account, a conversational implicature communicated by an utterance does not contribute to the truth-conditional meaning of that utterance. It is known that the meaning of ‘contrast’ in (27) is linguistically encoded by *but*. Thus, it should be part of what is said, but because this meaning does not contribute to the truth conditions of the utterance, Grice treats it as conventionally implicated.

Grice’s account of linguistic meaning distinguishes between what is truth-conditional and what is non-truth-conditional, but the problem with this account is the parallelism that Grice draws between truth-conditional and what is said on the one hand and the non-truth-conditional and what is implicated on the other hand. Some part of what is said (including linguistic expression such as pronouns and sentence adverbials) do not contribute to truth conditions of their utterances. See Blakemore (1987, 2002) for a more detailed analysis on the procedural meaning of DMs.

3. Linguistic meaning and Relevance Theory

3.1. Linguistic encoding: concepts and procedures

In Relevance Theory (RT), mental representations are referred to as ‘concepts’. It seems natural to say that most of the natural language words encode conceptual information—the building blocks of logical form, so to speak (Iten: 2005:71). For example, words such as *snow* and *white* in (31) would encode the concepts of SNOW and WHITE respectively:

(31) Snow is white.

Computation, on the other hand, is a ‘procedure’ in the sense that it is a function carried out by pragmatics to flesh out the linguistically decoded logical form to derive a full proposition and thus to reach what is communicated by the utterance.

It seems that procedural information (constraints on computation) can be linguistically encoded. Blakemore (1987) argues that some linguistic expressions encode information which constrains the inferential phase of the utterance interpretation. It is known that RT accounts for utterance interpretation with the emphasis on minimising processing effort needed to achieve the intended cognitive effect. Since the processing effort is exerted in the computational process of testing the relevant interpretation, any information that constrains this computational process would be considered to be effort-saving. Consider the following example:

(32) (a) John can open Bill’s safe. (b) He knows the combination.

If we follow the line of reasoning provided by Blakemore (1987, 2002), the hearer of (32) will not find it easy to determine how (b) achieves relevance in respect with (a) and thus, he will exert more effort in looking for the cognitive effect. The inferential relationship between (a) and (b) could be that (a) is a ‘premise’ and (b) is a ‘conclusion’, but it could also be the other way round: (b) is a ‘premise’ and (a) is a ‘conclusion’. To save the hearer the effort of determining the inferential relationship in the sequence in (32), the speaker can use some linguistic means (linguistic expressions), such as *but*, *therefore*, *so* and *after all*, the encoded procedural information of which can provide him with some signals and clues to find out the interpretation intended by the speaker. For instance, Blakemore (2002) points out that if the linguistic expression *so* has been used to connect the two segments in (32), the interpretation would be that (b) is a ‘conclusion’ derived as a contextual implication from (a), and if *after all* is used, then (b) would be the ‘premise’ to (a), the conclusion.

Blakemore’s claim is that, in the absence of DMs such as *so* and *after all*, contextual assumptions and cognitive effect accessible to the hearer are not necessarily those intended by the speaker. Thus, the speaker finds it useful to use some linguistic constructions such as *so* and *after all* to make it easy for the hearer to point to the intended interpretation.

3.2. The conceptual/procedural distinction

The notion of procedural meaning in RT needs further investigation. It is not known yet how the procedural meaning is represented in the mind, neither is it known how the process of ‘constraining the inferential phase’ of utterance interpretation actually works. When the notion was first introduced by Blakemore (1987), the purpose was to make a distinction between truth-conditional and non-truth conditional aspects of linguistic meaning. The correlation between conceptual/procedural and truth-conditional/non-truth-conditional meanings was assumed to be pertained and the ‘conceptual’ and ‘procedural’ were mutually exclusive.

Blakemore (1987) defines the notion of procedural meaning in a negative way. For her, if what is encoded by a linguistic expression is not conceptual, it should then be procedural by necessity since linguistically encoded meanings in RT are either concepts or procedures (not both). Blakemore (1987) does not provide a criterion by which speakers and hearers can distinguish linguistic expressions that encode procedural meaning from those which do not. She just gives a list of certain expressions, particularly discourse markers, and argues that such expressions do not encode conceptual information, which means that they are procedural.

We will see that the assumed parallelism between truth-conditional/non-truth-conditional and conceptual/procedural meaning does not hold:

It is tempting to assume that these two approaches are equivalent, and classify the data in identical ways. This would be so, for example, if any construction which contributed to the truth conditions of an utterance did so by encoding concepts, while all non-truth-conditional constructions encoded procedural information. We want to argue that this assumption is false. The two distinctions cross-cut each other: some truth-conditional constructions encode concepts, others encode procedures; some non-truth-conditional constructions encode procedures, others encode concepts.

(Wilson and Sperber 1993: 1-25)

The equation that conceptual = truth-conditional and procedural = non-truth conditional is untrue. Linguistic expressions such as personal pronouns do not linguistically encode conceptual information, but they contribute to the truth conditional content of the utterances in which they occur. Sentence adverbials, for instance, encode conceptual information but their contribution does affect the truth conditions of their utterances.

We will also see that the conceptual/procedural distinction is not mutually exclusive. We can have linguistic expressions encode both conceptual and procedural meaning, as is the case with the definite article *the* and the conditional marker *if*.

Wilson and Sperber (1993) introduce some tests² through which theorists can distinguish conceptual from procedural meaning. Although such tests do not give an explanation as to how the procedures constrain utterance interpretation, they provide some criteria theorists can use to distinguish conceptual from procedural meaning. These tests are 1) 'accessibility to consciousness', 2) 'truth-evaluability' and 3) 'compositionality'.

As for the first test, Wilson and Sperber (1993) point out that since concepts in RT are mental representations, then the conceptual meaning encoded by linguistic expressions should be consciously accessible to speakers and hearers. For instance, if we ask native speakers of English what the words 'garden', 'library' and 'car' mean, they would be able to answer the question by either paraphrasing the words or giving some of their synonyms. Procedural expressions³, on the other hand, are not easily accessible to consciousness. By the same analogy, if we ask native speakers of English what the words 'but', 'so' and 'therefore' mean, they would not be able to give a straightforward answer. Their answer, if any, would much more likely be about how these expressions are used rather than what they mean. Iten (2005:76) points out that there is evidence from second language learning that learners find it much harder to learn (or acquire) a procedural expression than to learn a conceptual expression. That is why, most learners of English have some problems in learning and using words such 'well', 'even' and 'just'.

Regarding the second test, Wilson and Sperber (1993) maintain that concepts are truth-valuable because they are representations of states of affairs in the actual world:

(33) The shirt is blue.

The sentence in the above example can be uttered to refer to a state of affairs in the real world as in (34).

(34) The shirt John has bought from Debenhams on his 27th birthday is *blue*.

The word 'blue' contributes a constituent to the representation of this state of affairs. In other words, the contribution made by it can determine whether the representation is true or false. To put it differently, the concept encoded by the word 'blue' affects the

² These tests have been also adopted by Rouchota (1998) and Iten (1998).

³ For the sake of simplicity, linguistic expressions which encode procedural meaning will be called 'procedural expressions' and expressions encoding conceptual meaning will be called 'conceptual expressions'.

truth or falsity of (33). If the encoded concept corresponds to the state of affairs given in (34) then the utterance of (33) will be true. If it does not correspond, then the utterance will be false as in (35):

(35) The shirt John has bought from Debenhams on his 27th birthday is *red*.

What is encoded by procedural expressions, by contrast, are not representations that can be true or false. The contribution made by procedural expressions cannot be judged as true or false. For instance, the hearer could not object to the use of *after all* in (36) by claiming that it is not true. Thus, he cannot utter something like (37) or (38):

- (36) (a) John can open Bill's safe. (b) **After all**, he knows the combination.
(37) This is not true: 'he knows the combination' is not used as a premise.
(38) This is not true: 'John can open Bill's safe does follow from his knowing the the combination'.

The third test for distinguishing conceptually from procedurally encoded information is 'compositionality'. According to this test, concepts can combine (and modify each other) to form larger complex conceptual representations. For instance, the concepts HOT and NEWS combine to form the larger concept HOT NEWS. The notion of compositionality does not seem to work with procedural expressions. It is very hard to find a procedural expression that can combine with (or modify) another procedural expression. For instance, 'so' cannot combine with 'after all' to form a larger procedural unit 'so after all'. Only representational entities can combine with each other to form larger representations. Procedural expressions are non-representational.

4. Conceptuo-procedural expressions

We have seen that the conceptual/procedural distinction in RT is mutually exclusive in the sense that a certain linguistic expression encodes either a concept or procedure, not both (Blakemore 1987, 2002). According to this view, linguistic expressions can be divided into two classes. The first class includes most nouns, verbs and adverbs, which encode purely conceptual information and easily lend themselves to Wilson and Sperber's (1993) criteria for distinguishing conceptual from procedural encoding. The second class includes DMs (expressions such as *but*, *therefore* and *after all*), which have been analysed as encoding purely procedural information that puts constraints on the inferential interpretation of the utterance in which they occur and which do not contribute a constituent in the semantic representation of their utterances.

My argument will be that the conceptual/procedural distinction is not mutually exclusive. There are linguistic expressions which can encode conceptual and procedural information at the same time such as personal pronouns, the definite article *the* and the conditional marker *if*. These expressions will be called conceptuo-procedural.

4.1. Pronouns as procedures

Wilson & Sperber (1993) and Hedley (2005) argue that the linguistic meaning encoded by pronouns is procedural rather than conceptual. They consider pronouns as communicative linguistic devices used by the speaker to point the hearer towards the

intended referent. Hedley (2005:41) points out that, in RT, mind is seen as involving representations which are manipulated by mental computational apparatus (an approach broadly parallel to that of Fodor (e.g. 1980, 1983) and others). The general view is that linguistic expressions are linked to things in the real world via concepts (mental representations), which are manipulated by the computational apparatus. This, in fact, involves two different processes. The first one is based on decoding linguistic expressions into conceptual representations. The second one concerns the use of pragmatic faculties of inference in order to reach the intended meaning.

As far as this distinction is concerned, Hedley argues that pronouns operate within the second process. For him, pronouns do not encode conceptual representations—what they provide is the computational apparatus that manipulates concepts. Consider the following example:

(39) **He** is not my friend.

According to Hedley, the pronoun ‘he’ in the above utterance, does not encode conceptual information. It rather gives instructions to the hearer to find the intended referent. In sum, pronouns in Hedley’s account encode procedures, not concepts.

This raises a question: do pronouns indeed encode procedures? And if they do, are these procedures similar to those encoded by some DMs such as *but*, *therefore*, *after all* and *so*? An answer to this question could be that pronouns encode a different type of procedure. Unlike DMs which control the inferential phase of utterance interpretation by constraining the contextual effect under which the utterance is relevant, pronouns offer instructions to the hearer to identify the referent of the pronoun. DMs such as *but*, *therefore*, *so* and *after all* do not encode concepts. None of Wilson and Sperber’s three tests apply to them: They can neither be brought to consciousness nor can they combine with other linguistic expressions or contribute to the truth conditions of utterances in which they occur. I will call this type of linguistic expressions ‘purely procedural linguistic expressions’.

The case of pronouns is a bit different. Pronouns are not empty lexical items as the DMs mentioned above. Pronouns carry some sort of conceptual meaning which can be considered as pro-concept or concept schema, following Carston (2002). For instance, a pronoun such as *he* can be brought into consciousness. It encodes the pro-concept of *singularity* and *masculinity*. By contrast, the pronoun *she* encodes *singularity* and *femininity*. Other pronouns such as *they* encode *plurality*.

Nobody can deny that the conceptual nature of pronouns is different from that of nouns, verbs, adjectives and adverbs. The conceptual dimension is not as straightforward in pronouns as it is in DMs. As for truth-evaluability, it can be noticed that what is linguistically encoded by pronouns contributes to the truth or falsity of utterances in which pronouns occur. That is, the pro-conceptual schematic sub-propositional form encoded by the pronoun *he* in (39) contributes to the truth conditions of the utterance. In other words, (39) would be false if ‘he’ is taken to refer to someone who is not ‘singular’ or ‘masculine’.

What I want to argue is that pronouns are neither purely conceptual nor purely procedural. They are linguistic expressions the linguistic encoding of which is partially procedural and partially conceptual. Such expressions are pro-concepts with some elements of procedural meaning. They encode a sub-propositional form which affects the truth-conditional content of utterances in which they occur and at the same time they

provide hearers with instructions on how to reach the fully propositional form, i.e. the intended referent of the pronoun. For instance, a pronoun such as ‘he’ used in an utterance, will instruct the hearer to search for a referent which is *male* rather than *female*.

4.2. Definite articles and procedural encoding

I am introducing articles here because they are relevant to the discussion of procedural expressions. To my knowledge, articles have not been analysed by Wilson and Sperber, Blakemore, Blass or any other researcher interested in the relevance-theoretic account of procedural meaning. My argument is that the definite article encodes procedural meaning in a similar way to pronouns in the sense that it directs the hearer to the reference of noun phrase.

Lyons (1999:1) points out that in many languages, a noun phrase may contain an element which indicates the definiteness or indefiniteness of the noun phrase. This element could be a linguistic item such as the definite or indefinite article *the* and *a*, as in English. It could also be a sort of an *affix* as is the case in Arabic where the *prefix al-* is used to indicate definiteness and the *suffix -n* is used to indicate indefiniteness.

As far as the definite and indefinite articles in English are concerned, Lyons (1999:2) argues that definiteness and indefiniteness are expressed by the use of such articles in the noun phrase. In other words, definiteness and indefiniteness are linguistically encoded by the use of the articles referred to. This has been made clear in his footnote 1, where he states that articles encode definiteness or indefiniteness plus other things.

The notion of definiteness has been explained by traditional grammarians in terms of ‘specificity’ and ‘particularity’. If the speaker or writer uses a noun phrase with the article, this means that she might be referring to a specific or particular thing. For instance, *the* in (40) indicates that the speaker refers to a specific or particular letter, not just any:

(40) I wrote **the letter** this afternoon.

Lyons argues that the specificity or particularity account of definiteness is vague and inaccurate. The speaker or writer of (40) could possibly use *a letter* as a noun phrase to indicate that she is referring to a specific or particular letter not just any letter, although the article used in the noun phrase is indefinite:

(41) I wrote **a letter** this afternoon.

Lyons suggests that definiteness might be explained in terms of ‘familiarity’. The speaker in both (40) and (41) refers to a particular or specific letter. However the reference of the letter in (40) is assumed to be clear to both the speaker and hearer of the utterance.

There are some cases in which a familiarity account of definite article does not work either. Consider the following scenario given by Lyons (1999:6): Ann, who is putting up a picture on the wall, utters (42) to Joe who has just entered the room:

(42) Pass me **the hammer**, will you?

Joe looks around and sees a hammer on the chair. The familiarity account cannot work here because Joe, at the time of Ann's utterance, does know that there is a hammer in the room. He has to look around and find a referent to the word 'hammer'. The definite article used by Ann guides Joe to identify the hammer. This account is called the 'identifiability account' where the use of the definite article directs the hearer to the referent of the noun phrase by indicating that the hearer/addressee is in a position to identify it. In this sense, definite article is similar to personal pronouns which are linguistic devices used by the speaker to point the hearer towards the intended referent.

Furthermore, there are cases where both familiarity and identifiability accounts of the definite article fail to work. Consider Lyons' example (15) used here as (43) for convenience:

(43) I have just been to a wedding. **The bride** wore blue.

It is obvious that the noun phrase *the bride* in the above utterance is definite because the hearer knows that in a wedding there should be a bride. But does the hearer identify a referent in the real sense? Even though *the bride* is a definite reference, the hearer does not know who the bride is or anything about her. If he sees the bride in the street next morning, he will not be able to recognise her as a person.

It is noticed that different accounts have been used to explain definiteness. This raises the following question: is definiteness an outcome of conceptual or procedural encoding? In other words, does the definite article *the* encode a concept or procedure?

It is not clear from Wilson and Sperber's three tests whether the article *the* encodes a concept or procedure. It is noticed that *the* cannot be accessible to consciousness. Native speakers of English find it very hard to tell the meaning or give synonyms of *the*. What they can tell is just how the article is used. This is evidence that it does not have conceptual representations. However, the article *the* can combine with other linguistic expressions to form larger complex concepts. For instance, THE can combine with LETTER to form the larger concepts THE LETTER. As for the third test 'truth-evaluability', I assume that the definite article contributes to the truth-conditional content of utterance in which they occur. There is difference in truth conditions between (44) and (45) as can be noticed in (46):

(44) I wrote **the letter**.

(45) I wrote **a letter**.

(46) It is true that I did not write **the letter** this afternoon, but I did write **a letter**.

My argument is that the definite article is a conceptuo-procedural linguistic expression. It is neither fully procedural nor fully conceptual. It encodes a procedural meaning which leads to conceptual representation i.e. 'definiteness'.

The procedural nature of definite articles is indirectly referred to by Lyons (1999:6) in his footnote 3:

Note that the article itself does not identify the referent; *the* is a "grammatical word" with no descriptive lexical content, and therefore contains nothing which can itself identify a referent. The most it can do is invite the hearer to exploit clues in the linguistic or extralinguistic context to establish the identity of the

referent. The article has been said by many writers to “pick out” an entity, but this is inaccurate; *the* may be about identifiability but not identification.

This is actually what the account of procedural meaning is about; linguistic expressions do not contribute constituents to the conceptual representations of the utterance but provide constraints on how those conceptual representations should be processed during the inferential stage of the utterance interpretation. To see how the procedural account of the definite article works, consider (42) repeated here as (47) for convenience:

(47) Pass me **the hammer**, will you?

The noun phrase *the hammer* in the above utterance is used to make a definite reference, according to the identifiability account given by Lyons. However, the identifiability of the referent *hammer* is not conceptually encoded by the article. The article offers a guarantee by the speaker that the hammer is identifiable though it does not identify it. We have seen that *the* is a linguistic expression with no descriptive lexical content and thus it does not encode conceptual representations. I will assume that the identifiability of the referent *hammer* is procedurally encoded by *the* in the sense that the article directs the hearer to find the referent by indicating that he is in a position to identify it.

My analysis of the definite article as encoding procedural meaning is compatible with Hawkins’ (1991) analysis. The latter argues that the definite article introduces the referent to the hearer, instructs the hearer to locate the referent in some contextually salient set of objects and refers to the totality of the objects or mass within this set, which satisfy the description. He claims that *the* entails uniqueness and carries a conventional implicature that there is some P-set accessible to the speaker and hearer with which uniqueness holds.

The reason why I am including the definite article among conceptuo-procedural expressions rather than purely procedural expressions is that the procedural meaning encoded by the definite article is different from the procedural meaning encoded by purely procedural expressions such as *but*, *therefore* and *so*. The difference is that the procedural meaning encoded by DMs contributes to the inferential part of the utterance interpretation by constraining the contextual information under which the utterance is relevant. Whereas, similar to pronouns, the definite article *the* contributes to the process of utterance interpretation by directing the hearer towards the referent of noun phrase.

4.3. Real and unreal conditionals

Some researchers such as Grice (1989) analyse the natural language *if* as semantically identical to the material implication in logic ‘ \supset ’ which is a truth-functional connective. According to the truth table of material implication, $(P \supset Q)$ is true on all possible combinations except when the P is true and Q is false:

(48)	P	Q	$P \supset Q$
	T	T	T
	T	F	F
	F	T	T
	F	F	T

On this analysis, the natural language *if* encodes truth functional relations between the two clauses it links, i.e. the ‘antecedent’ (protasis) and the ‘consequent’ (apodosis). Consider the following conditional utterance:

(49) If the king dies, his son will take over the throne.

As can be noticed, *if* in the above example relates between two states of affairs: ‘the king’s death’ and ‘his son’s taking over the throne’. The conditional in (49) is true on all possibilities except when the king dies and his son does not take over the throne. Furthermore, two logical inferences can be allowed in such conditionals:

(50)	Modus Ponens 1. $P \supset Q$ <u>2. P</u> 3. Q	Modus Tollens 1. $P \supset Q$ <u>2. $\sim Q$</u> 3. $\sim P$
Therefore:		

According to Modus Ponens, if it is the case that p then it is the case that q and if it is not the case that q then it is not the case that p . In other words, if it the case that ‘the king dies’ then it is the case that ‘his son will take over the throne’ and if it is not the case that ‘his son will take over the throne’ then it is not the case that ‘the king dies’. In this type of conditionals, $P \supset Q$ does not entail P and Q , i.e. ‘if the king dies, his son will take over the throne’ does not entail that ‘the king dies’ and that ‘his son will take over the throne’ either.

Other researchers such as Akatsuka (1986), Van der Auwera (1986) and Sweetser (1990) claim that *if* semantically encodes non-truth-functional relations such as ‘causal’ and ‘consequential’ relations between the antecedent and the consequent. For instance, *if* in (79) semantically encodes that ‘the king’s death’ is a cause and ‘his son taking over the throne’ is a consequence. On this analysis, the conditional could have the ‘if p then q ’ ($p \rightarrow q$) interpretation:

(51) If the king dies, then his son will take over the throne

In his analysis of conditionals, Van der Auwera proposes the principle of Sufficiency Hypothesis according to which ‘if p then q ’ means that p is a sufficient condition for q . In other words, the truth of the antecedent is a sufficient condition for the truth of the consequent. For instance ‘the death of king’ in (51) is a sufficient condition for ‘his son to take over the throne’.

There is another type of conditionals where Van der Auwera’s principle of Sufficiency Hypothesis does not work and the ‘if p then q ’ interpretation is not possible. Consider the following example:

(52) If you are thirsty, there is a lemon juice in the fridge.

The Sufficiency Hypothesis proposed by Van der Auwera could not account for the above conditional. The truth of the antecedent is not a sufficient condition for the truth of the consequent; the hearer’s thirst is not a sufficient condition for the presence of the lemon juice in the fridge. On the other hand, *if* in the conditional, referred to, does not

encode semantic relations— causal or consequential. It is not possible to say that the presence of lemon juice in the fridge is a consequence of the ‘hearer’s thirst’. To put that differently, this sort of conditionals does not lend itself to ‘if p then q’ interpretation:

(53) **If you are thirsty, then there is a lemon juice in the fridge.

The truth conditions in such sort of conditionals are not identical with the truth table for material implication. The truth-table shows that if p is false, (53) will be true regardless of whether q is true or false. But (53) does not suggest that if the hearer is not thirsty, there may be no lemon juice in the fridge. On the contrary, it suggests that even if the hearer is not thirsty, the lemon juice is still in the fridge.

It can also be noticed that such type of conditionals does not lend itself to Modus Ponens and Modus Tollens logical inferences. For instance, the case that p (you are thirsty) does not lead to the case that q (there is a lemon juice in the fridge). And, the case that not q (there is no lemon juice in the fridge) does not lead to the case that not p (you are not thirsty). In this type of conditionals, $P \supset Q$ entails q but not p—‘if you are thirsty, there is a lemon juice in the fridge’ entails that ‘there is a lemon juice in the fridge’, but it does not entail that ‘you are thirsty’.

In her analysis of conditionals, Sweetser (1990) retains Van der Auwera’s Sufficiency Hypothesis. She argues that conditionality functions in three domains: content, epistemic and speech act domains. Content conditionals relate between events and states of affairs. They indicate that the truth of the antecedent is a sufficient condition for the truth of the consequent; the ‘king’s death’ is a sufficient condition for ‘his son’s taking over the throne’. In the epistemic domain, conditionals relate between epistemic states where the conditional could be paraphrased as ‘If I *know* the [antecedent], I *conclude* the [consequent]:

(54) If Peter submitted his dissertation last Monday, he was trying to finish by the deadline.

On this analysis, if the hearer *knows* that Peter submitted his dissertation last Monday, he will *conclude* that Peter was trying to finish by the deadline. The knowledge of the antecedent, in epistemic conditionals, is sufficient for the knowledge of the consequent.

As for speech act conditionals, Sweetser maintains that the truth of the antecedent is a sufficient condition for a speech act involving the consequent. According to Sweetser, this type of conditionals performs a speech act assigned to the consequent on condition that the antecedent is true. For instance, (52) indicates that ‘if you are thirsty I *inform* you (speech act) that there is lemon juice in the fridge’. In other words, ‘your being thirsty is a sufficient condition for my *informing* you of the presence of lemon juice in the fridge.

My claim will be that conditionals which fit the truth table of material implication and allow the ‘if p then q’ interpretation are ‘real’ conditionals. Such conditionals operate at the representational level. They relate between two representations (e.g. ‘the king’s death’ and ‘the son’s taking over the throne’). Conditionals which do not fit the truth table of material implication and do not allow the ‘if p then q’ interpretation will be ‘unreal’ conditionals. Such conditionals operate at the meta-representational level where *if* does not relate between two representations as is the case in real conditionals. For instance, *if* in (52) does not relate between the two

clauses but rather between the *if* clause and the reason behind saying the second clause. This claim seems to be compatible with Horns' (1989) claim that the conditional operator can be used either 'descriptively' or 'metalinguistically'. In the descriptive use, *if* is equivalent to the material implication ' \supset ' in logic, while in the metalinguistic use it is not. For instance, *if* in (49) is used descriptively, while in (52) it is used metalinguistically.

Based on that, the argument will be that *if* is a conceptuo-procedural linguistic expression. It is used conceptually in real metarepresentational conditionals and procedurally in unreal metarepresentational conditionals. In the conceptual use, *if* contributes to the semantic representation of the proposition expressed in the conditional as is the case with (49). By contrast, in the procedural use, *if* does not contribute to the semantic representation of the conditional but plays a role in the inferential part of the conditional interpretation by constraining the relevance of the second clause. Reconsider (49) and (52) repeated here as (55) and (56):

- (55) If the king dies, his son will take over the throne.
 (56) If you are thirsty, there is a lemon juice in the fridge.

As can be noticed, *if* in (55) operates at the representational level, it contributes to the conceptual representations of the conditional by encoding the concept of 'causality or consequence': 'the king's death' causes 'his son's taking over the throne' or 'his son's taking over the throne' is a consequence of 'the king's death'. It is generally accepted that causal and consequential relations are conceptual relations. As for (56), it seems that *if* does not encode conceptual information which contributes to the representations of the conditionals as is the case with (55) where *if* encodes causality or consequence. The linguistic expression *if* in (56) rather encodes procedural information which operates at the inferential level of the conditional interpretation. What is encoded by *if* in (56) constrains the interpretation by guiding the hearer to see how the proposition given in the second clause achieves relevance in accordance with the proposition given in the first clause.

Unlike the interpretation of (55) which involves two propositions—one of them causes (or is a consequence of) the other, the interpretation of (56) involves three propositions: a) 'you are thirsty', b) there is lemon juice in the fridge, c) the presence of lemon juice in the fridge is relevant to the person referred to in the conditional. That is why, 'if p then q' interpretation is not possible in this conditional.

5. Conclusion

This paper was a scrutiny of two different types of linguistic meaning: the truth conditional/non-truth-conditional and the conceptual/procedural meaning. On the one hand, it has been argued that the assumed parallelism between truth conditional/conceptual and non-truth-conditional/procedural does not hold due to the presence of two types of linguistic expressions: a) linguistic expressions which encode procedural meaning, but contribute to truth conditions, b) linguistic expressions which encode conceptual meaning, but do not contribute to truth conditions. On the other hand, it has been claimed that the conceptual/procedural distinction is not mutually exclusive because some linguistic expressions such as the definite article and the conditional marker *if* encode both conceptual and procedural information.

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