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Syntax-Semantics non-Correspondence

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Abstract:

Due to the noticeable development linguistics had known, especially the development that took place in the field of phonology, linguistic components were taken to be equal. Syntax was no longer considered to be the main component that other linguistic components are derived from. Semantics and phonology came to be considered generative linguistic components as is the status of syntax. They are now considered to be able to derive meaning either autonomously or with the incorporation of syntax. In this article, we will show how linguistic components, especially semantics and phonology, reveal meaning without direct correspondence to syntax. We will prove the non-correspondence between Syntax and Semantics relying on some linguistic phenomena like Stress, Intonation and passivisation.

Keywords: *Semantics, Syntax, non-correspondence, conceptual structure, parallel architecture*

1.0. Introduction: Syntax-Semantics non-Correspondence

Throughout the 1970s, there had been a great development in linguistic theory especially in terms of determining the roles and scopes of each linguistic component. At that stage, syntax was no longer considered to be the only generative component in language; phonology and semantics had also been taken to be generative components which derive meaning (Jackendoff 1997, 2002, 2007 and Culicover and Jackendoff, 2005).

As Jackendoff (1997 p: 38) points out, linguistic structure is a Parallel Architecture consists of the three components (i.e. phonology, syntax and semantics). In this respect, Jackendoff considers phonology and conceptual structure as equally autonomous generative systems (ibid). Therefore, these three linguistic components are linked to one another via interface rules. Here, phonology and semantics are no longer considered to be derived from syntax; instead, they are two independent parts of a tripartite parallel architecture as is called by Jackendoff (ibid). The following diagram taken from Jackendoff (1997 p: 39) clarifies the idea of parallel architecture. This architecture is also discussed in Jackendoff 2002 p: 125 and Culicover and Jackendoff 2005 p: 18).

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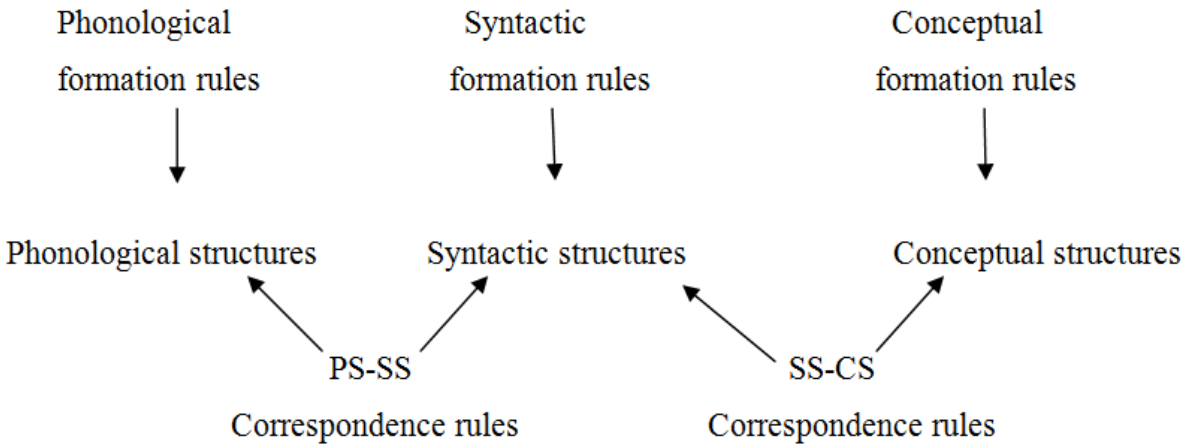

Fig.1.1.The tripartite parallel architecture

As we notice in this tripartite architecture, there is an abandonment of the syntactico-centric architecture which considers phonology and semantics to be predictable from syntax. Hence, in the parallel architecture, phonology and semantic are treated as independent generative components completely on par with syntax. Therefore, phonology and conceptual structure are taken to have properties of their own and not derived from syntax. On such a view, syntax, phonology and semantics compose a tripartite parallel architecture in which the three linguistic components are linked to one another via interface rules. In this architecture, as Jackendoff (2009) points out "a well-formed sentence is a triplet consisting of well-formed phonological, syntactic, and semantic structures, plus links between corresponding constituents of the three, established by the interface components. A word therefore is to be thought of not as a passive unit to be pushed around in a derivation, but as a part of the interface components. It is a long-term memory linkage of a piece of phonology, a piece of syntax, and a piece of semantics, stipulating that these three pieces can be correlated as part of a well-formed sentence."

However, although we have an architecture consisting of the three linguistic components linked to each other via correspondence rules, this linkage is not a trivial one-to-one. We do not always have total correspondences between the three major components. There are contexts and linguistic phenomena and structures where syntax and semantics as well as phonology do not correspond to one another. In this framework, phonology and semantics are no longer considered to be inherited from syntax as were thought of with syntactico-

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centric approach. Instead, they rapidly came to be taken as autonomous generative systems with their own structures and tiers (Jackendoff 2007 p: 38).

In this article, we will discuss the non-correspondence between syntax, semantics and phonology in order to prove the idea of the parallel architecture. We will provide evidence that show that there are contexts where syntax and semantics do not directly correspond to one another. Examples of linguistic phenomena and structures that we will rely on to prove our claim are: *stress*, *intonation*, *passivisation*, *function mismatches* and *reference transfer*.

1.1. Stress to Prove Syntax-Semantics non-Correspondence

As stated above, the well-formedness of a sentence comes from a well-formed consistency of the syntactic, semantic and phonological structures. However, although the three major linguistic components altogether contribute to convey a particular meaning in a sentence, one of these components has stronger position to determine the basic meaning of a sentence in question. In other words, the meaning of a sentence is determined either by syntactic, semantic or phonological elements. The information intended to be revealed are determined by one of these linguistic components; that is, one of the linguistic components takes advantage to determine meaning. Let us start with phonology and take stress as an example that is responsible for determining meaning (i. e. there is a direct correlation between phonology and semantics rather than correlation between syntax and semantics). Consider the following examples from Arabic. The stressed word is in bold.

(1) a. ʔištaraa khalidun **el-rriwayata**.

Bought- 3p Masc Sing Khalid-MON the-novel-ACC

"Khalid bought the novel"

b. ʔištaraa **khalidun** el-rriwayata.

Bought- 3p Masc Sing Khalid-MON the-novel-ACC

"Khalid bought the novel"

c. **ʔištaraa** khalidun el-rriwayata.

Bought- 3p Masc Sing Khalid-MON the-novel-ACC

"Khalid bought the novel"

Meaning of the sentences in (1) changes depending on which word stress is put upon. The stress in (1a) is on the word e*l-rriwayata* (the novel) so that the meaning is that Khalid bought e*l-*

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riiwayata (the novel) and not something else. In (1b), the stress is on the word *khalidun* (Khalid). Therefore, the meaning is that Khalid who bought the novel and not someone else. In (1c), the stress is upon the verb *ʔištarā* (bought) therefore there is an emphasis on the action of buying the novel by Khalid. Here, the important information is that Khalid performed the act of buying the novel; the speaker and addressee might have had known that Khalid would buy the novel, so that the speaker here is just reminding his addressee that Khalid bought the novel he had to buy or said that he would buy.

As we notice here, we are in front one sentence with three different meanings. No changes have been taken on the level of word positions to say that there are syntactic changes that affect the meaning of the sentence. Instead, all the words remain in their original positions. However, moving stress from upon a word to another results in changing the meaning of the sentence. Stress here is a phonological feature that is responsible of changing the meanings of the sentences in (1). Here, as we notice, syntax does not take advantage of determining different meanings of the sentences, but rather phonology does.

In this regard, and according to the Parallel Architecture Approach, syntax is not mainly responsible for determining the three different meanings in (1), but it is still present as a general configuration that host these different types of meaning. The three sentences, however, still consist of the syntactic categories verb, subject and object although the specific meaning of each sentence is determined by phonology, here stress. In other words, there is a contribution of syntax as a general frame and phonology as a component that is responsible for determining the narrow or the specific meaning of each sentence. Thus, we can infer that semantics here is not directly linked to syntax but rather it is directly correlated with phonology since meaning is determined by a phonological feature and not by a syntactic one. This is one piece of evidence about non-correspondence between syntax and semantics. Another phonological piece of evidence that proves syntax-semantics non-correspondence is intonation.

1.2. Intonation to Prove Syntax-Semantics non-correspondence

Another phenomenon through which we will explore prosody-semantics interface and prove non-correspondence between syntax and semantics is intonation. Let us start with what is called declarative question in which there is a final rise in intonation which reveals specific meaning

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different from that of what is called in Dalrymple and Mycock (2011) polar interrogative involving subject-auxiliary inversion. Consider the following example from Arabic.

(2) ʔištaraa khalidun el-rriwayata?

L H

Bought- 3p Masc Sing Khalid-MON the-novel-ACC

"Khalid bought the novel?"

As we notice in this sentence, there is a specific sound sequence distinguished with a final rise in intonation, represented as L (Low) to H (High) pitch movement. Intonation is assigned to the ultimate syllable in the last word in the sentence. This particular final rise in intonation is responsible for revealing a specific meaning; i. e. asking for information instead of giving information as the case of declarative sentences. In this respect, syntax has nothing to say about the meaning of the sentence in (2); instead phonology takes advantage of determining that specific meaning. Here, and according to the approach we adopt, there is a direct linkage between phonology and semantics. Syntax is not responsible for this specific meaning. This denotes that there is no direct correspondence between the syntax and semantics of this sentence. An example from English which has the same structure as the Arabic sentence in (2) is the sentence in (3).

(3) John is at the office?

L H

Therefore, intonation is another piece of evidence that proves syntax-semantics non-correspondence. It proves our claim which states that syntax does not determine all aspects of meaning. We do not have much space to discuss more examples. The reader may generate as much examples as he/ she wants. Now, we will discuss another linguistic phenomenon which proves syntax-semantics non-correspondence.

1.3. Passive voice to Prove Syntax-Semantics non-Correspondence

Passivisation is a morphological interface valence in Arabic. However, I do not have enough space to discuss this phenomenon from morphological perspective in detail. Yet, I would like to emphasize that passivisation is one of the important morphological processes that prove the interface between morpho-phonology and semantics on the one hand and non-correspondence

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between syntax and semantics on the other hand. As we will see, syntax has nothing to do concerning some parts of meaning that are merely conveyed by morpho-phonology. This is according to the Parallel Architecture Approach that considers morpho-phonology as autonomous generative system that generates meaning as other components do (see for instance Jackendoff 1997, 2002, 2007 and Culicover and Jackendoff 2005).

In this subsection, I will discuss the issue of non-correspondence between syntax and semantics depending on passivisation to prove the claim which states that the linkage between syntax and semantics is not a trivial one-to-one correspondence. Instead, as we will see, there is a direct linkage between morpho-phonology and semantics. We will conduct this issue throughout the mismatches of thematic roles in regards with syntactic positions in passive sentences. We will see how thematic roles are backgrounded in conceptual structure whereas their equivalent syntactic categories do not appear in syntax.

In all languages, transitive verbs take one to three arguments as part of their lexical entries. These arguments are linked to thematic roles in the conceptual structure. Conversely, intransitive verbs take only one argument which correlates either to agent, if the verb is unergative, or to patient, if the verb is unaccusative. Also, intransitive verbs do not have passive counterparts since the events they express are self-initiated so that the agent have to appear in the conceptual structure; it cannot be backgrounded. Therefore, we will not discuss intransitive verbs here. We will depend on transitive verbs only in order to prove syntax-semantics non-correspondence. Consider the following examples from English and Arabic. Examples in (5 a-d) are passive counterparts of those in (4 a-d).

(4) a. John broke the window.

S S: Subj V Obj

C S: Agent ACT Patient

b. Mary killed the robber.

S S: Subj V Obj

C S: Agent ACT Patient

c. fataha khalidun el-baaba.

Opened-3p sing masc Khalid-NOM the-door-ACC

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S S: V Subj Obj

C S: ACT Agent Patient

d. qara?a khalidun el-kitaaba.

read-3p sing masc the-student-MON the-book-ACC

S S: V Subj Obj

C S: ACT Agent Patient

"The student read the book."

(5) a. The window was broken.

S S: Subj V

C S: Patient EVENT

b. The robber was killed.

S S: Subj V

C S: Patient EVENT

c. futiha el-baabu.

was-opened-3p masc sing the-door-NOM

S S: V Subj

C S: EVENT Patient

"The door was opened"

d. quriʔa el-kitaabu.

was-read-3p masc sing the-book-NOM

S S: V Subj

C S: EVENT Patient

As we notice from the examples in (4), the predicate structure contains two arguments whereas the conceptual structure contains two thematic roles. The first argument, the subject, correlates with the role agent and the second argument links to the role patient. Thus, here in the active voice, there is direct linking between the syntactic structures and the conceptual structures of the concerned sentences. By contrast, in passive sentences in (5) there is what is called by Haspelmath (2002) an agent-backgrounding operation by which the role agent is backgrounded in that it is no longer the subject; instead, the patient becomes the subject. Here, all that change is the morphological form of the verbs and their functional structure as

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well as the linking of thematic roles. The verb meaning changes from expressing actions performed by specified actors to expressing events caused by non-specified actors. Nevertheless, the conceptual structure is unaffected. Even though the agent does not appear in the syntax, it is still present in implicitly in the conceptual structure. Sentences in (5) mean that some unspecified agents performed the actions in question and not some agentless entities. Hence, the formalization of the passive sentences in (5 a-d) will be (6 a-d) respectively.

(6) a.

$$\left(\begin{array}{c}\text{CAUSE ([WINDOW],[BECOME BROKEN],[(BY[X]])} \\ \{\text{BY-FORCE}\}\end{array}\right)$$

b.

$$\left(\begin{array}{c}\text{CAUSE ([ROBBER],[BECOME DEAD],[BY[X]])} \\ \{\text{BY-FORCE}\}\end{array}\right)$$

c.

$$\left(\begin{array}{c}\text{CAUSE ([DOOR],[BE OPENED],[BY[X]])} \\ \{\text{BY-FORCE}\}\end{array}\right)$$

d.

$$\left(\begin{array}{c}\text{EVENT([BOOK],[BE READ],[BY[X]])} \\ \{\text{BY-FORCE}\}\end{array}\right)$$

From these formalizations, the agent is present in the conceptual structure even though it does not appear in the syntax. It is backgrounded in the conceptual structure. The X in the formal representations indicates that some unspecified agent carried out the action. Thus, this mismatch between the argument positions and thematic roles in passive sentences is another piece of evidence about syntax-semantics non-correspondence. The role agent is still present in the conceptual structure even though it does not link to any position in the syntax. However, the verb

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in its passive form takes advantage of linking to the role agent so that the linkage here will be from lexicon to semantics instead of syntax to semantics.

1.4. Function Mismatches to Prove Syntax-Semantics non-Correspondence

This subsection presents another piece of evidence where syntax and semantics do not line up. This is in line with the approach of the Parallel Architecture introduced in Jackendoff (1997 and 2002). In the Parallel Architecture Approach, a linguistic expression is taken to be a bundle of different types of information, each with their own structural principles and primitives (Zwarts 2014 p: 1). As we clarified in different places in this research, the Parallel Architecture takes the three main linguistic component (e. i. syntax, semantics and phonology) to be autonomous components with their own principles and primitives. These components are held together by interface rules which leave the gate open for potential mismatches between the syntactic, phonological and semantic structures of sentence (ibid p:2).

In what follows, we will provide some examples from English and Arabic that contain function mismatches. This, of course, will be another piece of evidence about syntax-semantics non-correspondence. Let us consider these examples.

(7) a. Bill threw the ball.

[BILL CAUSE [BALL MOVE] [INTO PLACE]]

b. The car hit the tree.

[CAR MOVE TO CONTACT [WITH TREE]]

c. John entered the room.

[JOHN GO INTO [ROOM]]

d. dakhala khalidun el-baita.

Entered-3ps Khalid-NOM the-house-ACC

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(KHALID GO INTO [HOUSE])

‘’ Khalid entered the house ‘’

e. ʔahdat hindun khalidan kitaaban.

dedicated-3psf Hind-NOM Khalid-ACC book-ACC

(HIND CAUSE [BOOK GO TO] [KHALID])

“Hind gave Khalid a book as a present”

As we notice in the structure of (7a-e), we have the functions INTO and TO which normally correlate with the preposition *into* and *to* in syntax. However, these to functions here do not link to any syntactic category. They are generated autonomously in semantics. This goes in line with the Parallel Architecture Approach which is based on the idea that phonology, syntax and semantics are autonomous linguistic levels that can generate meaning separately. For this reason, and as we see in the structures of (7a-e), syntax has nothing to say about the functions TO and INTO which are generated in semantics.

1.5. Reference Transfer to Prove Syntax-Semantics non-Correspondence

Another linguistic phenomenon that proves syntax-semantics non-correspondence is what is called “reference transfer” (Nunberg (1979 & 1995), Jackendoff (1997, 2002, 2007 & 2012 and Ghalim 2011), Culicover and Jackendoff (2005). Reference transfer is a linguistic mechanism that makes it possible to use the same expression to refer to disjoint sorts of things (Nunberg 1995). By this operation, we use names of things, persons and entities to refer to their counterparts that are contextually related to. According to Ghalim (2011 p: 60), reference transfer does not contain any syntactic trace for the parts referred to in the interpretation. In other words, syntax does determine the meaning of the expressions used as reference transfer. Meaning is contextually determined. However, this phenomenon is not “mere pragmatic” taking place in the linguistic system since reference transfer can have an indirect grammatical trace

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(Jackendoff 2002 p: 388 and Ghalim 2011 p: 60). Imagine, for instance, the Palestinian leader Yassir Arafat attending a play entitled "Palestine in Tel Aviv" and what happened was the following.

(8) Arafat was shocked when he saw himself singing and hugging Sharon.

In (8), the person who is singing and hugging Sharon is the actor playing the role of Arafat and not the real Arafat! Thus, the interpretation of *himself* requires a reference transfer. For this reason, and always according to Ghalim, we cannot claim that what happened was (9).

(9) (On the stage) Arafat was shocked when he saw himself hugging Sharon.

That is, the anaphor *himself* referring to the actor on the stage can refer to the real person, here Arafat, but not vice versa. Thus, since reflexive pronouns are central in syntax, reference transfer related to them cannot be considered mere pragmatic or out of grammar (see Jackendoff 2007 p: 46 and Ghalim 2011 p: 60). It is a linguistic phenomenon that takes place on the level of semantics. The conceptual structure of a sentence involving reference transfer does not link to syntax or any other linguistic component but to short term memory that picks up contextual information related to the event being expressed by the sentence containing the just mentioned linguistic element. This idea will be well clarified by the following examples.

(10) a. Jackendoff is on the top shelf next to Chomsky.

[Interpretation : '*The book by* Jackendoff …']

b. [One waiter says to another]: Tajin of fish wants a cup of tea.

[Interpretation : '*the person who ordered/ is eating* tajin of fish …']

Here, syntax has nothing to say about the intended interpretations of the two sentences in (10). There will be a violation of the conceptual well-formedness if we consider the simple composition alone. Therefore, the perfect interpretation (10a, b) can be paraphrased as (11a, b) respectively.

(11) a. The book on the top shelf contextually associated with its author, Jackendoff, is next the book contextually associated with its author, Chomsky.

b. The person over there contextually associated with tajin of fish wants a cup of tea.

The subjects in (10a & b) refer to the book by Jackendoff and person who ordered or who is eating tajin of fish respectively. However, one may claim that the meaning of the two elements occupying subject position in 10) is lexically polysemous, having an extra meaning and perhaps

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derived by lexical rule from the ordinary meaning, but one certainly does not list this extra meaning in his/ her mental lexicon. It is a mere contextual meaning expressed by what Nunberg calls 'reference transfer' which allows us to interpret *Jackendoff and Chomsky* in (10a) and *tajin of fish* in (10b) (the "source readings") as *the books by Jackendoff and Chomsky* and *the person who ordered or who is eating tajin of fish* (the "shifted readings") respectively. (For more details, see Jackendoff 2002 p: 54).

To sup this subsection, reference transfer is a linguistic phenomenon which proves syntax-semantics non-correspondence. Syntax does not determine the meaning of sentences containing expressions involving this linguistic phenomenon. However, the meaning of such sentences is picked up from the context in which the sentences are produced. Therefore, the interface here is not between syntax and semantics but between the latter component and the outside world. In addition to this, reference transfer, in general, indicates that there is a correspondence between semantics and intentions. In other words, the meaning of an expression of reference transfer is picked up from the intention of the speaker who orients the addressee to an extra intended meaning different from the original meaning the expression in question.

2. Conclusion:

The linguistic phenomena and structures we provided seem to be good pieces of evidence about syntax-semantics no-correspondence. They are good arguments that prove the validity of the Parallel Architecture Approach introduced by Jackendoff. Through these linguistic evidences, we made the idea of no-correspondence between syntax and semantics slightly clear. Meaning is not always derived from syntax but the three main components (i. e. syntax, phonology and semantics) all contribute in generating meaning, either jointly or separately. Thus, the interface between syntax and semantics is not always a bundle of trivial one-to-one correspondence. Semantics generate meaning by linking up to different linguistic and non-linguistic components and not only to syntax as was thought before.

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