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Semantic Roles in Arabic with Reference to English

Majid Hадhir Mohammed

Asst.Prof.Dr. Hasan Shaban Ali

Tikrit University / College of Education for Humanities / Department
of English Language

E-mail: jaa@tu.edu.iq

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Abstract: Semantic role is a term used in syntax and semantics to refer to the semantic relations that link a predicate to its arguments in the description of a situation. Semantic role is the actual role a participant plays in some real or imagined situation, apart from the linguistic encoding of those situations. They also are referred to as "case frames" or "theta-grids". The term functional roles might also be used. These are also called 'case roles', 'deep cases.'

The present study aims at studying the semantic roles in both English and Arabic. It is an attempt to explain the similarities and differences concerning semantic roles as can as possibly in both English and Arabic.

This study starts with the semantic and syntactic analysis and the role of the verb in deciding the semantic role for the noun phrase. After that the historical and literature review of the semantic roles in both Arabic and English. In spite of the similarity in many aspects between Arabic and English with respect to semantic roles but Arabic is quite different from English in many point. It also explains the criteria of identifying the semantic roles and showing the similarity and differences in both languages. The Arabic analyzed data are taken from "Bain Al qasrain" by Najieb Mahfodh.

1.1 Introduction

Undisputable, comprehension of any sentence in any language requires many things such as combining the meaning of individual words with their syntax of the sentence. Understanding of a sentence involves not only the meaning of a single word, but the identification of the relation among the elements of the sentence such as the verb and its arguments. Speakers have to deal with the relation which reflects certain features that are used to make the meaning easier to understand. These relations are called semantic roles.

The semantic role is a term used to refer to the relationship that a participant has with the main verb in the clause. It is also known as the most common or thematic relations. Semantic roles are regarded as one of the most common and simplest forms of lexical sem

antic representation. They also referred to as "case frames" (Fillmore, 1968) or "Thetagrids" (Stowell, 1981). They have a prominent role in linguistic theory. Semantic roles attempt to capture similarities and differences in the meaning of the verb that are reflected in argument expression with emergent generalization that contribute to the mapping from semantics to syntax. Arab grammarians have referred to the importance of semantic relations in parsing of Arabic sentence and how these relations deal with the elements of a sentence. Sibawayhi, (1988:797) paid much attention to the intended meaning and these relations deal with listener's interpretation of the speaker's use of words in order to give the sentence full communication. Hence Al-Jurjanni (1982:129) argued that meaning determines the quality of the style and observed that it would be absurd to attribute eloquence. This study will focus on the effect of semantic roles and how they are important in deciding or choosing the appropriate syntactic structure in Arabic for each case.

1.2 Universality of Semantic Roles

Semantic roles are mainly concerned with noun phrases which are functioning as subjects or objects according to its location. Generally speaking, all languages would consist of a subject at least which stands for certain semantic meaning. Miller (2002:190) explains that the semantic roles which underline linguistic construction reflect the way by which human beings understand and grasp the events and situations. The types of roles which are already referred to in the semantic structure of arguments create a universal well-recognized group of essential notions (Platt, 1971: 63).

This leads to show that all languages have the same set or maxims in clause construction. Cook (1979:121) states that cases configurations should be universal. The verb 'help', for instance, in any language, stands for the meaning that "someone gives a helping to someone else" and the agent – benefactive configuration is recognized in this process regardless of the types of language.

1.3 Deep Structure vs. Surface Structure

The important and basic maxims that should be understood, before dealing with case grammar itself, is to recognize the differences between surface structure and deep structure. These two concepts are taken from Noam Chomsky, who founded them in his *Aspects of the Theory of Syntax* (1965) (Cook 1979: 4). The idea of the two is to distinct structural levels in the language.

Deep structure is the idea produced before a sentence is recognized. It is the deep structure that consists of the relevant words needed for the sentence and recognizes their grammatical relations among them. Fillmore in his work, the 'Case for Case' formulates the structure in the following rule:

$S \rightarrow M + P$

Fillmore (1968) explains that the main ingredients of deep structure of any sentence are "a MODALITY and PROPOSITION "which form the basic structure of any sentence. The (P) constituent is analysed into other elements. It is obvious that part of each case is marker K, which "is a universal part of language which can be recognized as preposition and postposition, (Cook 1989: 5). The second element is a noun phrase. As a result:

$C \rightarrow K + NP$

We find what might be called the 'proposition 'a tense less set of relationships involving verbs and nouns. Separated from what might be call 'modality' constituent .This latter will include such modalities on sentences as-a whole-as negation, mood and aspect...then the first base rule, is

Sentence \longrightarrow Modality + proposition

(Fillmore:1968: 24)

Proposition as Fowler (1971:169) and Plat (1971:16) state, is a way of classifying the arguments of natural language elements into a finite set of participant types which were thought to have a unique status in grammar. In the following sentence, we may reflect the semantic roles for the action verb 'eat' أكل, for example:

The verb is an action verb

أكل الولد الطعام	the boy eaten the food
أكل	The action or the process of the verb
الولد	AG
الطعام	patient

Here there is a physical action which is achieved by the subject (boy)(الولد) affecting a certain entity which is(الطعام) (food).

As already explained, verbs are the essential part in identifying the semantic recognition in the sentence. Verbs are different in their complements, transitivity, and argument structures in sentences. Also they differ in types and number of arguments which they might take. Some verbs are in need for essential complements, they are called "transitive verbs" or "active". The passive voice can be used with this type. The other type of verbs which doesn't need any complement to complete its meaning is called "intransitive verb". Each verb has a certain number of arguments, each one of them bears its distinct semantic role; this will be referred to as argument **structure** of the verb.

Dowty,(1991:550) states that argumental elements in the structure of any VP are essential part of its meaning. These roles would simply echo the meaning of the verb. They are specific and certain selectional restrictions to its arguments (complement of the verb) for each the

meaning of any verb can influence the choice of its argument. Some linguists think that the meaning of the verb, has the same role as its argument “the subject of the verb *hit* has the ‘hitter role’, that of the subject of *kill* is the ‘killer role’, of *build* the ‘builder role’ and so on”

(Ibid, 1991;552).

In his “Case for Case”, Fillmore postulates that the basic syntactic structure of sentences is made up of two constituents corresponding to a MODALITY and a PROPOSITION. The Modality(M) constituent includes such modalities on the sentence-as-a-whole as negation, tense, mood, and aspect. The proposition (P), on the other hand, is said to involve a tense less set of relationships that including nouns and verbs (and may be an embedded sentences) (Bahloul, 2008:8). Fillmore explains that the main ingredients of deep structure of any sentence are “a MODALITY and PROPOSITION "which form the basic structure of any sentence. The (P) constituent is analysed into other elements. It is obvious that part of each case the is marker K, which “is a universal part of language which can be recognized as preposition, postposition, (Cook 1989: 5). Semantic role is part of any sentence in any language or as what is called by Fillmore (1968) case marker "K" which is a universal element of language, that might be realized by " preposition, postposition, or case affix ".

The case system must consist of a smallest possible limited case that will fit for the classification for all the verbs in the language. whoever, the case system should have a universal character which can be applied to any language. Fillmore explains that, “semantic roles provide concepts of the kind that can be used quite directly for expressing semantic assertions about linguistic expressions” (1977, 138). For more details see table (3.1). Many linguists explain various types and numbers of semantic roles. Each one of them is focusing on certain point of view through implying some roles under others. Some linguists have different terminology though they refer to the same semantic roles.e.g. the term ‘affected’ is used by Quirk, etal (1985), while Brown and Miller (1980) use ‘patient’ for the same argument.

2.The Semantic Role Criteria

In the present study we will follow some criteria in attempt to cover the way of how to recognize the semantic roles which exist in any sentence. The criteria which can be followed to identify the semantic functions of most of the semantic roles is reflected by Brown and Miller (1980:293-305) and the semantic roles in the sentence is recognized by answering one of the question (*Who did what(the agent),to whom(patient or recipient) , where(locative) and, with what(instrument)*)

2.1 Wh-Question Criterion

Questions which can be filled by the main semantic roles. Although this method doesn't cover all the semantic roles but, the majority of roles can be figured out through this way. The first part from the question:

Who did what? can be used to recognize the role of {agent}

Who did what? {Agent}

What did John do?

John here stands for the Ag because he is regarded as the doer of certain event. The answer to this question will be the {agent}role which can be recognized as following:

X	Did to	Y
John	sharpened	the knife
Agent	action	patient

What did X do?

John	is sleeping
Agent	V /Action

(X) stands for the Agent.

What did John do?

John is sleeping

Patient role stands for entity which is affected by the action of the Agent. The following question can be used to determine the patient: what did X the {agent} do to {Y}? In the second place of NP what we already called it {Y} stands for the patient role.

What did John do?

What did John do to the knife?

John sharpened the knife.

John	sharpened	the knife
Agent	V /Action	Patient

For Locative role, it can be recognized by answering this question: where did X does Y?

X does Y in Z / the proposition Z here is functioning as locative argument.

Where did Ahmed sleep?

He slept *in his bed*. '*In his bed*' is the location or the locative role.

X		Z
He	Slept	in his bed
Agent	V	Locative

Not all the sentences arguments are in the same consequence, in some sentences the agent would not do anything to the object. In such a situation the function of the object will not be a (patient) , it will be what is called (result) such as in the sentence bellow:

He built a house.

He	built	a house
Agent	Action	Result/Theme

Brown and Miller (1980:291)

As it has been already mentioned the type of the verb can specify the function of the NP in the position of the object such as in the (range)/or as Kreidler (1998:78) states “the linking theme participant”.

Jack	Ran	a mile
Agent	action	Range /Theme

With some verbs the position of the subject is not functioning as agent because it does not do anything to the NP. This NP will function as Brown and Miller (1980:291) Neutral and other linguists call (Theme)

The car	costs	22000 dollars.
Neutral	V/State/Range	Theme/Range

As stated by many linguists, there is no absolute semantic –syntactic adequate correlation for the position of the noun phrase. The position of the subject (subj.) and object (obj.) may change from one sentence to another according to the situation. For example,

Ali broke the door.

Ali	broke	the window
Agent	V /Action	Patient
NP	VP	NP

The door was broken by Ali.

The door	was broken	by Ali
Patient	V/ action	Agent
Subj	Vp	Obj

2.2 Preposition

Another criterion which can be used as marker for semantic roles is by using the prepositions. Liles (1975: 143-144) states that prepositions and word order are the useful devices to realize the nominal functions and syntactic relationship. Some semantic roles such as goal, instrument...etc. has certain prepositions which can be used as indicator for each role .The instrument role is realized by the preposition *with* (Miller, 2002:123). For example,

He opened the door with a key.

He	opened	the door	with a key
Agent	V/ action	Patient	Instrument

The second place where the preposition is useful as a marker can be seen with the role of benactive. This role might be realized by the preposition *for* for example:

She bought a present for her brother.

She	Bought	a present	for her brother
Source	V	Theme	Benefactive

To identify the roles of goal and source, we may use 'FROM' and 'TO' as markers for this sake.

She was coming **her house to school**.

She	was coming	from house	to school
Ag	V /action	Source	Goal

Using the passive voice itself can be regarded as a role marker for certain roles as (Agent) ,(Result) and others. Brown and Miller,(1980:293).

3. Methodology and analysis

The methodology followed in this study is to analyze the sentence identify the semantic functions (semantic roles) of the noun phrase (NP). This analysis will rely heavily on the type and semantic structure of the verb in any sentence. Also, the type of the verb will be classified into two main division (state) and (action). Verbs can have a number of arguments according to the theories of the semantic roles

Semantic role can be regarded as a universal concept because it can be found in all languages of the world. The existence of semantic roles is varied from one language to another, it depends on the semantic features of each language. Fillmore has rejected the traditional idea of that semantic interpretation and it must be kept separate from the syntactic element of language and he stated that certain “facts about language ... have been shown to [be] explainable within a combined syntactic-semantic component” (Fillmore, 1978, 138-139).

Chomsky (1965:162-163) declares that the relation that can be figured in any sentence as grammatical subject cannot be recognized by showing the lexical characters nor grammatical relations of the deep structures. However, these relations can be explained only through the concept of "semantic functions" that is behind the notion of deep structure with regard to the (logical subject) and surface structure (the grammatical subject).

This study suggests that in the basic semantic representation of a sentence the structure of the sentence will not be considered in categorical terms such as (NP,VP, PP, etc..) but it deals with functional terms. The proposition constituent will further expand as the verb to gather with other nodes characterized with some labels (semantic labels) as (instrument) , (patient),(agent), etc.

Accordingly, every sentence has a surface subject in the structure of the sentence. However, unmarked subject would follow this arrangement (agent, instrument ,patient , object, etc..) (Fillmore, 1968:33)

The tree diagram will be helpful to illustrate these functions more clearly. They can be used for representing and analyzing the semantic functions for each NP in the sentence. The hierarchy of the semantic roles according to Vallin (2004:21) is as follows:

Agent>Instrument> Patient > Object>...etc.

The following tree diagram could reflect the distribution of the semantic roles in the sentence:

Ali opened the door with a key.

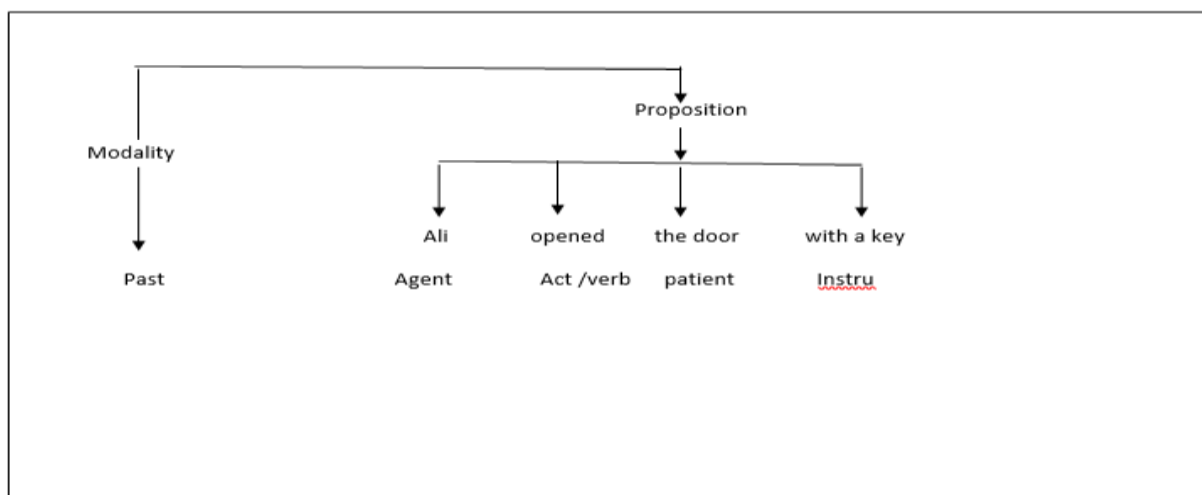


Figure (3.1) tree diagram explaining the semantic roles in sentence.

4. Analyzing semantic roles in Arabic

i. Agent:/ الْمُنْفَذ

When the subj has the agentive role, it is used to specify the thing, person and even entity which does the action (choosingly) or willingly, (Al-Makhzoomi, 1966:90), such as:

(1) ركض كمال / "kamal ran"

Ag involves one of the SRs associated with the entity (animate/inanimate) that exists in either a state, process, or activity to performed the verb. He (ibid :21) also believes that the activity may be either intentional or non-intentional. The following underlined Nps in these examples are Ags in their deep structure (Saad, 1982:20):

The Arab traditional grammarians widely use the term (فاعل) in general. Some Arab modern researchers such as Bu Hallas (2012:114) and Al-araby (2015) used the term (المنفذ) to be used as an equivalent functional term in the same theory. In Arabic, the Ag usually comes as a connected pronoun usually indicated by (ت) or hidden pronoun and it could be recognized through the context. For example,

(2) جاء الأبناء الى الغرفة

(3) فغسلت الاولاني

(4) واجهشت بالبكاء

(5) فشق طريقه الى المنزل

(6) عاد الى المنزل

In these sentence the hidden pronoun is the Ag and it is more explained in the following tree diagram.

ii. Patient(المتأثر) The term patient is alternatively used with the term (affected). Brown and Miller (1980:289) explain that patient is the Np used to refer to the person or entity that changes its state or suffered from the action of the agent. The equivalent Arabic term for the patient is (الضحية / المتأثر) for example,

(7) دس قطعة الحلوى في فمه

8فشدها كمال من يدها)

iii. Instrumental (الأداة/الالة) : The inanimate or sometimes animate thing or entity by which the agent perform an action such as (مفتاح, السكين, etc.).

(9) فأخذتهم السيارة

(10) ففتح المفتاح الباب

iv. Recipient (المستقبل/المتلقي)

This role is alternatively called (Benefactive). It refers to the person or the thing which receives or benefits from a certain event. For example,

(11) دافعت الام عن ام حنفي

(12) كانت امينة توزع العمل عليهما

(13) سامحك الله

v. Locative (الموقع)

It is used to refer to the place or the position of the event or where the action is performed. It is usually paired with prepositions of location. In Arabic it is called (ظرف الزمان). Al-Mutawakel (1986:34) defines Locative as the place where the event took place for example,

(14) جالسة في فراشها

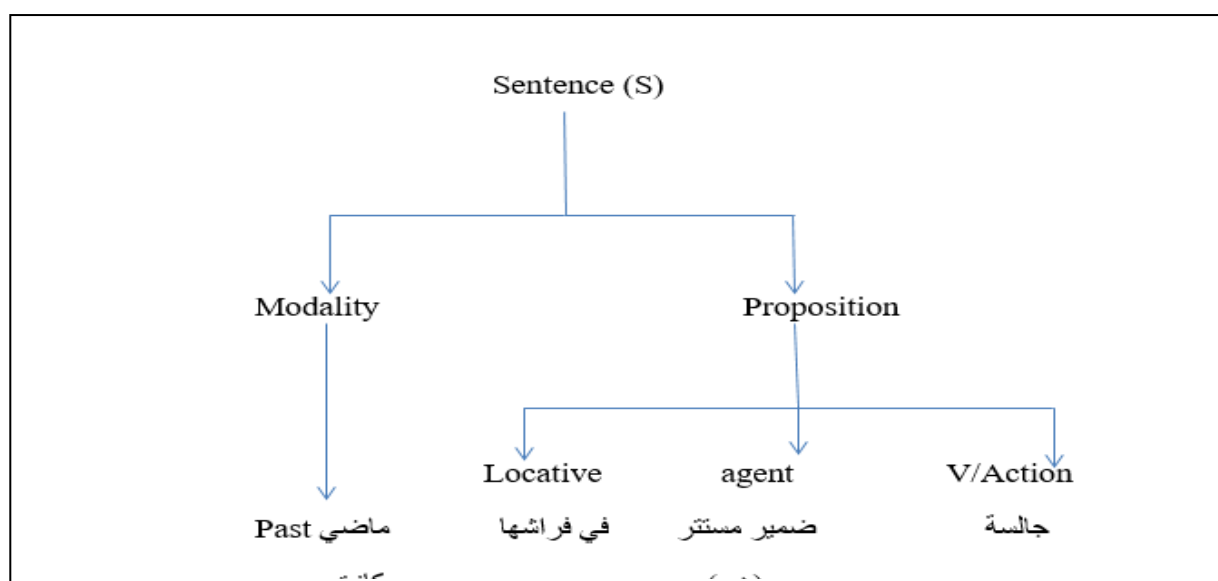


Figure (3.2) Tree Diagram of the Role of the locative

In this example the p.p (في فراشها) represents the place where the events happened. The P.P (في فراشها) is the locative semantic role, and also in example

(15) عند قدمي الرجل.

vi. Goal (الهدف) and Source(المصدر):

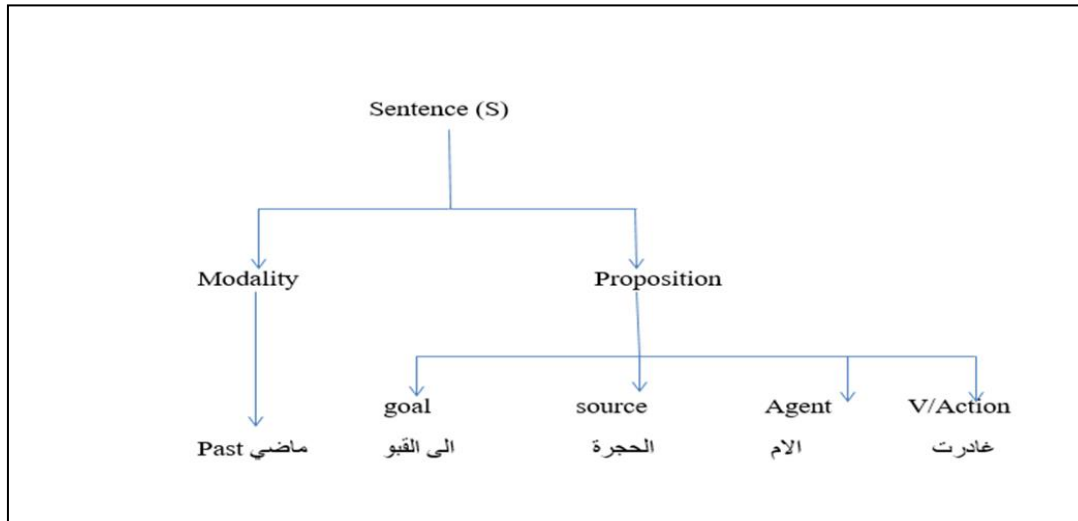
Trask (1993:255) says that term of source is used for the sake of referring to the starting point of the action in concrete or abstract sense. While the term Goal is used for the sake of referring to ending point of the

action. Usually the prepositions (حروف الجر) (الى, من) are used for the sake of indicating that movement. For example,

غادرت الام الحجرة الى القبو (16)

جاء الأبناء الى الغرفة (17)

غادرت الام الحجرة الى القبو



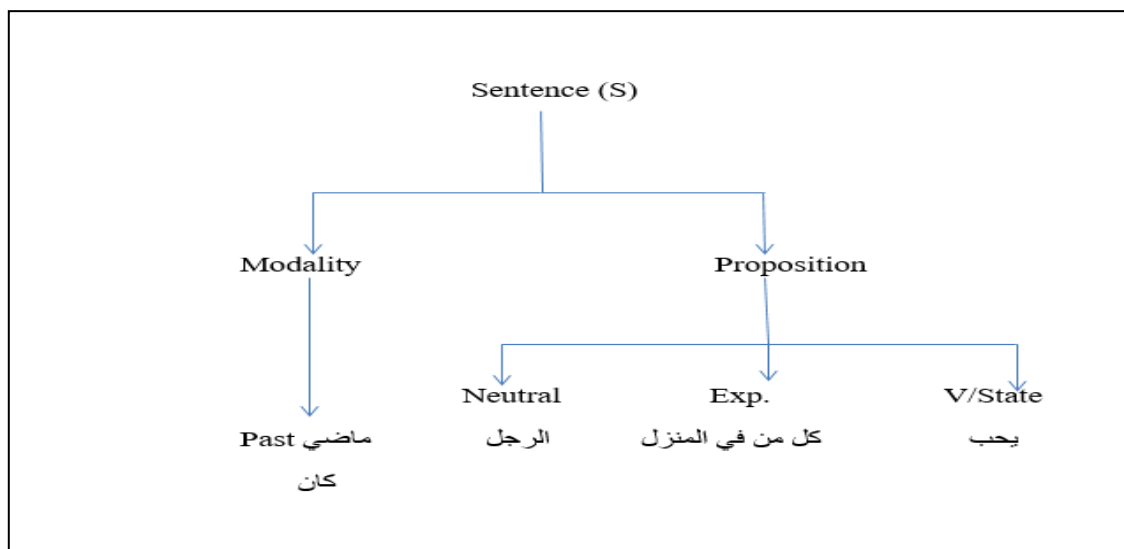
Vii. Experiencer (المتلقي)

The Experiencer, as explained by Trask (1993, 96) refers to the situation when someone undergoes certain feeling or psychological experience which is denoted by the verb.

لم تتألم لمشاعرها (18)

كان كل من في البيت يحب الرجل (19)

كان (كل من في المنزل) يحب الرجل



experiencer in that sentence and in the second one the attached pronoun(ها) is the experiencer.

Viii . comitative (المصاحبة)

This semantic role is concerned with the situation when two entities or two persons are doing certain action at the same. In Arabic the grammarian used the term (المصاحبة). For example,

(20) السلطان فؤاد والإنكليز هم من كسب الحرب

Here Both of السلطان فؤاد و الإنكليز in the process at the same time. The prepositions which are used to explain two things at the same time are used in this process and they are (مع, و).

ix. Neutral (المحايدة)

The neutral semantic roles is used to refer to the person or certain entity (animate or inanimate) which just exists in the situation without any effect on the other participants. It is usually concerned with nominal sentences. It is usually used in describing something. For example,

(21) كانت مريم فتاة مليحة

(22) أضاء المصباح الغرفة

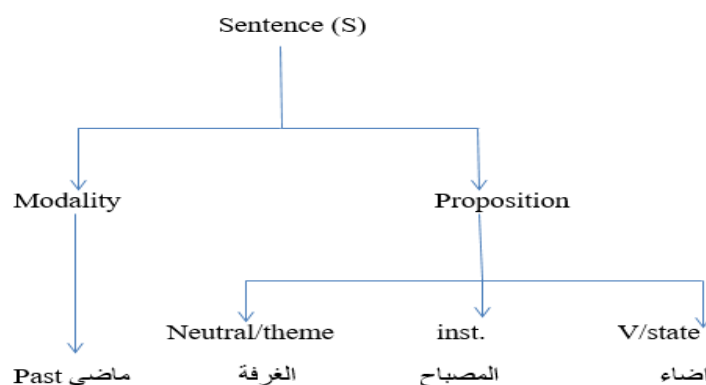


Figure (3.5) Tree Diagram of the Role of the Neutral.

In this sentence (الغرفة) does not has anything to do for the event. It is just functioning as complementary for the meaning of the sentence. Nilsen (1973:149) states that verbs such as look like, marry, resemble, and seem they must have same cases as their arguments. so that the neutral role is the suitable for such cases.

5. Conclusions

Examining the universality of semantic roles is the main aim for this study. The major conclusions of this researching study are the following: There is a wide disagreement among linguists about specifying the terminology of semantic roles. One role may have many terms such as patient, theme, recipients and so on. Arabic tends to use syntactic functions to refer to the agent or subject less than English. In Arabic there is (المبتدأ - inchoative) Np and (الفاعل) for the Np. The more complexity leads to more explicitness in meaning. In both Arabic and English the semantic roles which are concerned with object are less various than those of the subject. Arabic uses certain verbal expressions to refer to the semantic roles to refer

to the time and place. In both English and Arabic there are certain prepositions which are used as indicators for certain semantic roles rather than another. Psychological factor may work as a good motivator for certain semantic roles. Most of the semantic features which affect the semantic roles in Arabic are formal criteria while the in English semantic roles are relying heavily on semantic criteria. Passivation can be found with certain semantic roles rather than another. It can be used as criteria for specific certain semantic role. The semantic features of subject or object noun phrase and the semantico -syntactic features of the verb in the sentence and pattern of the verb and the noun are not the only determinant of the semantic roles but also the presence of particular prepositions such as for, by, at....etc.

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