CHAPTER THREE
RHETORICAL RELATIONS IN ARABIC

3.1 Preliminaries

Natural languages have different rules, grammars, and style of writings that give the language special flavours and characteristics. The Arabic language has its own special flavours and characteristics that need to be formalized to apply theories such as that of Mann and Thompson and others, which are related to the understanding of the structure of the language. RST has been studied on several languages; however, the use of this theory in Arabic language has never been addressed. This chapter deals with this issue. It has two main parts: the first part sheds light on the concept of Rhetoric ('ilm al-balāgha) and its nature in exegetical studies in Arabic, the second one illustrates Mathkour et al.'(2008) approach to set a framework of applying RST on the Arabic Language.

It needs to be emphasized here that Arabic does not have the concept of RST as it is addressed in English. Arabic has a kind of "Rhetoric" or "RST" that is peculiar and unique to it. In the dictionaries, two different words are generally given as translations in Arabic for the word "rhetoric": 'Ilm al-balāgha (the science of eloquence) and al –khīṭāba (the science of discourse). As meta- rhetorical concepts, these terms are prefixed by "ilm" or "fann" as in the compounds 'ilm al-balāgha and fann al –khīṭāba (the reverse order, fann al-balāgha, and 'ilm al-khīṭāba. In most studies explicitly concerned with Arab Islamic rhetoric, al-balāgha tends to be in focus. One can safely say that al-balāgha has received far more scholarly attention than al-khīṭāba.
Also significant is the fact that the Encyclopedia of Islam has no entry for al-khītāba, while there are extensive entries for al-balāgha and on the classical subdivisions that constitute 'ilm al-balāgha. According to Heinriches, rhetoric is a term that has to be taken with a grain of salt in the context of Arab Islamic traditions, but closest to rhetoric is the science of eloquence ('ilm al-balāgha).

Thus, the name 'Arab Islamic rhetoric' refers primarily to 'ilm al-balāgha, a discipline cultivated in scholastic fashion by Abd al-Qahir al-Jurjani (d.1078), Abu Yaqub al-Sakaki (d.1228), Muhammad bin Abd al-Rahman al-Qazwini (d. 1228) and Sa'd al-Din al Taftazani (d.1390).

Al–khītāba, on the other hand, tends to be presented as a foreign discipline, belonging to the tradition of philosophy (falsafā) and of interest primarily to such figures Al-Farabi (Al-farabius, d.950), Ibn Sina (Avicenna, d.1036), and Ibn Rushd (Averroes, d.1198). Smith (1992:20) points out that along side the tradition of 'Ilm al-balāgha there was a tradition of al-khītāba (the science of discourse) which was directly linked to the Greek tradition

(Cited in Hallden, 2005:20)

The distinction can be found elsewhere, for instance, in Georges Bohas, Jean Patrik, and Djamal E. kouloughli's "The Arabic Linguistic Tradition". According to their terminology, al-khītāba is "Greek rhetoric", and 'ilm al-balāgha is "Arabo-Islamic rhetoric". Thus, the distinction between 'ilm al-balāgha and fann al-khītāba is based on the assumption that while the former constitutes an integral part of Islamic theological sciences proper ('ulūm al-dīn), the latter belongs to the tradition of philosophy (falsafā) and therefore is not really representative of Islam.
3.2 The Scope and Character of Arabic RST ('Ilm al-balāgha)

Arabic balāgha is among the pure Arabic sciences, which, according to Ibn-Khaldun, were born in the Arabic environment to serve purely Arabic purposes. One of these purposes is to prevent the Arabic language from the corruption that began to creep into it as new peoples embraced Islam.

'Ilm al-balāgha (rhetoric) deals with the case in which speech perfectly suits the requirements of the situation besides being eloquent (fasīh). Yet, what does suit (mutābaqa) mean? What is the requirement of the situation? (mūqtadā al-hāl?) What is eloquence (fasāha)? Suit, here, means that the speech is suitable with the condition of the listener. "People belong to different classes and their speeches belong to different classes," said Al-Jahidh. This entails that the styles of speech differ according to the condition of the listener.

It is possible, therefore, to say that al-balāgha (rhetoric) is the art that enables the writer or speaker to communicate the intended meanings in correct, clear, and beautiful expressions. The aim is to interest the soul, inspire emotions, and persuade the mind. This is not achieved without a good choice of words and good composition that suit the speech intentions, topics, and the condition of the listener. Those who study 'ilm al-balāgha (rhetoric) have two objectives:

1. Religious objective: to know the miracle of the Glorious Qur'ān; and
2. Educational objective: to illustrate the bases of rhetorical speech, its styles and methods for authors and learners so that they follow them while they speak or write.

The term 'ilm al-balāgha is used for the study of eloquence (fasāha) in general, whether in poetry or in prose, as well as in the written or in the oral modes of expression. In the wider sense, 'ilm al-balāgha may thus be understood as belonging to "literary sciences" ('ulūm al-a dab). It is also
discussed in relation to the notion of "literary criticism" (al-naqd al-adabi). It should not be forgotten, however, that 'ilm al-balāgha was originally a science designed to facilitate the exegesis of the Qur'ān. The long-standing interest in the issue of the so-called 'i'jaz al-Qur'ān, or "the inimitability of the Qur'an" or more precisely, the capacity of the Qur'ān to frustrate all human efforts to imitate or surpass the eloquence of God. In this respect, 'ilm al-balāgha can be referred to as islamically motivated kind of rhetoric.

It is worth noting here that there are categories and concepts traditionally discussed within the science of 'ilm al-balāgha. Based on the influential systematization provided by Muhammad bin Abd al-Rahman al-Qazwini (d.1338), the science has subsequently been classified into the following main parts:

a) 'Ilm al-Ma'āni (the science of meaning, semantics)
b) 'Ilm al-bayān (the science of clarity of language)
c) 'Ilm al-badi' (scheme, ornamentation)

The dichotomy was familiar to Al-Jahidh (d.869) and Ibn Qutaybah (d.889) as well as Ibn Wahb (10th century). Taken together with other significant concepts such as fasāha (fluency, purity of language), 'ilm al-ma'āni, (semantics), 'ilm al-bayān (clearness, eloquence) and 'ilm al-badi' (scheme, ornamentation) would constitute a unique kind of rhetoric peculiar to Islam.

In sum, Arabic balāgha was the result of the conditions and circumstances, which were prevalent in the Arabic context immediately after Islam. It began as an offshoot of exegetical studies, mainly to prove the inimitability or the uniqueness of the Qur'ān. All Arabs were challenged to bring a sura "a chapter like it" and all scholars were concerned with investigating the essence of this challenge. Therefore, the orientation is set out right from the first day for Arabic balāgha to take the mode of textual analysis and textual study mainly concerned with already existing written words.
3.3 Rhetorical Devices in Arabic

In Arabic, rhetorical devices include the arts of tropes and figures of speech. These devices are usually used to create a language "designed to please the senses" (Newmark, 1988: 42). This kind of language serves an aesthetic function as well as enriching the meaning of the text. Siryya (2009:396) states that "rhetorical devices are not only used to beautify the language; they have aesthetic and vocative functions that produce pragmatic effects on the reader". Arabic is rich in such devices which form one of its inherent characteristics. Arab rhetoricians have exerted tremendous effort in analyzing and classifying each difference between these devices. For instance, the distinction between علم البيان 'ilm al-bayān (the science of clarity of language) and علم البدع 'ilm al-badi' (the science of ornamentation) is based on the fact that while the former represents the arts of tropes, the latter includes the figures of speech (ornaments or schemata).

A point to be mentioned here is that these subdivisions correspond to divisions found in the Western systems of rhetoric, as well. The definition of rhetoric as a system of tropes and figures was common knowledge at the time. Hence, Hallden (2005: 27) points out that

it would come as little surprise that, whe they were looking for an equivalent to rhetoric in Arabic sources, Western scholars in the 19th and 20th centuries found that it was the system of tropes and figures within علم البذع 'ilm al-balāgha and nothing else that should be studied.

Western system of rhetoric includes, for instance, equivalents of the branches of البيان 'al-bayān (the science of clarity of language) such as simile [تَذَكَّر], trope [مَاجِذَ], metaphor [تَذَكَّر], metonymy [كَنَّيَة] etc. In Western tradition, علم البدع 'ilm al-badi' is in turn subdivided into figures of speech and figures of expression or thought. This also has its equivalent
within the tradition of 'ilm al-balāgha where a corresponding division between phonologically oriented devices [’al-mūahsīnāt ’al-lafidhīya] and sense devices [’al-mūahsīnāt ’al-maʿnawiyya] is made. Many are easily recognized, as they have counterparts in Western systems of rhetoric: alliteration [Jīnās], antithesis (ṭīpāq], contrast [muqābalah]¹, hyperbole [‘iṭnāb], and so on. There is no room here to go into detail concerning the catalogue of figures of speech and arts of tropes since this is not the concern of the present study. However, they do illustrate the dynamism of RST (‘ilm al-balāgha) in Arabic.

3.4 Proposed RST in Arabic

The applicability of RST to process and understand texts has been studied in several languages. However, there is no discourse analysis using RST in Arabic language. Thus, the present section will show a framework of applying RST on Arabic language in order to rhetorically analyze, understand, and summarize Arabic texts.

The principled aims of the proposed Arabic RST focuses on: 1) rhetorically identifying relations that hold between the units of text and 2) processing Arabic text segmentation, this relies primarily on cue-phrases and manually written rules in order to identify (determine) the elementary units of texts.

As it is indicated in chapter two, the central constructs in RST are rhetorical relations. Text coherence is attributed principally to the presence of these relations. Mann and Thompson (1987) provide a set of around 23 rhetorical relations. The process of identifying rhetorical relations includes corpus analysis. Since the analysis was done on the English corpus, the rhetorical relations that were identified can serve in the processing and analysis of English text. However, there is no guarantee that the same set of relations can work on Arabic language. For example, the two relations "Concession" and "Contrast" are not known in the Arabic rhetoric and literature. These
relations might correspond to the Arabic relation "[‘istidrāk] (Recalling). The following example explain the idea:

We cannot claim that we know the specific scenario;\(^1\) however *wa lakin*, the vagueness and the mysteries that surrounded Iraq for the last 35 years, including the secrets of the beginning and end, invite us to conclude that there is a previously designed plan.\(^2\)

Blair indicated that the justification to going to war for both USA and Britain was not the increase in the capacities of Saddam’s regime,\(^1\) but *wa lakin* the change in the concept of danger for both states.\(^2\)

Because of the difference in the rhetoric, literature and relation concepts between the two languages, the researcher adopts Mathkour, et al.’s (2008) approach to identify the Arabic rhetorical relations. This approach consists of three phases:

1. Studying the English Relations,
2. Analyzing the Arabic Corpus
3. Understanding and using the Arabic Cue Phrases (Connectives)
3.4.1 Studying the English Relations
Some of the Arabic relations are extracted from the English relations. The process of extracting consists of three steps: (1) Picking an English relation, (2) Scanning the Arabic rhetoric and literature references for this relation, and (3) Examining the Arabic corpus to see if this relation is explicitly signalled, it would be added to the Arabic relations list; otherwise, it is ignored (Abdul Mutalib, 2003 and Aubadah, 1983).

![Figure (5): The Process of Extracting the Arabic Relations from the English Relations](image-url)
3.4.2 Studying the Arabic Corpus

The second approach of identifying Arabic rhetorical relations is to search Arabic rhetoric and literature references that have been written by Arabic scholars for the relations that connect the Arabic clauses. These relations fall into two categories:

1. Relations that connect clauses as well as words.
2. Relations that connect clauses only.

The following examples illustrate the two categories:

I have found Muhammad in the car.

This example includes the relation جار ومجرور [jār wa majror] that connect a clause with a word (prepositional link)

In Iraq, the national reconciliation has not been achieved, and wa its future achievement has become more complicated.

This sentence includes a relation "عطف" [‘atif] (JOINT) that connects two clauses only.

The relations that belong to the second category are selected since the principled aim of the proposed RST, as Mann and Thompson's RST, is targeting intersententional (interclausal) relations rather than intrasententional (intraclausal) relations.
3.4.3 Studying the Arabic Connectives

In the third approach, the researcher scans the words that are considered connectives in the Arabic language. Then, she examines the rhetorical relations that they signal and decides whether they belong to the second category or not. In other words, if a relation belongs to the second category, then it is added to the Arabic relations; otherwise, it is ignored. All in all, this approach includes the following steps: 1) Extracting the connectives, 2) Studying the rhetorical relations that the connectives signal, and 3) Making the decision of including these relations (or not) in the list of Arabic relations. Mathkour, et al., (2008: 713) point out that:

As a first stage, we describe the behavior of potential cue phrases / markers that are used in Arabic discourse, and some discourses that contain these markers to determine the characteristics of marker structure such as where to link, what is the post marker, its status, the relation name it belongs to, the action, etc. Then we extend this information to apply the automatic analysis of any text containing some/all of these markers.

At the end of going through the three approaches, the researcher ended up with 20 rhetorical relations shown in table (2).

Note that the rhetorical relations listed below are classified into two main types: Hypotactic (if one unit is more important to the reader than another is) or Paratactic (if both units have the same importance to the reader). The Paratactic-Hypotactic distinction is reminiscent of Mann and Thompson Nucleus-satellite and Multinuclear distinctions.
<table>
<thead>
<tr>
<th>Arabic Rhetorical Relations</th>
<th>Name in English</th>
<th>Type</th>
<th>Explanation</th>
</tr>
</thead>
</table>
| استدرك ["istidrāk]        | Recalling      | Hypotactic   | Constraints on N: none  
Constraints on S: S presents an annotation, which the writer wants to mention in conjunction with the situation in N. |
| تمكن [tamkīn]              | Enablement     | Hypotactic   | Constraints on N: presents an action unrealized with respect to the context of N.  
Constraints on S: none |
| برهنة [barhāna]            | Evidence       | Hypotactic   | Constraints on N: N is a situation, which the reader might doubt it.  
Constraints on S: S presents a confirmation or some evidence to a situation in N. |
| تعليل [taṣlīl]             | Justification  | Hypotactic   | Constraints on N: N is a situation, which the reader needs a proof to believe it.  
Constraints on S: S presents a justification that increases reader's readiness to accept the situation presented in N. |
| ظرف [zaruf]                | Circumstance   | Hypotactic   | Constraints on N: none  
Constraints on S: S provides the surrounding circumstances in which the action occurred. |
| شرط [šart]                 | Condition      | Hypotactic   | Constraints on N: N is a situation, which will be realized in a case of the realization of S.  
Constraints on S: S presents a condition whose realization would lead to the realization on N. |
Constraints on S: S presents an example for a situation in N. |
| تفصيل [tafsīl]            | Explanation    | Hypotactic   | Constraints on N: none  
Constraints on S: S presents an explanation for a situation presented in N. |
| تفسير [tafsīr]             | Interpretation | Hypotactic   | Constraints on N: N is a situation, which the writer wants to convey to the reader, and thinks that it is not clear.  
Constraints on S: S presents an interpretation for a situation presented in N, which the writer thinks that it is not clear to the reader. |
<table>
<thead>
<tr>
<th>Arabic</th>
<th>English</th>
<th>Type</th>
<th>Hypotactic/Paratactic</th>
</tr>
</thead>
<tbody>
<tr>
<td>[wāsīṭa]</td>
<td>Means</td>
<td></td>
<td>Constraints on N: N is an activity. Constraints on S: S presents means(method or instrument) that facilitate the realization of N.</td>
</tr>
<tr>
<td>[sābab]</td>
<td>Cause</td>
<td></td>
<td>Constraints on N: N is an action or a situation that that could have arisen from a cause presented in S. Constraints on S: S presents a cause for the action or situation in the N.</td>
</tr>
<tr>
<td>[natījah]</td>
<td>Result</td>
<td></td>
<td>Constraints on N: N presents some parameters, which leads to the result presented in S. Constraints on S: S is a volitional action or a situation that could have arisen from the parameters of N.</td>
</tr>
<tr>
<td>[gāraḍ]</td>
<td>Purpose</td>
<td></td>
<td>Constraints on N: presents an activity. Constraints on S: presents a situation to be realized through the activity in N.</td>
</tr>
<tr>
<td>[ˈijāz]</td>
<td>Summary</td>
<td></td>
<td>Constraints on N: none Constraints on S: S presents a restatement of the content of N, that is shorter in bulk</td>
</tr>
<tr>
<td>[tazāmun]</td>
<td>Conjunction</td>
<td></td>
<td>Constraints on each pair of N: The items are conjoined to form a multi-nuclear unit in which each item plays a comparable role.</td>
</tr>
<tr>
<td>[muqābalah]</td>
<td>Contrast</td>
<td></td>
<td>Constraints on each pair of N: Two units are linked to form a multi-nuclear unit that expresses the difference(s) yielded of the comparison being made.</td>
</tr>
<tr>
<td>[fasīl]</td>
<td>Disjunction</td>
<td></td>
<td>Constraints on each pair of N: The items are linked to form a multi-nuclear unit in which each item is an alternative for the other(s).</td>
</tr>
<tr>
<td>[ṣātuf]</td>
<td>Joint</td>
<td></td>
<td>Constraints on each pair of N: The items are conjoined to present a multi-nuclear unit that the writer thinks that they are important for the reader.</td>
</tr>
<tr>
<td>[dārij]</td>
<td>List</td>
<td></td>
<td>Constraints on each pair of N: The items are linked to form a multi-nuclear unit in which items are comparable to the other(s).</td>
</tr>
<tr>
<td>[tartīb]</td>
<td>Sequence</td>
<td></td>
<td>Constraints on each pair of N: There is a succession relationship between the situations in the nuclei.</td>
</tr>
</tbody>
</table>

**Table (2): Rhetorical Relations in Arabic**
It needs to be emphasized here that the third approach (studying Arabic connectives) has proven flexible and powerful to determine text elementary units and define rhetorical relations holding between them (see section 3.5.2).

It is true that connectives are crucial in identifying rhetorical relations in Arabic. However, data analysis of the Arabic corpus reveals some instances (spans) in which rhetorical relations arise independently of any textual cues (see chapter 6). For instance, **BACKGROUND, PREPARATION, EVALUATION, OTHERWISE, and SOLUTION HOOD**. Consider, for example, Art no.4, text no.8, span (1-2)

Rhe-rel (1-2 Otherwise)

Reconsideration should be made towards the building of democratic institutions, in determining the responsibility of the three legislative authorities, and in case of dispute, the people are to be the judge.

Rhe-rel (1-2 Preparation)

According to the US President’s announcement, the announced tendency of the new US politicians of the White House will emphasize the necessity to leave a wide margin for the Iraqis to solve their issues away from the direct American interventions.

Rhe-rel (1-2 Solutionhood)

The policy of confrontation and exclusion will not be the best solution for a dissected Iraq in which everyone owns his own army, militia, flag, parliament and region. Today, Iraq is dissected. (See Appendix C)
3.5 Connectives in Arabic

The purpose of this section is to highlight the cohesive category of connectives and their functions in Arabic. Arab grammarians usually refer to the connectives according to their different significance as أدوات الربط ['adawātū al-rabṭ] or حروف العطف [hu:rūfū al-‘aṭf], i.e. connective particles. Sometimes they are treated under the headings عطف نسق [‘aṭf nasaq] "conjunction of sequence" and عطف بيان [‘aṭf bayān] "explicative apposition".

For most of the Arab grammarians, connectives are treated as linking devices, and their function is mainly to coordinate units such as words, phrases, clauses, sentences, etc.

Old classical Arab grammarians were mainly interested only in أعراب [al-‘i‘rāb], i.e. case or mood inflection, in their descriptions of the connectives. That is, the textual function fulfilled by the connectives in discourse has been completely neglected or overlooked. However, recently, the textual function of connectives in Arabic has attracted the attentions of many discourse analysts (e.g. Beeston 1968, Wright 1974, Cantarino 1975, Williams 1989 and Holes 1995, etc.). In his book *The Syntax of Modern Arabic Prose* published in (1975), Cantarino puts forward a full account and detailed analysis and description of the syntactic and semantic features of the cohesive category ‘connectives’ in Arabic. He investigates the different functions a single connective may perform in different contexts. The most commonly used connective particles in Arabic are: و [wa] ‘and’, ف [fa] ‘and/then’, ثم [thumma] ‘then’, أم [‘am] ‘or’, أو [‘aw] ‘or’, لكن [la: kinna] and لكن [la: kin] "but".

In addition to that, Mathkour, et al., (2008) studied the main discourse markers (connectives) used in Arabic language. The set of connectives that they generated are used in the rhetorical parsing of the Arabic text. From the corpus analysis of these connectives, they extract some important features of them. Following are the features:
1. **Status**: specifies the rhetorical status of the units that are linked by the connective. Its value is either satellite-nucleus, or nucleus-satellite.

2. **Position**: specifies the position of the connective in the text. Its value is either beginning, indicating that the connective is located in the beginning of the sentence, or middle indicating that the connective is located in the middle of the sentence.

3. **Action**: specifies the action that the connective has in determining the texts elementary units.

4. **Relation**: specifies the rhetorical relation that the connective signals.

5. **Regular expression**: specifies the regular expression of the connective.

The following example shows the described features of the connectives.

بلاد الرافدين مولد أول الحضارات. 1 حيث اختراع أول حرف وأول عجلة وأول قانون. 2
[bilād u al-rafidein mawlid 'awal al hadharāt. Haithū ixtīraϛ ’awala harfin wa’awala ğjalah wa’awalah kānun]

*Mesopotamia is the origin of the first civilization.* 1 The place witnessed the invention of the first letter, the first wheel, and the first law. 2

1. Status: N-S
2. Position: Middle
3. Action: Normal
4. Relation: تفسیر [tafsīr] "Interpretation"
5. Regular expression (span1/حَيْثُ /span2)
3.5.1 Connectives as Based Approach to Relations Signalling

Aziz (1989), and Mathkour, et al., (2008) point out that Arabic makes frequent use of connectives to build texts. It is to be emphasized here that the phenomenon of "implicit conjunction" is rare in Arabic, where the general tendency is to express explicitly the relationships between the sentences of a text. As it is indicated above, the most commonly used connective particles in Arabic are: و [wa] ‘and’, ف [fa] ‘and/then’, ثم [thumma] ‘then’, أم [’am] ‘or’, أو [’aw] ‘or’, لكن [la:kinna] and لكن [la: kin] ‘but’. These are presented under the following major headings:

3.5.1.1 و [wa] ‘And’

The conjunctive particle و [wa] ‘and’ is the most common connective device in Arabic. It is used to connect words, phrases, clauses, and sentences. Unlike the English and, the Arabic wa is repeated before every item coordinated with the one before, no matter how many items are listed. However, the fact of the matter is that the Arabic wa is not one but several particles, each having a different function.

Holes (1995: 217) notes that:

[wa] is the primitive conjunctive particle: it is the most commonly encountered sentence connective and has the widest variety of uses, analogous in these aspects to English "and". Unlike English "and", however, [wa] regularly functions as a textual, as well as a sentence-connective.

The particle و [wa] in Arabic, like its equivalent in other Semitic languages, often serves to connect two clauses, the second of which describes the state or condition of an element (i.e. the subject or one of its complements) in the preceding clause, or else of a new subject” (Wright, 1974: 330).
It is to be noted here that ُوَ [wa] has various types in Arabic like [wa:w l-ma‘i:ya] or [wa:w l-muSa:Haba], both of which mean the [wa:w] of simultaneous actions and [wa:w al-luzu:wm], i.e. [wa:w] of adherence. These do not concern us here as they occur below the sentence level. However, they do illustrate the dynamism of the connective [wa].

In terms of functions, the connective particle [wa] has subtle and varied functions; it may express one of the following relations:

1. To express additive relations (X and Y), "JOINT"

The conjunctive particle [wa] tend to Joint two adjacent spans, the unit that contains the marker with the unit that comes before. Both units are intended as equally important in the text for the reader, as in:

فيهالك من يجد في مغادرة القوات الأمريكية فرصة سانحة للاعتماد على الذات والتأي بالعراق بعيدا عن الاعتماد على الولايات المتحدة,

Some people find the US Forces pullout as an opportunity for self-defense and wa for taking Iraq away from depending on the USA.

2. To express temporal relations (X then Y), "SEQUENCE"

The conjunctive particle ُوَ [wa] can also be used to express temporal relations between the clauses that it connects, i.e. it links successive episodes in a discourse, as in:

صبت 33 دولة عربية وإسلامية وأجنبية أكثر من مليون جندي في الأراضي وأحكمت البر والبحر والجو، وبدأت حرب استمرت نحو 40 يوما تكبدت خلالها قوى التحالف 377 جنديا و75 طائرة، كان عدد منها ب "نيران صديقة",

Thirty-three Arab, Islamic and foreign states poured more than a million troops in the Gulf land, sea and air and wa launched a war that lasted about 40 days.

Here, the cue phrase ُوَ [wa] is used to signal the successive relationship between the two clauses.
3. To express simultaneous action (X at the same time as Y), (CONJUNCTION)
The conjunctive particle [wa] can be also used in Arabic to express simultaneous action without giving particular topical prominence, i.e. it does not explicitly indicate which happens first, as in:

وفي نفس الوقت عبرت الولايات المتحدة الأمريكية عن رضا عميق تجاه نتيجة هذه الحرب وعند مبادرة غير مباشرة للدور الذي قام به النظام العراقي لتحقيق إيران

*At the same time, America expressed its deep relief concerning the result of that war and wa indirectly blessed the role played by the Iraqi regime to curb Iran.*

4. To express circumstantial relations (X in CIRCUMSTANCE Y)
The connective particle [wa], according to Holes (1995), can be used to signal circumstantial relations between clauses in discourse, as in:

وَقَد أَغْتَدِي وَٰاَلْتَيْرُ ﻓِي وُﻛُنَّاِتِﮭُا

[wa qad'aghtadi walṭyru fi wkunatiha]

*and sometimes I go forth early, wa while the birds are still in their nest*

(Wright, 1974:330)

Here, the discourse marker [wa] is used to connect the two clauses to indicate the surrounding circumstances in which the main action ‘going’ occurred. In this context, it must be pointed out that this usage of [wa] in Arabic is called [wa:w al-Ha:l] ‘when/while’ which is a circumstantial [wa]. As the name implies, [wa:w al-Ha:l] introduces a circumstantial clause that “ has the function of describing a situation which is represented as simply an attendant circumstance to the main statement, or an intention present at that time” (Beeston, 1968:81).
Wright has also noticed the [wa], which introduces a circumstantial clause, is called by the Arab grammarians either 
َوَاَلْحَالِ [wa:l-Ha:l], the wa:w of the state, condition or circumstance or 
َوَاوَلِابْتِدائَة [wa:w al-ibtida:'], the wa:w of the commencement" (1974: 332-3).

Regarding the use of [wa] to introduce a circumstantial clause Beeston (1968:47) notes:

The position of a circumstantial complement may be filled by a clause usually introduced by /wa-/ "and", which here acts as a subordinating particle (sometimes accompanied by other markers, especially/qad/ for the perfect), translated "while", "when", "although", "but", which requires the tense of the verbs it governs be interpreted in relation to the main clause; /kataba maktu:b-an wa huwa  malik-un/ ‘he wrote a letter while (or although) he was a king.

Another point of view is suggested by Cantarino (1975) who considers the connective ِ [wa], which introduces circumstantial clauses, as a coordinating conjunction, despite the fact that it always introduces circumstantial clauses, i.e. subordinate clauses.

5. To express adversative relations (X but Y), "CONCESSION" or "CONTRAST".

The conjunctive particle [wa] is used also in Arabic to express an adversative relation between the clauses it connects. Holes (1995:219) notes:

Without any adverbial support, wa may link two sentences which are overtly or implicitly mutually inconsistent or when the second implies a restriction or concession of some kind on the first.
Cantarino (1975) upholds a similar point of view:

The two sentences connected by the conjunctive *wa* may be, and in fact frequently are, in an adversative relationship, such as ‘but’, ‘yet’ especially when one of the statements is negative. 

This is presented as follows:

The British Commission of Inquiry chaired by Lord Chilcot is a political commission, and *wa* not a court of law.

3.5.1.2 [*fa*] "so", "therefore", "for"

The conjunctive particle [*fa*], according to some linguists, is called the "particle of classification". It indicates coordination together with the idea of development in the text. For Holes (1995), [*fa*] usually betokens a relationship between two clauses or between two paragraphs of a text such that the second clause describes a state or an action which occurs as a consequence of the first one. The discourse marker [*fa*], likes *wa*, has varied functions. It may express one of the following relations:

1. To express result and causal relations:

Arab grammarians regard the conjunctive particle [*fa*] as a signal of causality between clauses where the first clause implies a reason and the second a result. Cantarino highlights the function of [*fa*] as a signal of causal relationship (1975: 23-24)

[*fa*] implies an internal- and logical - relationship between the two coordinate sentences .It may refer back to the preceding statement as a necessary premise for the action of the second…. It may also unite two sentences that have a causal relationship pointing toward the effect, or fact, and its consequences.
In another context, Cantarino (1975: 33) points out that 

[fa] may also be used to introduce an action which is intended as the aim of a previous action, or which is the logical result of an action designed to achieve such a consequence.

Beeston (1968: 56) upholds a similar point of view. He writes

[fa] can be a signal of logical sequence of the train of thought [….] the mind can proceed from a cause to a consideration of its effect, and in this case [fa] corresponds to English ‘so’ as in

When that backfired, America wanted to correct its mistake in the second elections. The results were, therefore [fa], more catastrophic, or that is what we think.

Alternatively, [fa] may signal the reverse of the above, i.e. “the mind can proceed from a phenomenon to a consideration of its cause or justificatory generalization, and in this case [fa] corresponds to English ‘for’ (Beeston, 1968: 56). The analysis of Arabic text identifies [fa] "for" as a marker of "JUSTIFICATION", as in

Rhe-rel (3-4 Result)

Rhe-rel (1-2 Justification)
We hope that the Iraqi politicians pass over the concept of extirpation in their country. The photos of Saddam’s execution have established a serious and sectarian logic that uncovered the extent of the vengeance the supporters of the new Iraq project carry for the Arab national project in the Mesopotamia.

2. To express adversative relations

Like the conjunctive particle ظ [wa], ف [fa] may express an adversative relationship existing between the two clauses/sentences it connects. Within this context, Cantarino (1975: 39) writes:

"fa, like the conjunction "wa", may also connect two sentences that are in an adversative relationship; in such cases, one statement is usually affirmative while the other is negative.

اَفَتِﺶُ عَن كِلَمَةٍ أَقُولُهَا فَمَا أَجِدُهَا

[‘ufattish-u ‘an kalimat-in ’aqu:luha: fama:’ajiduha:]

I search for a word to say, but fa I could not find any

3. To express sequential/temporal relations

The connective particle ف [fa], like ظ [wa], is used to express sequential and temporal relations. Beeston notes that, unlike [wa] that coordinates two phrases, clauses and sentences without implication as to the priority of one over the other, “fa implies what precedes it has some sort of priority over what follows it”. When the priority intended is one of time, [fa] makes the independent stages in a sequence of events, as in:

لكن وبعد سنوات من الدماء وعشرات الآلاف من الضحايا تبين أن السياسة الوحيدة التي تنقذ البلد هي المصالحة الحقيقية والحوار والمشاركة السياسية [fa had’a’t] الأمور وتحسينها إلى ان إنجيل الليل في الجزائر.
But after years of bloodshed and tens of thousands of casualties, it was realized that the only policy that would save the country was real conciliation, dialogue and political sharing. The situation, then fa, calmed down and improved until the dawn break in Algiers.

Note that there is an overlapping between the functions of the two connectives ฯ [wa] and ﻑ [fa], it is thus important to differentiate between them.

Cantarino (1975: 20-21) highlights this by saying:

The main difference between [fa] and the connective particle [wa] is that the latter only joins equally important sentences, stating their simultaneous validity, but without any attempt at internal arrangement or logical classification, [fa], however, implies an arrangement in the narrative. As a consequence of this and in order to indicate fully its actual meaning and function, [fa] should almost always be translated with the connective conjunction “and” plus any of the English adverbs used to express a similar progression and arrangement in sequence, e.g., "so," "then," "thus", etc.

Beeston (1968: 56) upholds the same point of view and writes:

[…..] and whereas [wa] simply links two items [sentences / clauses] without implication as to the priority of one over the other, [fa] implies that what precedes it has some sort of priority over what follows it.
3.5.1.3 [thumma] ‘Then’

The connective particle [thumma] is one of the commonly used particles in Arabic. Like [wa], [thumma] can signal sequential action. The difference between the two particles is indicated by Holes (1995: 220-21) as follows:

The difference between the two [……..] is that thumma marks a new development, event, or change of direction in the action described in the narrative […] thumma acts as a superordinate staging marker for the narrative as a whole; wa adds information within each of the narrative frames thus created without taking the narrative forward…

Cantarino (1975: 35) highlights the difference between the connective particles, [fa] and [thumma]:

The conjunctive particle thumma emphasizes the sequence existing between two structurally independent statements as an interval, contrary to fa, which stresses the connected series; thus, before [thumma], a pause or an interval in the narrative to be understood.

In terms of functions, unlike the preceding two conjunctive particles [wa] and [fa], [thumma] has only one function. It is used to signal a temporal relation

Rhe-rel (1-2 Sequence)

Our forefathers said: how could man enslave people, when they were born free? Then thumma the great French philosopher Jean Jacques Rousseau came afterwards to say: Man is born free but only to be chained with shackles.
Cantarino (1975: 38) also believes that [thumma] ‘then’ may introduce a logical sequence; in this case, it always has an emphatic character. [thumma], according to him has another function; it is sometimes used to introduce “development in the narrative, it will precede the dependent clause when this precedes the main clause”. The following example would demonstrate this:

أشتريت كتاباً ثم ذهبت ناحية ركنٍ في قهوةٍ

[ištaritū kitāban thamīnan thumma dhahibtū nahiyatah rūknin fi qahwatin]

I bought the book at a high price, and then thumma I went to a corner at a coffee house.

3.5.1.4 [lākinna] and لكن [lākin] ‘But’

The prototypical adversative connective in Arabic is لكن [lākinna]. Both لكن [lākinna] and لكن [lākin], which is another version of [lākinna], are said to denote the general meaning of what is called by Arab grammarians [‘istidrāk] ‘concessive’, i.e. particles that signal an adversative meaning.

Various linguists highlight the difference between the two particles [lākinna] and [lākin]. Aziz, for example, notes that Arab grammarians derive [lākin] from [lākinna], they state that the main difference between the two is syntactic; [lākin] introduces a clause beginning with a verb, whereas [lākinna] introduces a clause beginning with a noun or pronoun. The noun following [lākinna] is placed in the accusative (objective) case. The semantic implication of these connectives is that the second clause expresses adversative relation (1989: 212).

Similarly, Cantarino notes that Arab grammarians consider the particle [lākinna] as the basic form, whereas [lākin] is seen to be the lightened form derived from it. Arab grammarians do not go into detail in discussing the differences between the two particles in terms of scope and functions.
However, when reading unvocalized text, Cantarino (1975: 39-40) asserts that:

> It is not always possible to determine which is meant, and while only [la:kin] may be used immediately preceding a verb, it cannot be stated that the opposite is the rule, that is to say, that only [la:kinna] should be used preceding a noun.

These connective particles are regularly preceded by one of the properly cue phrases [wa] or [fa]. In this context, Cantarino (1975: 45) writes:

> [la:kinna] actually precedes the sentence without having any ties which might structurally connect the particle with the sentence. Hence, Arabic may use this particle to introduce clauses in adversative relationship to the preceding situation or statement, even in cases when the subordinate precedes the main clause. In the instance, the main clause is introduced by the conjunctive [fa] or, at times, also by [wa].

In terms of functions, the two conjunctive particles [lākinna] ‘but’ and its derived form [lākin] are very frequently used to express an adversative relationship to a preceding statement or situation. Consider the following examples:

وكان النظام في العراق يعتمد على محاولة إعادة العراق إلى النظام الديمقراطي، ولكن التغييرات السياسية التي حدثت في العراق حالت دون ذلك.

The regime in Iraq was based on a parliamentary representation until 1958. After 14 July Revolution, there were efforts to restore Iraq to a democratic system, but [la:kinna] the political changes that occurred in Iraq prevented that from taking place.
It must be pointed out that the adversative relationship is sometimes obscured by the use of the additive connective [wa] in place of an adversative particle (see section 3.5.1.1) A case in point is a suggestion put forward by Cantarino who notes:

Adversative constructions are very frequently coordinated by the conjunctive particle [wa]; only the adversative meaning of the two propositions will reveal the actual nature of the construction.

(1975: 39)

The current analysis of Arabic data illustrates the use of [wa] as a marker tends to CONTRAST between two adjacent units. The unit that contains the marker with the unit that comes before. Art no.3, text no.1, span (3-4) demonstrates this:

Rhe-rel (3-4 Contrast)

Conversely, others depend on a new strategy in Iraq: more attacks and, then, heavy losses in the ranks of the US Army. 1 Wa another party depends on the military escalation on the streets of Baghdad: more car bombs. 2

3.4.1.5 أو [’aw] and أم [’am] ‘Or’

The disjunctive connective أو [’aw] "or" is the prototype of disjunctive conjunctions, whereas أم [’am] "or" is the prototype of alternative interrogations in Arabic. Beeston (1968: 57) describes one of its basic functions as follows:
[‘aw] is a connective linking two items which are mutually exclusive possibilities, of such a nature that they could be marked in English by [the correlative conjunction] "either … or alternatively …." Modern usage, however, tends to extend the use of [‘aw] to all contexts where English uses "or". And just as in English "or" can be reinforced by a preceding "either", this can be represented in Arabic by [‘imma:].

To illustrate this, consider the following example

الانتخابات العراقية الأولى سلمت البلاد إلى الأحزاب الطائفية الأصولية، أو بالأحرى كرست وضعًا قائمًا استند له الإدارة الأمريكية ودعمته،

Rhe-rel (1-2 Disjunction)

The first Iraqi elections handed the country to the radical sectarian parties;¹ or ُaw rather they set up the status quo established and supported by the American Administration.²

Cantarino (1975: 49) emphasizes that:

[‘aw] is the general and most frequently used disjunctive conjunction. It can be found in any position when a disjunctive is to be expressed; however, it can only be used in affirmative or interrogative sentences [...] [‘aw] may also connect a sequence of two or more dependent clauses with a disjunctive meaning.

The prototype of alternative conjunctions is أم [‘am]. The function of [‘am] is summed up well by Cantarino (1975: 50) who suggests that [‘am] “generally introduces the second of two interrogative sentences presenting an alternative. Contrary to [‘aw], [‘am] frequently implies a condition of exclusion in one of the two sentences.” The following example introduces more than two alternatives:
Is it the US stupidity, 'am Iranian cunning, 'am Arab shortsightedness, 'am Israeli slyness, 'am or all these together?

3.5.1.6 بَﻞ [bal] "nay" "in fact", "even"

The connective particle [bal] is used to rectify or emend the previous clause. Wright (1974:335) notes that after a negative proposition or a prohibition, [bal] is said to express [´istdrāk]. It further denotes digression [idhrāb] or turning away from what preceded after an affirmative proposition or a command.³ Consider the following example:

عراق لم يكن خارج إطار النظام الديمقراطية في التاريخ الحديث والمعاصر بَﻞ هناك نظاما

١٩٢٥ .

Iraq was not away from Democratic systems in modern and contemporary history. In fact bal there was Royal Constitutional Democratic system according to 1925 constitution.

Similarly, Aziz (1989: 213) points out that the connective [bal] expresses two main senses: adversative relation and reformulation of what has been stated as in:

حدث الغزو الانشراح الأكبر في جسم الأمة العربية، صارت هناك دول مع صدام ودول ضدهم، دول

مع الكويت وأخرى ضدهم، بل اختلفت بعض الدول بين مواقفها الرسمية والشعبية.

The invasion caused the widest crack in the body of the Arab nation: some states sided with Saddam and others against him; some states sided with Kuwait and others against it. Some state even bal had differences between the official and popular stances.

بَﻞ [bal], according to ‘Al-Sanie (2005) and the present data analysis, has another function; it is sometimes used to present a conformation (Evidence) that increase reader's belief of the situation, which s/he might doubt it.
These are the prototypical connectives of spatial and temporal relations in Arabic. That is, they express "CIRCUMSTANCE" relation as it is identified in Mann and Thompson framework of RST. These discourse markers set a spatial and temporal framework in the subject matter within which reader is intended to explain the Circumstance of the adjacent unit. The corpus analysis of the present study illustrates the following examples:

Blair avoided confronting the masses who wait for his conviction. At 7:30 a.m., he came and entered Queen Elizabeth Building in London, where hyathū the inquiry takes place, (spatial framework)

The engineers of the last war against Iraq, the neo-conservatives and their supporters and affiliates, the Arabs in particular, used the pretext that Iraq owned WMD to justify their aggression. When 'indama that lie was made clear with practical evidence, they raised the slogans of democracy and human rights to justify their invasion, (temporal framework)

It is to be noted here that the connective particles فَ [fa] and وَ [wa] when followed by one of these post markers حينَ [hīná] حيثُ [hyathū]. The unit explains the Circumstance of the unit that comes before. These markers occur in the beginning of the second unit. The first unit is more important for the reader.
These connective particles are the prototype of conditional clauses, open and rejected. Open condition is usually indicated by the connectives [idha] إذا and [in] إن while rejected condition is signalled by [law] لو and [lawlā] لولا. The corpus analysis of the Arabic data reveals the following examples:

If wa law we go back to questioning the causes, objectives and intentions, we would not find satisfactory answers that would justify all that destruction and Arab dissection that accompanied the nation for nearly a decade.

Aziz (1989:224) points out that the connective إذا [idha] occupies a place between condition and time, and it is rendered into English by "if" or "when". The following example demonstrates this,

Theoretically, Dr. Allawi and his Sunni, both Arabs and Kurds, has the support of the US Forces, 20000 soldiers present currently in Iraq, if idha needed. Or when idha needed.

[3.5.1.9] kay, likay, لكي, and [li], ل "to", "in order to"

are usually introduce "PURPOSE" clauses in Arabic. However, the data set under investigation identify the letter ل [li] as a prototype of signalling purpose relation, as in

Mr. Noori Al-Maliki, current Prime Minister, has threatened to use violence, when necessary, li to prevent Allawi from replacing him in the government.

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It needs to be emphasized here that Arab grammarians mainly use لَّي [li] for [taṣlīl] "JUSTIFICATION" and occasionally for "PURPOSE". Wright (1974:291) emphasizes that there are two senses of لَّي [li] in Arabic, "Purpose" and "Justification", as follows

This لَّي is identical with the preposition لَّي used [li’ta’lil] to indicate the purpose for which, or the reason why, a thing is done; and hence the Arab grammarians take it to stand in all cases for the fuller لَّي لَّكَ [li’anna’] or لَّي لَكَ [likay].

Arab grammarians further indicate that purpose clauses are usually introduced by a "non-finite" form of the verb or rather a noun in the objective case. Aziz (1989: 225) presents the following example:

سافر أحمد إلى الخارج سعياً وراء العلم
[sāfara Ahmed ila l-xarij saṣyan warā’ al-ʿilm]
Ahmed traveled abroad in search of knowledge.

3.5.1.10 [bisabab] بَسْبَبِ and لَّآنَ لَّي [li’anna] "because" or "for"

The unit containing this type of connectives aims at giving CAUSE or JUSTIFICATION to the unit that comes before. These markers occur in the beginning of the second unit. The first unit is more important for the reader than the second, which merely gives the reason for the action or situation in the first one. For example,

وأضاف أن شن الحرب على العراق بدلاً من إيران كان يسبب التجاهل العراقي للقرارات الدولية.
He added that the war was launched against Iraq instead of Iran because bisabab Iraq flouted the international Resolutions.

هذه الأخبار تمر مر الكرام في كثير من الأحيان، لَّآنَ معظم الضحايا هم من الأطفال.
These pieces of news mostly passed unnoticed because li’anna most of the casualties were Afghans.
3.5.1.11 [li-dhālika] 'therefore', [natījatan li-dhālika] 'as a result', and [lidha] 'so', 'thus'

These markers signal the rhetorical relation "RESULT". This class of markers links the current unit (containing the marker) with the one that comes before. Both units are important for the reader. For example:

There were subjective warnings that the nationalist and leftist currents would hinder the American efforts during the ousting of Saddam’s regime.¹

The choices were, therefore wa li-dhālika, made on sectarian and ethnic base.²

3.5.1.12 [mithalū dhālika] مثال ذلك [mathalan] مثالاً [galā sabīl al-mithāl] على سبيل المثال 'for example' or 'for instance'

This class of markers indicates that the unit containing the marker (say 2) elaborates or explains (with examples) the unit comes just before (say 1). The first unit is more important for the reader whereas the second unit tends to add some information for elaboration purpose. For example

The American party could have fallen prey to wrong, fabricated, and sometimes exaggerated information offered by Iraqi opposing movement.¹

Among these wrong information, for instance mathalan, the warning against reliance on forces, social and political individuals well-known in the circles of the Iraqi people and national forces.²
Similarly, the unit containing these markers [ẓalā wajh al-xuṣṣ] (particularly), [‘axuṣu bildhkr] (especially), and [xaṣatan] (in particular) Elaborates (with particularizing) the unit that comes before, as in

ومن جانبية. ذكر تشيلكوت أن انخراط بريطانيا في هذا النزاع الذي لا يحظى بشعبية يظل موضوعاً مثيراً للانقسام والتأثير الشديد (خصوصاً بين أهالي لـ179 جنديا بريطانيا الذين قتلوا في العراق)²

Rhe-rel (1-2 Elaboration, generalization: specific)

Chilcot, on the other hand, mentioned that the involvement of Britain in this non-popular conflict remains a topic of divisive and highly emotional nature, especially xuṣṣan for the families of the 179 British soldiers who were killed in Iraq.²

3.5.1.13 [‘ammā] أَمَا، [wa lyisā] وليس، [wa lā] لَا وَلَا

These markers tend to CONTRAST between two adjacent units. The unit that contains the marker with the unit that comes before. These types of markers occur in the beginning of the second unit (say 2). Both units are important for the reader. If the marker is [‘ammā] أَمَا, the post marker [fa] (فَ) must follow it and the current unit (say 2) should be bound with the first comma. The data under investigation identify the following examples:

العراق الجديد هو هيكل فارغ بلا روح تتنازعه المليشيات، أَمَا المقاومة فهي مطاردة من الجميع²

New Iraq is a hollow body that has no soul and which is torn by militias.³
‘ammā the resistance is pursued by all.⁴

The British Commission of Inquiry chaired by Lord Chilcot is a political commission,¹ and wa lyisat not a court of law.²
3.5.1.14 ['ay, 'that is to say', haythū, 'this means'

This class of markers indicates that the unit containing the marker (say 2) *Interprets* the unit comes just before (say1). The first unit is more important for the reader whereas the second one tends to add some information for interpretation purpose.

On the other hand, the Iraqi politicians are divided into supporters or opponents.¹ *haythū* The viewpoints vary in a manner that invites everybody to think of the seriousness of the alleged announced US pullout and the consequences of this decision on the Iraqi view.²

3.5.1.15 [fi al-xitām ' in short ' in sum' or 'briefly', *mujaz al-qawl* 'to summarize'

These markers signal the rhetorical relation *[ījāz* (Summary). The unit containing the marker (say 2) presents a restatement of the content of the unit comes just before (say 1), which is shorter in bulk.
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Table (3): Connectives that signal Arabic Rhetorical Relations
3.5.2 Connectives as Based Approach to Arabic Text Segmentation

Text segmentation is one of the important units that many languages processing applications need (Beeferman et al., 1997; Marcu, 2000; Agichtein and Ganti, 2004; AL-Sanie et al., 2005; Golcher, 2006). The importance of text segmentation and its wide range of applicability in various automation activities ignited research in the segmentation process in different languages such as English, French, Chinese, Polish, and Spanish. However, limited research has been done in Arabic text segmentation. This may be due to the special flavour and characteristics of the Arabic language. The technique used to segment Arabic text is based on the connecting words (connectives) between sentences and clauses as Arabic writers in known literature usually use them. For this purpose, an extensive analysis of various Arabic texts has been conducted. The analysis is to realize the functionalities of the connecting words and their variant usages in terms of separating stand-alone segments in the Arabic text. Touir, A.A. et al., (2008:1010) write

Our technique that we suppose here is based on understanding the functionalities of the connectives in the sentences and clauses in Arabic corpus. It introduces the notion of active and passive connectors to draw a methodology to segment Arabic texts while preserving the semantic of its constituents.

This technique has lead to a categorization of passive and active connectives. The introduced notion of active and passive connectives has been used to develop an algorithm that respects the semantics of the text to identify the segments of a given Arabic text. The algorithm has been employed in segmenting various Arabic essays. The results were compared to that of manual segmentation performed by linguistic experts. The performance of the algorithm was in line with the manual segmentation that was performed by the linguistic experts.
Before building the rhetorical relations, the text units (spans) should be determined. Since rhetorical relations are signalled by specific connectives, the determination of text units is based on connectives too. Connectives are thus considered as the determiners of units boundary. Each connective has a specific action on determining the text units. Al-Sanie (2005: 36-37) reviews the actions of Arabic connectives as follows:

1. **Normal (Active)**: add a unit boundary before the connective.

2. **Normal then comma**: add a unit boundary before the connective and another unit boundary after the first occurrence of a comma, semicolon, or end of statement. If a comma is met and followed by connectives that correspond to *and* [wa] or *or* [‘aw], add a unit boundary after the next occurrence of the three markers.

3. **Dual**: same as the action normal if the connective is not preceded by another connective, action normal then comma is applied otherwise.

4. **End**: add a unit boundary after the connective.

5. **Nothing (passive)**: this action is associated with connectives that do not signal rhetorical relations, but help other cues in determining the text units.

   In case of a connective that is followed by another connective, the first one is considered as the unit boundary determiner if its action is not passive; and the second that follows is by passed. The following example illustrates the case:

(العراق لوحة فسفسانية من الأطيا ف والمكونات القومية والدينية والتجارب السياسية التي مربها
(العراق).1) (لذ ذلك ف الظان الندرالي هو النظام الأمثل للشعب العراقي.)2

*Iraq is a mosaic tablet of sects, nationals, religious, ideological components, and political experiences that Iraq went through.* Therefore *li-dhālika fa*, the federal system is the best for Iraqi people.*
In this example, two connectives (underlined) exist in unit 2, the first one "لذلک" [li-dhālika] "as a result" signals the relation [natīja] "نتيجة" (Result), and the second one "ف" [fa] "therefore" signals the relation [taqṣīl] "تعليل" (Justification). The analyst will consider the first connective as the unit boundary determiner as well as a signal of the rhetorical relation for the span (1-2).

In case a positive connective follows a passive one. The second connective will determine the text unit boundary based on its action; however, the unit determiner is put before the first one that has the action nothing (passive). Span (3-4) from Art no.8, text no.6 highlights this context:

1. He (Blair) added that the war was launched against Iraq instead of Iran because Iraq flouted the international Resolutions.

In this example, two connectives (underlined) exist in unit 2; the first one "كان" [kāna] has the action nothing and does not signal a rhetorical relation, and the second one "سبب" [bisābab] (because) signals the relation [Sabab] "سبب" (Cause). Thus, the second connective will determine the rhetorical relation for the span (3-4), and the first connective will determine the text unit boundary.

3.6 Arabic Relations Taxonomy

The Arabic relations are classified, in terms of the units they connect, into binary and bulky relations. Binary relations connect two units, while bulky relations connect one unit with one or more units. The relations "نتيجة" [natīja] (Result), and "مثال" [tamthīl] (Example), are examples of bulky relations. The relation "نتيجة" [natīja] (Result) normally connects one unit as a result of one or more units. Consider the following example:
Several political figures have expressed their readiness to participate in political process. They have indicated that the Iraqi folder is currently subject to internationalization, the most prominent party of this process is USA. Therefore li-dhālika, the interests of Iraq and its people, require dealing with the USA as long as this dealing is concerned with the interests of the two parties.

The relation ""[tamthīl] (Example) normally connects one unit with one or more units that are facts. Consider the following text spans:

The federal state is the most appropriate form of states in response to the requirements of the age. It helps, to establish larger states and may include non-homogeneous peoples together. It is also a certain means of tolerance and coexistence between the various vacations. States like, for example, United States of America, Canada, Russia, Germany, Australia, India, and the Union of South Africa give this system an increasing interest.

In this example, unit 5 is related to all the preceding units; it is an example of the facts mentioned in 1, 2, 3, and 4.
Note that the position of connectives will signal bulky relations in one of these two cases:

1. If the connective that signals the bulky relation comes in the first unit of the paragraph, this unit is related with all the subsequent units up to the end of the paragraph.

2. If the connective that signals the bulky relation comes in a unit in the middle or the end of the paragraph, this unit is related to all the preceding units.

Binary relations, on the other hand, connect two units; "شرط" [šarṭ] (Condition), "تعليل" [tačlíil] (Justification) "استدراك" [‘istidrāk] (Recalling) and "تفسير" [tafšīr] (Interpretation) are examples of such relations. Consider the following examples:

Rhe-rel (1-2 شرط // Condition

Blair explained that in case Saddam was freed from the international sanctions,¹ he would have continued the WMD program used to be owned by his state.²

The federal state is the best for the Iraqi people¹ because it is the system where people will become the source of authority and its legitimacy.²
The federal state is a united state like other countries,¹ but they share the desire for unity and preserve the internal independence.²

On the other hand, the Iraqi politicians are divided into supporters and opponents.¹ The viewpoints vary in a manner that invites everybody to think of the seriousness of the alleged announced US pullout and the consequences of this decision on the Iraqi view.²

3.7 Parallelism as a Discourse Structuring Device

In Arabic, sentences are styled in parallel construction to make a rhetorical argument. The structure is focused more on coordination, than the subordination of English sentences. One could say that parallelism represents an essential means of establishing cohesion in Arabic text.

Kaplan (1966) pointed out that Semitic languages, of which Arabic is one, tend to develop the text based on a complex series of parallel constructions in the field of meaning. He writes:

> In the Arabic language, for example (and this generalization would be more or less true for all Semitic languages), paragraph development is based on a complex series of parallel constructions, both positive and negative”

(Kaplan, 1966:15)

Kaplan discovered four types of Parallelism:

1. **Synonymous Parallelism**, which is the balancing of the thought and phrasing of the first part of a statement or idea by the second part. In such cases, the two parts are often connected by a coordinating conjunction.
In Iraq, the national reconciliation has not been achieved, and its future achievement has become more complicated. (Art.9, text.14, span (1-2))

2. Synthetic Parallelism, which is the completion of the idea or thought of the first part in the second part. A conjunctive adverb is often stated or implied.

Because 2 Aug. 1990 gave birth to 9 April 2003, the dark anniversary of the occupation of Kuwait was the dark anniversary of the occupation of Iraq. (Art no.2, text no.15, span (7-8))

3. Antithetic Parallelism, the idea stated in the first part is emphasized by the expression of a contrasting idea in the second part. The contrast is expressed not only in thought but often in phrasing as well.

Instead of achieving peace and establishing a democratic, stable and safe regime, as Bush has promised, Iraqis face death and oppression every day on the streets, workplaces and homes. (Art no.8, text no.4, span (3-4))

4. Climactic Parallelism, where the idea of the passage is not completed until the very end of the passage. This form is similar to the modern periodic sentence in which the subject is postponed to the very end of the sentence.

(Fحسب ما أعلنه الرئيس الأمريكي،) (بدأ التوجه المعلن لدى الساسة الجدد في البيت الأبيض تأكيدهم على ضرورة ترك هامش متسع لل العراقيين لحل قضاياهم بعيدا عن التدخلات الأمريكية المباشرة.)

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According to the US President’s announcement, the announced tendency of the new US politicians of the White House will emphasize the necessity to leave a wide margin for the Iraqis to solve their issues away from the direct American interventions. (Art no.5, text no.2, span (1-2))

Note that the type of parallel construction here is illustrated by single sentences. This forms the core of paragraphs in some Arabic writing. Obviously, such a development in a modern English paragraph would strike the English reader as archaic and awkward, and more importantly it would stand in the way of communication. It is important to note that in English, maturity in style is often gauged by subordination rather than by coordination. Similarly, Koch (1981) suggested that parallelistic discourse serves not only to evoke, but also to create paradigmatic structure and that parallelism is thereby one of the central processes of Arabic language.

To show that parallelism can be a discourse-structuring device, Koch (1981) gives a long review of some ethnographic studies namely that of Jacobson in which he described that parallelism is one of the characteristic feature of the poetic use of language. Then, she observes that this runs counter to the traditional western notion that parallelism is a figure of speech, and hence ornamental rather than intrinsic to the organization of the text. In the course of her argument, Koch (1982, 49-50) makes the following observations about parallelism,

"Parallelism is always hierarchical; it always involves repetition on the higher level, and the evocation and creation of paradigmatic structure on the lower level.. Parallelism is precisely the way paradigms are created. Elements which are members of the class of "things that differ in a repeated frame" are interpreted by readers and listeners as also being members of a common higher level class, or paradigm of some kind."

(Cited in William, 1989: 62)
Koch (1981) observes that there are two kinds of repetition at the clause level: the repetition of form, which is parallelism, and repetition of substance, which is called paraphrase. She states that the use of repetition shows very clearly the dynamic use of parallelism to create new classes and to convince by weight of presentation rather than as a result of syllogistic or enthymematic 'logical' presentation.

Koch's work is interesting for it shows that parallelism is not simply a figure of speech but it is also a clear and elegant example of one of discourse-structuring devices in Arabic.

**3.8 Text Coherence**

Coherence determines what makes sense in an utterance. There are two main rival directions in the research on text coherence. One of them investigates referential, or topic, continuity and is concerned mainly with the content of the discourse. From this point of view, a discourse is coherent if it refers to the same, perhaps abstract, entity. The reference may take various forms, such as a stereotypical situation, or semantic links between discourse segments.

The other direction, called the discourse structure approach, is concerned not with what goes on inside discourse segments, but rather with the segments themselves and with their interrelationship. According to the building of rhetorical relations based on connectives, the relations are defined to hold between two non-overlapping text spans. This rhetorical representation misses some important relations hold between units that are not adjacent. Dealing with building the rhetorical relations between text units recalls what Marcu stated, "an accurate determination on elementary units of a text and of the relations that hold among them is beyond the current state of the art in natural language processing" (cited in Al-Sanie, 2005: 39).
To solve this problem, Mathkour, et al., (2008) come up with a new approach of discourse coherence, namely that of transitivity. This approach depends on the fact that the nuclearity relation among Arabic text units is a transitive relation. Note that transitivity is not applied to paratactic relations since these relations have both of their spans as nucleus.

We investigated the Arabic rhetorical relations, and we observed that in most cases, there is an implicit transitivity relation over the hypotactic Arabic rhetorical relations.

(Mathkour et al., 2008: 718)

Consider the following example from article "USA: It's Regional Failure"

(ولكن المصالحة الاهم التي وعد الرئيس أوباما بتحقيقها بين امريكا والعالم الاسلامي في عهد ادارته هي التي اجهرت، )\(^1\) (بل ظلت نطفة ولم تتطور حتى الي جنين،)\(^2\) (فضل العداء المستحكم للمؤسسة الامريكية الحاكمة لكل ما هو عربي ومسلم.)\(^3\)

(Al-Quds Al-Arabia. Abdul-Bari Atwan, May 1, 2010.)

The most important reconciliation, which Obama has promised to achieve between America and the Islamic World, is, however, the one, which has been aborted.\(^1\) In fact, the reconciliation remained a cell and has never been developed into an embryo.\(^2\) This is due to the long-standing feud between the US administration and everything that is Arab or Muslim.\(^3\)

In the above example, unit 2 has the relation أستدرك [‘istidrāk] "CONCESSION" with unit 1, and unit 3 has the relation سبب [sabab] "CAUSE" with units 2 and 1. It is thus hypothesized that the hypotactic Arabic rhetorical relations are transitive.
3.9 Conclusion
The present chapter has clearly shown that Arabic language has its own system of rhetorical devices that gives it special flavours and specifications. In Arabic, rhetorical devices have been used as referring mainly to a system of tropes and figures that constitutes part of what is known as ‘ilm al-balāgha. Arab rhetoricians as Al-Jahidh, Al-Jurjani, and Al-Sakaki illustrate that Arabic balāgha began as an offshoot of exegetical studies, mainly to prove the inimitability or the uniqueness of Qur'ān. It is also used to study the eloquence (fasāha) in general, whether in poetry or in prose as well as in the written or in the oral modes of expression. Arabic is rich in such exegetical studies that create a kind of language pleases the senses and enhance the meaning of the text.

Since there is no discourse analysis using RST in Arabic, Mathkour, et al., (2008) set a framework of applying RST on Arabic language in order to rhetorically parse, analyze, and understand Arabic texts. Following Mathkour et al., approach (studying English relations, Arabic corpus and connectives) to identify rhetorical relations in Arabic, the researcher comes out with 20 rhetorical relations. The study shows how Arabic connectives contribute in building rhetorical relations as well as determining the elementary boundaries of text units. However, an accurate determination of text units and relations cause sometimes confusion.

Thus, the introduced transitivity approach suggests that realizing text coherence in the process of obtaining Arabic relations suits the characteristics of Arabic and avoids the disadvantages of previous approaches.
Notes:

1 Contrast [muqābahah] is combining two clauses or sentences, each of which contains a meaning, which is the opposite of the other. Al-Sakaki and Al-Qazwini consider Contrast part of antithesis where two agreeing meanings or more are placed together with their opposites respectively, such as in the Qur'ānic verses:

"Therefore let them laugh little and weep much".24 (Al-Tawba: 82)

2 Another type of [wa] exists in Arabic called by Arab grammarians [wa:w l-ma‘i:ya] or sometimes called [wa:w l-muSa:Haba], both of which mean the [wa:w] of simultaneous actions. This type of [wa] is used according to Wright “when the governed verb expresses an act subordinate to, but simultaneous with, the act expressed by the previous clause”, as in:

[ latino ]

Do not restrain (the others) from any habit, whilst you (yourself) practice one like it.

(Wright, 1974:32)

On the other hand, when [wa] is used to connect two nouns; in this case it is known as [wa:w al-luzūwm], i.e., [wa:w] of adherence, if the two nouns belong necessarily together, as in

[kullu shay’in wa thamanah-u]

"Each thing has its won price"

(Wright, 1974: 84)

3 Wright also indicates that [bal] is sometimes strengthened by the addition of [lā] "not", as illustrated in the following example
and I have not abandoned thee; no, on the contrary, separation and distance have increased my love.

(Wright, 1974: 335)

4This kind of parallelism is demonstrated in English by reference to King James Version of Old Testament. Several types of parallelisms typical of Semitic languages are apparent there because that book, which is a translation from an ancient Semitic languages. This translation is accomplished at a time when English was in a state of development suitable to the imitation of those forms (Kaplan, 1966:15)