Abstract
The present study examines and focuses on the relation between anaphora resolution and local coherence. The adopted approach is the knowledge-based approach which reduces the size of antecedent set through relying on the available linguistic knowledge. Centring theory is one class which models the relationship among discourse participants' focus of attention, choice of referring expressions, and perceived coherence. Crime news reports are examined as a form of communication to explicate its coherence and meaning interpretation.

Key words: coherence, local coherence, centring theory, anaphora, anaphora resolution, focus of attention, news discourse
ترتكز الدراسة الحالية على توضيح مفهوم حل الإحالة (anaphora resolution) وعلاقته بمفهوم التماسك الدلالي بين الجمل (local coherence)، واتبعت الدراسة النهج البحثي ذو الاعتماد المعرفي والذي يقوم على تقليص حجم المرجعيات (السابقات) اعتماداً على المعرفة اللغوية المتاحة. وتهتم نظرية التمحور (الإرتكاز) (centring theory) بوضع نموذج للعلاقة بين كل من محور إهتمام المشاركين بالخطاب، والتعبيرات المرجعية المختارة بالخطاب وبالتالي التماسك الدلالي بين الجمل. تقوم الدراسة بتحليل خطاب التقارير الإخبارية الخاصة بالجرائم كشكل من أشكال التواصل بغرض توضيح مدى التماسك وتأثيره على تفسير المعنى المراد من التقرير الإخباري.

الكلمات المفتاحية: الإلتزام (الإتساق) المنطقي، الإلتزام (الإتساق) المنطقي بين الجمل، نظرية التمحور (الإرتكاز)، حل الإحالة، محور الإهتمام، الخطاب الإخباري
Local Coherence in Crime News Reports
A Centring Analysis of Arabic and English Crime News Reports
Yasmin Mohammed El-Sayed Soliman
Benha University

1- Introductory:
One aspect of discourse that has been investigated widely is discourse coherence: 'the way by which passages can be formed as a discourse." (Wang & Guo, 2014, p. 460). Centering theory (Grosz, Joshi, and Weinstein, 1983, 1988) attempts to relate focus of attention, choice of referring expressions, and perceived coherence of utterances within a discourse segment. It is argued that "certain entities mentioned in an utterance were more central than others. Consequently, these centres greatly influence the speaker's usage and choice of the referring expressions. Coherence, on the other hand, is the product of "the compatibility between centering properties of an utterance and choice of referring expressions." (Grosz, Joshi & Weinstein, 1995. P. 4).

The present study adopts the semantic approach to the investigation of local coherence, i.e. discourse relatedness and connection at the level of sentence-to-sentence transition. Centering theory is the framework that models the degree of local coherence in crime news reports.

2- Background:
2-1- Coherence:
2-1-1- Approaches to Discourse Coherence:
Discourse is not a mere sequence of grammatical sentences. Rather, "successive contributions must be linked together by a recognizable flow of interpretive relationships." (Stojnic, Stone & Lepore, 2017, p.533). Coherence is one of the most significant constitutive dimensions of discourse; the other is cohesion. It refers
to "the conceptual and semantic dimension of text and the integration of individual conceptual segments into an integrated whole." (Zikanova et al., 2015, p.3). The establishment of coherence is vital and central for discourse interpretation. It results from the interaction of language participants (speaker/listener – writer/reader) and the text (spoken or written).

Linguists hold two views of discourse: discourse as a static product and discourse as a dynamic process. Consequently, the concept of coherence has been investigated and approached in parallel with the appointed view of discourse as is outlined in table (1) below. Examples of linguists adopting the coherence-as-product approach include Danes (1974), Halliday and Hasan (1976), Van Dijk (1977), Fries (1983) and Mann and Thompson (1987). According to Halliday & Hasan, the text has a texture, which can be provided by both cohesion and register.

| Focus of study | Discourse-as-static product view of coherence | Discourse-as-process view of coherence |
|----------------|-----------------------------------------------|----------------------------------------|
| How coherence relations are linguistically realized on the surface of discourse – "all the linguistic devices used to connect different parts in a discourse" (Wang & Guo, 2014, p.464) | Non-linguistic factors that affect and contribute to the achievement of coherence such as the context, the intentional structure of discourse, inferences, communicative functions, to name just a few. |
| Perspective of study | Semantic: Coherence is a linguistic phenomenon that is visible and text-based. The study of coherence is descriptive, not explanatory. | Pragmatic & Psychological: Coherence is a dynamic process that emerges of non-linguistic factors. |

Table (1): Coherence-as-product vs. Coherence-as-process Approach
Coherence is a property that emerges if the text is consistent in terms of cohesion and context: "it is coherent with respect to the context of situation and therefore consistent in register; and it is coherent with respect to itself, and therefore, cohesive." (Halliday & Hasan, 1976, p.23).

For van Dijk (1977), coherence is represented at two levels: linear or sequential coherence and global coherence. The former refers to "coherence relations holding between propositions expressed by composite sentence and sequences of those sentences." (p. 95). The latter, global coherence, relates to the overall discourse level. Both levels of coherence contribute to the semantic representation of discourse (i.e. the macrostructure of discourse).

According to Mann & Thompson (1987), a text is made up of multiple functional units which can be further divided into smaller ones. Such functional units are related and arranged by various rhetorical relations. "The so formed structure reflects the inner functional structure of the whole text and the subjective rhetorical arrangement of the author." (Wang & Guo, 2014, p.461). Coherence is realized by the unity and consistency holding between the rhetorical relations.

Danes (1974) and Fries (1983) relate discourse coherence to the thematic progression of discourse. In other words, the continuity and unity of themes that are discussed in a discourse guarantees the continuity of cohesive relations. This, in turn, affects the coherence of discourse.

The pragmatic perspective, on the other hand, is adopted by linguists as Widdowson (1978) and de Beaugrande & Dressler (1981), to name just a few. For Widdowson (1978), coherence is explained in terms of illocutionary acts, "which propositions, not always overtly linked, are being used to perform." (p. 28). De Beaugrande & Dressler (1981), regard coherence as one of the seven standards of textuality. In their view, coherence "concerns the ways in which the components of the textual world, i.e. the configuration
of concepts and relations which underline the surface text, are mutually accessible and relevant." (p.4)

2-1-2- Cohesion & Coherence: An Overview

Cohesion and coherence are two constitutive interrelated properties of discourse. Coherence is a discourse property that emerges through the communication process as participants strive to derive meanings and achieve their specific communicative intentions. Thus, coherence can be decoded as "interpretative perception of semantic unity and purposefulness derived from a text, which encompasses conceptual connectedness, evaluative and dialogical consistency and textual relatedness." (Dontcheva-Novartilova, 2012, p.10).

The aspect of 'textual relatedness' is closely associated with and greatly accomplished by the concept of cohesion. The primary distinctive point between cohesion and coherence is that the former is a property of the text, whereas the latter pertains to discourse. Therefore, Cohesion is a textual property that fosters coherence.

Cohesion is the result of overt linguistic mechanisms (lexical and grammatical) to set up links between the parts of the text as well as between the text and its context. According to Halliday & Hasan (1976), cohesion comprises FOUR CATEGORIES of GRAMMATICAL COHESIVE TIES and TWO CATEGORIES of LEXICAL COHESION (fig.1). It provides texture to discourse and expresses continuity and integration between one part of the discourse and another. However, the existence of cohesive devices solely within discourse does not guarantee the coherence of discourse. In other words, sentences can be well-connected grammatically and lexically, but they express no coherence.
Coherence, on the other hand, is "the main principle of organization... assumed to account for the underlying functional connectedness." (Crystal, 1985, p.53). It stems from factors such as the language users' knowledge of the world, the drawn inferences, and the assumptions they make. Reinhart (1980) argues that coherence comprises three elements: **Connectedness**, **Consistency**, and **Relevance**. Connectedness means that sentences are interconnected semantically and grammatically. Consistency relates to "the fact that there is no contradiction between the propositions expressed by these sentences." (Wang & Guo, 2014, p.464). Relevance means that there should be a connection between the text and the context.

2-2- **Attentional State of Discourse:**

Attentional state is an abstraction of the focus of attention of discourse participants, which is a component and property of discourse essential for its production and processing. Focus means "the set containing exactly those concepts available for anaphoric or other definite reference at a point in a text." (Hirst, 1981, p. 85). It contains information about the objects, properties, relations and discourse intentions that are salient at any given point. In other words, focus of attention is "that knowledge which is relevant at a given point in a text for comprehension of the text." (Ibid., p.88). Salience denotes entities that are prominent in the discourse model or
situation and affect processing and comprehension of discourse. In other words, participants keep in their working memory a model of the evolving context/situation. (Grosz et al., 1995; Lascarides & Asher, 2007). However, due to our limited working memory, attention is drawn to the most salient elements of the situation. Therefore, attention is selective: "it facilitates selection of information most relevant to making behavioral decisions." (Myachykov & Tomlin, 2015, p.11). Consequently, selection among stimuli results in selection among responses.

Entities are brought into the focus of attention either because "they have been mentioned explicitly … or because they became salient in the process of producing or comprehending the utterances in the segment." (Grosz & Sidner, 1986, p.179). It briefs information from previous utterances to process subsequent utterances.

Attentional state of discourse is either locally or globally realized. The former case refers to the utterances within a single discourse segment, i.e. the relations of salience between neighboring utterances. It serves to constrain the interpretation and realization of referring expressions.

Multiple studies (e.g. Mac Whinney, 1977) suggest that the attention state of discourse entities affect sentence organization. In other words, salient entities tend to occupy prominent sentential roles. Primed referents are more likely to become the starting point or the subject of the subject of the sentence. (Myachykov & Tomlin, 2015, p. 12). Also, prominent referents help participants to predict the aboutness (topic) of successive utterances and, hence, affect the local coherence of discourse.

Reference to salient entities varies. It has been shown that "highly focused entities, such as sentence topics, tend to be realized with less marked forms (e.g. pronouns and ellipses), whereas non-focused entities tend to be realized with more marked forms (e.g. definite descriptions)." (Gordon et al., 1993, p. 316). Thus, discourse processing and understanding are based on decisions made by
language users about not only salience and attentional state of referents but also about the reference and anaphora.

2-3- Anaphora:

It is the device of making an abbreviated reference to some entity (or entities) in the expectation that the perceiver of the discourse will be able to disabbreviate the reference and thereby determine the identity of the entity. Anaphora consists of the anaphor (i.e. the referring expression) and the antecedent (i.e. the entity to which the anaphor refers).

Resolution is the process of decoding and deciding on what the antecedent (referent) of an anaphor is. This entails that the antecedent exists in the participants' consciousness/memory: "mentioning a concept, even implicitly, puts it on stage, from where it slowly retreats into the wings unless mentioned again. Concepts can be referenced anaphorically when and only when they are on stage." (Hirst, 1981, p. 8)

There are two types of anaphora: Identity Reference Anaphora (IRA) and Identity of Sense Anaphora (ISA). In the former sense, the anaphor and the antecedent are the same as in the following example:
- Ross made a gherkin sandwich and ate it. (Hirst, 1981a, p.28).
The anaphor 'it' refers back to the referent 'a gherkin sandwich'. Both are the same.

ISA, on the other hand, does not denote the same entity. It refers to an entity of a similar description as in the following example:
- The man who gave his paycheck to his wife was wiser than the man who gave it to his mistress.
'it' is an anaphor that refers back not to the first man's paycheck, but to the other man's paycheck. Both paychecks are of a similar description.

In terms of the form of realization, anaphora is classified into three types:
a) Pronominal anaphora: it is realized by anaphoric pronouns such as personal pronouns.

b) Nominal anaphora: it relates to anaphors (a pronoun, a definite noun phrase, or a proper noun) refers back to a non-pronominal antecedent.

c) Definite noun phrase anaphora (Lexical noun phrase anaphora): this emerges when a definite description or proper names syntactically refer to definite noun phrases representing the same concept or semantically close concept as in the example below:
- Computational linguists from many different countries attended the tutorial. The participants found it hard to cope with the speed of the presentation. (Mitkov & Street, 1999, p.3)

'dComputational linguists' is the antecedent. 'The participants' is a definite noun phrase representing semantically close concept.

d) Zero anaphora: this emerges when the anaphoric pronoun is omitted.

Likewise, anaphora is classified according to the location of anaphors and antecedents into: intrasentential, i.e. both the antecedent and the anaphor exist in the same sentence, and intersentential, i.e. the antecedent and the anaphor are present in two different sentences.

Discourse anaphora is related to and affects the attentional state of the interlocutors. It is regarded as

A procedure for the recall of some item of information previously placed in discourse memory and already bearing a minimal level of attention activation. It is essentially a procedure for the orientation of the interlocutor's attention, which has as essential function the maintenance of the high level of activation which characterizes a discourse representation already assumed to be the subject of an attention of focus by the interlocutor at the point of utterance. (Cornish, 2006, p.632)

2-3-1- Anaphora in Arabic:
There are several anaphora devices in Arabic. However, most widespread type is pronominal reference. The pronominal anaphors are frequent in Arabic language including the following categories: personal pronouns, demonstratives, and relative pronouns.

There are two context-independent forms of personal pronouns in Arabic: isolated (independent) pronouns (table 2) and affixed pronouns. Affixed pronouns are attached to their governor. They vary according to verb aspect (perfective vs. imperfective), as outlined in tables (3) & (4) below, and case (subjective vs. objective). Perfective verbs are completed actions, whereas imperfective verbs denote actions that still go on.

Verbal subject affixed pronouns (table 3) are suffixes attached to the verb and conjugated as the subject. With imperfective verbs (table 4), on the other hand, affixed pronouns are mainly prefixes, but there are also suffixes.

Pronoun reference resolution is determined by multiple factors, one of which is salience of the referent. The salience linguistic factors in Arabic are summarized in (table 5).
2-4- News Discourse:

News discourse is a form of communication where the journalist is the sender of the message and the implied reader is the receiver. Its main goal is to inform readers about relevant and newsworthy events and affairs. Likewise, it intends that all readers get the same meaning and that the reader's derived meaning is the same as the newspaper's intended meaning. Therefore, coherence is an essential attribute that is assigned by the readers: it is a property derived from "the sentential structures and interpretations of surrounding, usually preceding, sentences in the same text." (van Dijk, 1988a, p. 11). The meaning or
reference of entities (words) in one sentence of the text is assigned by the meaning of previous sentences.

News discourse expresses topics that can be understood and drawn from the propositions expressed in the respective sentences of the text. The thematic realization of news discourse follows the top-down principle, i.e. "discourse is organized so that the most important relevant information is put in the prominent position, both in the text as a whole and in the sentence." (van Dijk, 1988b, p.43). Thus, important information is expressed first, followed by the reintroduction of lower-level details.

Organization of topics is conducted within specification rules, i.e. "high-level, abstract information is specified so that for overall events or actions, detailed descriptions are given as to the identity and properties of participants, conditions, components, and consequences of actions." (Ibid., p.44). Specification takes place in cycles so as to facilitate reading strategies.

News information is expressed in categories that follow a special ordering as briefly summarized below:

1- **Headline and Lead**: both precede the actual news item. Their function is to express in a summarized way the major topic of the text.

2- **Episode**: this category subsumes:
   a) **Background** of the events: it follows Main Events section.
   c) **Main events and Context**: they provide information about the current main topic of the news. Context is different from background in that "background has a more comprehensive, structural, or historical nature." It deals with "nonrecent past history of actual situations and their events." (van Dijk, 1988b, p. 54).
   c) **Consequences**: this category discusses the potential results of the discussed news event. Its function is to provide causal coherence to news events and clarify their worthiness.
Local Coherence in Crime News Reports
A Centring Analysis of Arabic and English Crime News Reports

d) Verbal Reactions: this category follows Episode. It consists of the comments and opinions of the participants in the news event or prominent official person.
e) Comment: this section expresses the opinions and evaluations of the journalist or the newspaper itself. It consists of two subcategories: Evaluation and Expectation. The former "features evaluative opinions about the actual news events." The latter "formulates possible political or other consequences of the actual events and situations." (van Dijk, 1988b, p. 56).

2-4-1- Crime News Discourse:

Crime stories constitute a large category of newspaper stories: they constitute the fourth largest category after sports, general interests and business. The media highlight the unique, the sensational, and the extreme. Besides, the focus tends to be on stories that impact a large number of readers. News reports on crime continue attracting readers' attention even though they only differ in details about time, place, or victims.

The category to which the portrayed crime belongs plays an essential role in attracting readers' focus of attention. There are four categories of crime reports as summarized below:

1) Personal competence and sensibility: It includes "ingenious, vicious, and audacious crimes – of deceptions that trick the close scrutiny of diligent customs inspectors, of the most bloody murders, of big heists in broad daylight." (Katz, 1987, p.50). What makes these crime reports newsworthy is their portrayal of the criminals as having exceptional ingenuity and dare. For instance, crime news on armed robberies by children, women, or the elderly "challenge out stereotypes not simply about crime but about the capabilities associated with those age and sex statuses." (Ibid., p.51).

2) Collective integrity: it includes crimes that take place in, or are related to, large establishments that are central to the collective identity of the region, for instance, the crimes occurring in
"contemporary centers of goodness" (Ibid., p.52). One subcategory is the crimes where personal identity of the victim probably makes the crime a symbolic challenge to collective integrity

3) Moralized political conflicts: they portray incidents committed for political reasons. Examples include hijacking of an airplane or harming victims by terrorists. They highlight not only the cruelty of the offender, "but also they simulate the reader's recognition of their concerns." (Ibid.)

4) White-collar crime: the newsworthiness of this category stems from two reasons: the size of the booty involved in the crime and the defendant's legitimate power or wealth.

Crime reports are characterized by simplification of phrasing. In other words, they are marked by brevity and restriction of possible inherent meanings in the story in order not to strain the attention span of the audience. Moreover, crime news deals with binary opposition, i.e. the crimes are presented in a context to show the guilty party versus the innocent party clearly.

3- Objectives:
The present study attempts to:

1- Explore and model local coherence in the discourse of crime news reports through the analysis of intersentential pronominal anaphora using centring theory.

2- Explore the correlation between centring and the different forms of pronominal reference in crime news reports. In other words, explore what referring expressions are chosen frequently for the anaphor in both Arabic and English languages.

3- Detect general/different interlingual tendencies across this particular discourse genre in two different languages: Arabic and English.

4- Explore the management strategies of topics in crime news reports.
Local Coherence in Crime News Reports
A Centring Analysis of Arabic and English Crime News Reports

4- Data:
The data assigned for the analysis consists of eight crime news reports extracted from Egyptian and American newspapers. The reports are written in Arabic and English languages.

5- Theoretical Framework: Centring Theory (CT)
Grosz, Joshi, and Weinstein (1983) proposed the phenomenon of *centring* of discourse, i.e. certain entities in an utterance were more central than others and "this property imposed constraints on a speaker's use of different types of referring expressions." (Grosz et al., 1995, p.4). This, in turn, affected the coherence of the discourse.

3-1- Background:
Centring theory (henceforth CT) relates focus of attention, choice of referring expressions, and perceived coherence of utterances within a discourse segment. It can be traced back to the theory of discourse structure developed by Grosz and Sidner (1986) (henceforth G&S). G&S argue that discourse comprises three components:

1) **Linguistic structure**: "discourses divide into constituent discourse segments; an embedding relationship may hold between two segments." (Ibid.).

2) **Intentional structure**: it is the participants' intentions expressed within the discourse segments and the overall discourse and the relations holding between those intentions.

3) **Attentional state**: it projects the participants' focus of attention at any given point in the discourse. It depends on "the intentional structure and on properties of the utterances in the linguistic structure." (Ibid., p.5).

3-2- Preliminaries of CT:
sto coherence at a local level. Discourse segments exhibit varying degrees of coherence which arises as a result of variation of 'aboutness' (i.e. the attentional state). Change of attentional state, in turn, results from variation in expression (i.e. linguistic structure):
"different types of referring expressions and different syntactic forms make different inference demands on a hearer or a reader." (Grosz et al., 1995, p.7).

One of the tasks a hearer must perform in processing a discourse is to identify the referents of noun phrases in the discourse... A hearer's determination of noun phrase reference involves some process of inference... Hence,... the resource demands of this inference process are affected by the form of expression of the noun phrase. (Ibid., p.9).

Two basic claims are formulated. The first claim is about local coherence: "discourse segments in which successive utterances keep mentioning the same discourse entities are 'more coherent' than discourse segments in which different entities are mentioned." (Poesio et al., 2000, p.3). The other claim concerns 'local salience': "the discourse entities 'realized' by an utterance... are ranked: ... that in each utterance some discourse entities are more salient than others." (Ibid.).

In CT, Discourse segment (DS) consists of successive utterances. An utterance (U) means "the uttering of sequence of words at a certain point in the discourse." (Grosz et al., 1995, p.9). Each utterance contains centers. They are discourse constructs and semantic entities that "serve to link that utterance to other utterances in the discourse segment which contains it." (Ibid.).

Discourse processing entails continuous renewal of the local attentional state or local focus. Thus, each U contains a set of Forward-Looking centers (Cfs) which are discourse entities evoked by the utterance (U). Likewise, every utterance, except the segment initial utterance, is assigned a single Backward-Looking center (Cb). It is the entity that refers back to a special member of (Cf) in the preceding utterance (U_{i-1}): the one that (U_{i-1}) most centrally concerns (i.e. the topic of (U_{i-1}). Therefore, Cb is localized, i.e. its determination is from the set of Cf's of the directly previous utterance.
Local focus also contains information about the relative prominence, ranking, of Cfs. "The most highly ranked Cf realized by an utterance (when one exists) is called the 'Preferred Center' (Cp)." (Poesio et al., 2000, p.4). Cp serves to predict which one of the set of Cf (Ui, DS) is likely to be the backward-looking center Cb (Ui+1, DS). Thus, "the local focus gets updated after every UTTERANCE: in this update the current Cfs are replaced by new ones, and the Cb changes as well." (Ibid.)

3-3- CT claims, constraints & rules:

The most significant underlying claim of CT is that "to the extent a discourse adheres to centring constraints, its coherence will increase and the inference load placed upon the hearer will decrease." (Grosz et al., 1995, p.12).

CT proposes THREE constraints, briefly outlined below:

**Constraint 1:** A unique Cb:
Each Un has exactly one Cb

**Constraint 2:** Realization relation:
Every element of Cf (Ui, DS) must be realized in U
In other words, "an utterance U realizes a center C if C is an element of the situation described by U, or C is the semantic interpretation of some subpart of U." (Walker et al., p.3). According to Grosz et al. (1995), there are two ways of entity realization in U: direct realization and indirect realization. The former is when a noun phrase in the utterance refers to that entity. Indirect realization, on the other hand, is when one of the noun phrases in the utterance is an associative reference to one of the Cfs. An example is the noun phrase 'the door' in the second utterance below:

**U1:** John walked towards the house. Cf: {John, the house} Cb: Ø
**U2:** The door was open. Cf: {the door}, Cb: {the house}

The centers 'John' and 'the house' are directly realized in U1. Likewise, 'The door' is directly realized in U2. However, 'the house' is also indirectly realized in U2 as it is referred to by the associative reference 'the door'. It refers to "an object which was not mentioned..."
before, but is somewhat related to an object that already has", i.e. 'the house', (Poesio et al., 2000, p.9).

**Constraint 3:**

Cb (Ui), the backward-looking center of utterance U, is the highest ranked element of Cf (Ui-1) that is realized in U.

In other words, "the ranking of the forward-looking centers, Cf's, determines from the elements that are realized in the next utterance which of them will be the Cb for the utterance." (Poesio et al., 2000. P.9).

The ranking of Cf elements is determined by several factors, and they may not be the same for all languages. They include surface order of realization, information status to mention a few. However, grammatical function is the most significant factor (i.e. entities being in subject position are more highly ranked than those in object positions, which, in turn, re ranked higher that other constructions).

CT proposes *TWO rules*: *Center realization* rule and *Transition* rule.

**Rule 1: Center Realization**

If any element of Cf (Un) is realized by a pronoun in Un+1 then the Cb (Un+1) must be realized by a pronoun also. (Grosz et al., 1995, p.16)

The pronominal reference to Cb signals the receiver that the discourse is about the same topic or focus of attention. "Rule 1 does not preclude using pronouns for other entities so long as the Cb is realized with a pronoun." (Ibid.). However, there will be a single Cb determined on the basis of pronominalization and subject position.

Example:

U1: Susan gave Betsy a pet hamster.

Cf: {Susan, Betsy, a pet hamster} Cp: {Susan} Cb: Ø (an initial utterance)

U2: She reminded her that such hamsters were quite shy.

Cf: {she, her, such hamsters} Cp: {Susan} Cb: {she}

Although there are two pronouns in U2, only is the pronoun 'she' a Cb for the utterance because of its subject position as well.
Rule 2: Transition
Sequences of continuation are preferred over sequences of retaining; and sequences of retaining are to be preferred over sequences of shifting. (Grosz et al., 1995, p.17)

As stated above, transition between successive utterances within a discourse segment lies into three states (fig. 2). Continuation of center and production of smooth transitions to a new center ensures local coherence.

![Figure 2: Transition States between Utterances](image)

The typology is based on TWO factors: first, whether the backward-looking center ($C_b$) is the same from $U_{i-1}$ to $U_i$, and, second, whether this discourse entity is the same as the preferred center ($C_p$) of $U_i$ (Table 6).

| $C_b (U_i) = C_p (U_j)$ | $C_b (U_i) = C_b (U_{i-1})$ OR $C_b (U_{i-1}) = [?]$ | $C_b (U_i) \neq C_b (U_{i-1})$ |
|-------------------------|--------------------------------------------------|---------------------------------|
| CONTINUE                | SMOOTH-SHIFT                                     | ROUGH-SHIFT                     |
| RETAIN                  |                                                  |                                 |

Table (6): Centring Transition States

4- Method of Analysis:
The data is analyzed following the coming steps:
1) The data is segmented into utterances. The utterance, the minimum unit of analysis, is the sentence. However, if the sentence is a complex sentence, then the unit of analysis is the definite clause. In other words, it is segmented into main clause and subordinate clause. Noun clauses and relative clauses are ignored if they introduce new centers, but they do not update the topic. This segmentation method is
found more appropriate for news discourse. The grammatical analysis of news discourse has revealed multiple properties of the employed grammatical structure. News discourse tends to have "long, complex sentences; many nominalizations …; and formal jargon." (van Dijk, 1988a, p.10).

2) The centers of each utterance (the entities that regulate the information in the utterance) are assigned as forward-looking centers ($C_f$), backward-looking center ($C_b$). Also, the preferred center ($C_P$), the highly ranked member of $C_f$, is determined.

3) The transition relation between each two consecutive utterances is assigned based on the transition relation across pairs of utterances. Consequently, the degree of local coherence is determined as the transition state is an indicator of the change of the attentional state from one utterance to another. It should be noted that deciding on the transition relation (i.e. Continuation, Retention, or Shifting) is also related to drawn inferences about the change of entity and the change of 'aboutness' or topic of the discourse segment (DS).

4) A comparison is conducted between Arabic and English texts to elucidate differences in ranking, salience, presentation of discourse, and how the degree of local coherence is influenced by these factors.

5- Analysis:
5-1- Arabic crime news report:
"عامل في المطابع الأميرية يحاول قتل رئيس مجلس إدارته صباح أمس" (‘āmil fī al-maṭābi‘ al-amirīyah yuḥāwil qatl ra‘īs maqālis idāratiḥā šabāh ‘ams) (A worker in government press attempts to kill its Chairman yesterday morning)

5-1-1- Summary:
The news article is published in the Egyptian newspaper "Al-Ahram" on 4th of December 1967. It reports the attempted killing of the chairman of the governmental press on the hands of one of its workers. The text is divided into 12 discourse segments with a total of 47 utterances.

5-1-2- Analysis:
1) Main Headline:
Discourse Segment 1 (DS1):

"عامل في المطابع الأميرية يحاول قتل رئيس مجلس إدارتها صباح أمس" (ʿāmil fī al-maṭābiʿ al-amīriyah yuḥāwil qatl raʾīs mağlis idāratihā šabāḥ ṣabāḥ) (A worker in government press attempts to kill its Chairman yesterday morning)

The main headline segment consists of one utterance. It is a simple declarative active statement. Its function is to bring the basic elementary facts of the crime into the reader's mind: the offender (عامل) (a worker), the victim (Chairman of Governmental press), and the time of the crime (صباح أمس) (yesterday morning).

Utterance 1 (U₁): "عامل في المطابع الأميرية يحاول قتل رئيس مجلس إدارتها صباح أمس" (ʿāmil fī al-maṭābiʿ al-amīriyah yuḥāwil qatl raʾīs mağlis idāratihā šabāḥ ṣabāḥ) (A worker in government press attempts to kill its Chairman yesterday morning)

| Cn: | عامل (ʿāmil) (a worker), قتل رئيس مجلس إدارتها (qatl raʾīs mağlis idāratihā) (to kill its Chairman), المطابع الأميرية (al-maṭābiʿ al-amīriyah) (government press), صباح أمس (šabāḥ ṣabāḥ) (yesterday morning) |
| Cb: | Ø |
| C_pl: | عامل (ʿāmil) (a worker) |
| Transition: | Ø |

There is no C_b since this is the initial utterance of the text. Likewise, there is no transition. The focus is on the worker as the real doer of the action of attempting to kill the victim.

2) Superheadline:

"تربص له في فناء المبنى ثم تقدم نحوه بسكين وطعنه في الكتف" (tarabaṣa lahu fī fināʾ al-mabnā tumma taqaddama nahwahu wa ṭanahu fī al-katif) (was in the lookout for him in the building courtyard. Then, approached towards him with a knife and stabbed him in the shoulder)

The segment consists of two utterances. It mentions the circumstances of the crime: who committed it besides where and how
it was committed. In other words, utterances 2&3 provide specification of the fact denoted in the main headline.

U₂ a. "تربص له في فناء المبنى" (tarabaṣa lahu fī fināʾ al-mabnā) (Ø was in the lookout for him in the building courtyard)

| Cᵢ:  {a [he], hu [him], fināʾ al-mabnā [the building courtyard]} |
| Cᵢ:  {a [he], hu [him], fināʾ al-mabnā [the building courtyard]} |
| Cᵢ:  {a [he], hu [him], fināʾ al-mabnā [the building courtyard]} |
| Cᵢ:  {a [he], hu [him], fināʾ al-mabnā [the building courtyard]} |

U₂a establishes 'the worker' as both the Cᵢ and the most highly ranked Cᵢ.

b. "ثم تقدم نحوه بسكين وطعنه في الكتف" (Then, approached towards him with a knife and stabbed him in the shoulder)

| Cᵢ:  {a [he/worker], hu [him/chairman], sikīn [a knife], al-katif [the shoulder]} |
| Cᵢ:  {a [he/worker], hu [him/chairman], sikīn [a knife], al-katif [the shoulder]} |
| Cᵢ:  {a [he/worker], hu [him/chairman], sikīn [a knife], al-katif [the shoulder]} |
| Cᵢ:  {a [he/worker], hu [him/chairman], sikīn [a knife], al-katif [the shoulder]} |

In U₂b the subject is implicit. It is identified by the verbal subject affixed pronoun (Ø a).

In U₂b the worker continues as the Cᵢ. The focus in both utterances is still on the offender (i.e. the worker).

3) Lead:

"رفض رئيس المجلس التصديق على تغيير ورديته، فخرج العامل من مكتبه ليشاهد مسرحية سفاح رغم أنفه ثم يقرر أن يحاول قتله في الصباح" (The chairman refused to approve of changing his shift, so the worker left his office and watched ' saffāḥ raḡma 'anifah' play. Then, [he/the worker] made up his mind to kill him in the morning)
Local Coherence in Crime News Reports

A Centring Analysis of Arabic and English Crime News Reports

The lead consists of two short and precise statements. Its function is to restate the basic information related to the crime. It highlights the reason for committing the crime to arouse the reader's curiosity: the chairman's disapproval of changing the timing of the worker's shift. Therefore, the focus is on the victim and the offender.

U₄a. رفض رئيس المجلس التصديق على تغيير ورديته (rafaḍa raʾīs al-maḡlis al-taṣdīq ʿalā taḡyīr wardiyatuhu) (The chairman refused to approve of changing his shift)

U₄a has no C_b as it is the initial utterance of the segment. The attentional state is directed towards the chairman (the offended) and his role in the crime report.

b. فخرج العامل من مكتبه ليشاهد مسرحية سفاح رغم أنفه (faḫaraḡa al-ʿāmil min maktabahu liyušāhid masraḥīyat saffāh raḡma ʾanifah) (so the worker left his office and watched ' saffāh raḡma ʾanifah' play)

c. ثم يقرر أن يحاول قتله في الصباح (tumma yuqarir ʾan yuḥāwila qatlahu fī al-ṣabāḥ) (Then, [he/the worker] made up his mind to kill him in the morning)

In U₄c the subject is implicit (Zero subject). It is denoted by the verbal affixed subject pronoun (y-) which refers back to the worker. U₄ functions as the consequence of the cause mentioned in U₃.

4) Main Event:
حاول عامل بالمطابع الأميرية ببولاق قتل السيد علي سلطان رئيس مجلس الإدارة صباح أمس... هاجمه أمام الموظفين والعمال، أثناء مروره في الورش، وطعنه بسكين في كتفه ثم فر هاربا، ولكن قبض عليه في شارع المطبعة الأهلية...

A worker in the governmental press in Bulaq attempted the killing of Mr. Ali Sultan the chairman yesterday morning... He attacked him in front of the employees and the workers while he was walking past the workshops and stabbed him with a knife in his shoulder. Then, he escaped, but he was arrested in Al-Matbaah Al-Ahliya street.

(A worker in the governmental press in Bulaq attempted the y morning)

He attacked him in front of the employees and the workers

(while he was walking past the workshops)
Local Coherence in Crime News Reports
A Centring Analysis of Arabic and English Crime News Reports

(v and stabbed him with a knife in his shoulder)

U_{6c} is connected to U_{6a}, the independent clause. Therefore, the transition type is 'Continue' since C_{bc} = C_{ba} and C_{bc} = C_{pc}.

U_7: a. (Then, he escaped)

b. (but he was arrested in Al-Matbaah Al-Ahliya street)

In U_7b, the passive statement, the subject is omitted and implied to refer to the worker. The affixed pronoun (ئ) is attached to the preposition (على) and is conjugated as object of preposition. The object of preposition is ranked higher. The sentence is in the perfect tense passive voice where the focus is not on the actor. The focus is on the receiver of the action, that is, the worker.

DS4 is primarily about a specific discourse participant, namely, the offender (i.e. the worker), and the activities performed by him. Therefore, it is placed in the 'subject' position to indicate the topic role. The whole segment continues talking about him.

5) Context

الجريمة وقعت في التاسعة والنصف من صباح أمس... غادر رئيس مجلس الإدارة مكتبه للمرور على الورش، وكان يصحبه عدد من مديرى هذه الورش ومجموعة من الموظفين... وعندما وصل إلى الفناء، اقترب منه أحد العمال... ولم يكن يبدو عليه أي إرتباك، ثم فاجأه بطعنة سكين في كتفه سقط بعدها رئيس مجلس الإدارة على الأرض والدماء تنزف منه.
The crime took place at half past nine yesterday morning... The chairman left his office to pass past the workshops. A number of workshop managers and a group of employees were accompanying him. When he arrived at the courtyard, one of the workers approached him and he did not seem to be confused. Then, he surprised him with a knife stab in his shoulder after which the chairman fell down on the ground and he was bleeding.

Context is a category that signals the actual situation and it consists of concrete news events (van Dijk, 1988b, p.54). The focus of attention is on the chairman (the victim) and the way he was attacked by the offender (the worker)
Local Coherence in Crime News Reports
A Centring Analysis of Arabic and English Crime News Reports

U₁₀: وكان يصحبه عدد من مديري هذه الورش ومجموعة من الموظفين (A number of workshop managers and a group of employees were accompanying him)

| Cf. | عدد من مديري هذه الورش ومجموعة من الموظفين (A number of workshop managers and a group of employees) | Cb: ∅ | Cp: A number of workshop managers and a group of employees | Transition: NULL |

U₁₁: a. وعندما وصل إلى الفناء (When he arrived at the courtyard)

| Cf. | {a (he/the chairman).الفناء (the courtyard)} | Cb: the chairman | Cp: the chairman | Transition: CONT |

The subject is the affixed verbal pronoun (a) and it is implied to refer to the chairman based on the context.

b. اقترب منه أحد العمال (one of the workers approached him)

| Cf. | {أحد العمال (one of the workers).ه (him/ the chairman)} | Cb: the chairman | Cp: one of the workers | Transition: RET |

c. ولم يكن يبدو عليه أي إرتباك (and he did not seem to be confused)

| Cf. | {y (he/ one of the workers).إرتباك (confusion)} | Cb: one of the workers | Cp: one of the workers | Transition: SMOOTH-SHIFT |

U₁₂: ثم فاجأه بطعنة سكين في كتفه (Then, he surprised him with a knife stab in his shoulder)

| Cf. | {a (he/the worker).طعنة سكين (a knife stab).ه (him/ the chairman).كتفه (his shoulder)} | Cb: one of the workers | Cp: one of the workers | Transition: CONT |

U₁₃: a. سقط بعدها رئيس مجلس الإدارة على الأرض (after which the chairman fell down on the ground)
6) Consequences:

 حدث كل هذا في ثوان قليلة، وسيطر الذهول على جميع الواقفين: الذين ظلوا في أماكنهم واجمين... وتركوا المتهم يجري هاربا دون أن يعترض أحد طريقه، وهو بصرخ ملوحا بالسكين في يده، ولكن سرعان ما أفاق الجميع، وطاردوا العامل، حتى أمكنهم القبض عليه في شارع المطبعة الأهلية.

*(All happened in a few seconds. The speechless spectators were astonished. They let the accused run away without stopping him as he was screaming and waving with a knife. However, everyone came back to senses soon, and they chased the worker until they succeeded in arresting him in (Al-Matbaah Al-Ahliya) street)*

The focus in the segment is on the effect of the worker's sudden attack on the witnesses and how they reacted to it. Therefore, the principal participants are the spectators and the worker, i.e. the accused.

U_{14}: حديث كل هذا في ثوان قليلة: (All happened in a few seconds)
Local Coherence in Crime News Reports
A Centring Analysis of Arabic and English Crime News Reports

U15: وسيطر الذهول على جميع الواقفين الذين ظلوا في أماكنهم واجمين: (The speechless spectators were astonished)

U16: a. وتركوا المتهم يجرى هاربا دون أن يعترض أحد طريقه (They let the accused run away without stopping him)

The affixed verbal subject pronoun (وا) (ū) refers back to the spectators. The implied subject is (هم) (hum).

b. وهو بصرخ ملوحا بالسكين في يده (as he was screaming and waving with a knife)

U17: a. ولكن سرعان ما أفاق الجميع (However, everyone came back to senses soon)

U17a is connected to the independent clause U16a. The noun phrase (الجميع) (everyone) denotes the same referent (الواقفين) (the spectators).

b. وطاردوا العامل (and they chased the worker)
When the police was reported, the first to come to the crime scene was Lieutenant Fathi Shafi Yamama commissioner of Bulaq police office, Major Abdel Wahhab Al-Mallah, and Captain Helmi Al-Feqqi, who took part in chasing and arresting the accused. It became known that his name was (Sayed Abdel Hamid Saad Ahmad (19 years).
Then, Lieutenant Zaki Ilag Security Vice Chief Officer, Colonel Sami Asaad Investigation Chief Officer, and Lieutenant Colonel Ali Helmi, Investigation Inspector Colonel Lotfi Al Shafey, and Lieutenant Ayman Gabr followed them.

The focus of the segment is on the consequences of the main events in relation to the police. Therefore, the main participants are police officers who attended to the crime scene and investigated the crime.

**U18:** a. (When the police was reported)

\[
\begin{align*}
\text{Cr: } & \{\text{الشرطة (the police)}\} \\
\text{Cb: } & \emptyset \\
\text{Cp: } & \text{the police}
\end{align*}
\]

**Transition:** ZERO

b. (the first to come)

\[
\begin{align*}
\text{المقدم } \text{فتحي شافعي } \text{مأمور قسم بولاقي} & \text{ والرائد عبد الوهاب الملحم و}\text{النقيب حلمى الفقي} \\
\text{الذين اشتركوا في مطاردة المتهم والقبض عليه}
\end{align*}
\]

The utterance starts with the verb كان (kāna) which is the copula in the nominal sentence. The insertion of كان changes the ranking of the forward-looking centers of the statement. In other words, كان is followed by a noun and a predicate. The predicate is more important information than the noun.

Also, Cb for U18b is الشرطة (the police) because it is indirectly realized in the utterance though the mention of certain police members who represent the police.

**U19:** (It became known that his name was (Sayed Abdel Hamid Saad Ahmad (19 years)))

واتضح أن اسمه (سيد عبد الحميد سعد أحمد (19 سنة))
Then, Lieutenant Zaki Ilag Security Vice Chief Officer, Colonel Sami Asaad Investigation Chief Officer, and Lieutenant Colonel Ali Helmi, Investigation Inspector Colonel Lotfi Al Shafey, and Lieutenant Ayman Gabr followed them.

Then in the investigation, the worker did not deny his crime. Rather, he confessed it and said that he did not regret it. He said that he used to work in the night shift, and he was supposed to move to the day shift since that month. However, the transfer was not done. Therefore, he filed a complaint to the head of printing department, and its destiny was neglect and insistence on neglect.
Local Coherence in Crime News Reports
A Centring Analysis of Arabic and English Crime News Reports

This history section restates the previous events that happened prior to committing the crime. They are narrated from the accused's viewpoint. The accused explains the motif that urged him to commit the crime.

U20: في التحقيق لم ينكر العامل جريمته (In the investigation, the worker did not deny his crime)

U21: بل اعترف بها (Rather, he confessed it)

U22: وقال إنه غير نادم عليها (and said that he did not regret it)

The particle أن (that) is used after the verb قال (said) to introduce direct speech in Arabic language. The particle إن is followed by a subordinate clause consisting of a subject و (he) and a verb كان, which is hidden, but implied.

U23: a. قال إنه كان يعمل بالوردية الليلية (He said that he used to work in the night shift)

b. وكان المفروض أن ينتقل إلى الوردية النهارية منذ ... هذا الشهر (and it was supposed to move to the day shift since the --- that month)
3. (However, the transfer was not done)

C_r: \{ya- (he/the worker)\\}
C_b: the worker \quad C_p: the worker
Transition: CONT

ولكن النقل لم يتم.

U_{24}:

C_r: \{the transfer\\}
C_b: \Ø \quad C_p: the transfer
Transition: ROUGH-SHIFT

(Therefore, he filed a complaint to the head of printing department)

C_r: \{a (he/the worker), شكوى (a complaint), رئيس أقسام الطباعة (the head of printing department)\\}
C_b: the worker \quad C_p: the worker
Transition: RET

وكان مصيرها الإهمال، بل والإصرار على الرفض.

U_{25}:

C_r: \{الإهمال (its destiny)\\}
C_b: الشكوى (the complaint) \quad C_p: الإهمال (neglect)
Transition: ROUGH-SHIFT

(And its destiny was neglect and insistence on neglect)

8) History/Verbal Reaction

وقال المتهم: "لما لم أجد حلًا لهذا الموضوع توجهت إلى مقابلة رئيس مجلس الإدارة أثناء ... أول أمس للنظر إليه وكتبت أن أتوجه بكلمة واحدة كان رئيس أقسام الطباعة قد سبقني وكلمه قليل وفوجئت برئيس الهيئة يصرخ في وجهي."

wa qâla al-muttaham: "lammā lam 'ağid ġallān lihāḏā al-mauḍūʿ tawwaqâght ilā muqābalat raʾīs maḡlis al-ʾidāra ʿatnaʾ ... ʾawwalʾams liṭazzalum ilayhi walakinani qablʾann ʾalfaẓa bikalima wāḥidah kāna raʾīsʾaqsām al-ʾṭibāʾah qad sabaqaṯani wa kallamahu qablī wa fūgīʾt biraʾīs al-hayʿah yâṣruḥ fi waḡhī."

The accused said: "when I did not find a solution to this issue, I headed for meeting the chairman during ... the
day before yesterday to complain to him. However, before I uttered a single word, the head of the printing department had gone and talked to him before me. I was surprised by the chairman as he was shouting at my face."

DS9 consists of a direct quote said by one of the news participants, namely, the accused. He continues narrating the previous events that preceded the main event. The previous events are told from the point of view of the accused and function as explaining the reason and motif for the accused to commit the crime.

U26: وقال المتهم (The accused said)

| Cf: المتهم (the accused) | Cb: the accused/worker | Cp: the accused/worker |
|--------------------------|------------------------|------------------------|
|                          |                        | Transition: ZERO       |

U27: a. لما لم أجد حلًا لهذا الموضوع (when I did not find a solution to this issue)

| Cf: حلّا (a solution) | Cb: the worker | Cp: the worker |
|----------------------|----------------|----------------|
|                      |                | Transition: CONT |

b. توجهت إلى مقابلة رئيس مجلس الإدارة أثناء ... أول أمس للتظلم إليه. (I headed for meeting the chairman during ... the day before yesterday to complain to him)

| Cf: مقابلة رئيس مجلس الإدارة (meeting the chairman) | Cb: the worker | Cp: the worker |
|------------------------------------------------------|----------------|----------------|
|                                                      |                | Transition: CONT |

c1. ولكنني قبل أن ألفظ بكلمة واحدة. (However, before I uttered a single word)

| Cf: كلمة واحدة (a single word) | Cb: the worker | Cp: the worker |
|---------------------------------|----------------|----------------|
|                                 |                | Transition: CONT |
I was surprised by the chairman as he was shouting at my face.

I went home in an abnormal state and I attempted to please myself, so I went into Al-Gumhuriya theatre and watched (Saffah Raghm Anfih) play. After I had come out, I thought I should meet the chairman yesterday morning after I immerse into sleep and forget what happened the day before yesterday.
Local Coherence in Crime News Reports
A Centering Analysis of Arabic and English Crime News Reports

U29: (I went home)

\[
\begin{array}{|l|}
\hline
C_R \{ت (I/the worker), \ \text{ المنزل (home)}\} \\
C_B: \text{the worker} \quad C_P: \text{the worker} \\
\text{Transition: CONT} \\
\hline
\end{array}
\]

U30: (in an abnormal state)

\[
\begin{array}{|l|}
\hline
C_R \{ت (I/the worker), \ \text{ حالة غير طبيعية (an abnormal state)}\} \\
C_B: \text{the worker} \quad C_P: \text{the worker} \\
\text{Transition: CONT} \\
\hline
\end{array}
\]

U31: a. (I tried to free myself)

\[
\begin{array}{|l|}
\hline
C_R \{ت (I/the worker)\} \\
C_B: \text{the worker} \quad C_P: \text{the worker} \\
\text{Transition: CONT} \\
\hline
\end{array}
\]

b. (so I went into Al-Gumhuriya theatre)

\[
\begin{array}{|l|}
\hline
C_R \{ت (I/the worker), \ \text{ مسرح الجمهورية (Al-Gumhuriya theatre)}\} \\
C_B: \text{the worker} \quad C_P: \text{the worker} \\
\text{Transition: CONT} \\
\hline
\end{array}
\]

c. (and watched (Saffah Raghm Anfih play))

\[
\begin{array}{|l|}
\hline
C_R \{ت (I/the worker), \ \text{ مسرحية (Saffah Raghm Anfih play)}\} \\
C_B: \text{the worker} \quad C_P: \text{the worker} \\
\text{Transition: CONT} \\
\hline
\end{array}
\]

U32: a. (After I had come out)

\[
\begin{array}{|l|}
\hline
C_R \{ت خروجي (I had come out), the worker\} \\
C_B: \text{the worker} \quad C_P: \text{the worker} \\
\text{Transition: CONT} \\
\hline
\end{array}
\]

b. (I thought I should meet the chairman yesterday morning after I immerse into sleep and forget what happened the day before yesterday)

\[
\begin{array}{|l|}
\hline
C_R \{ت خروجي (I had come out), the worker\} \\
C_B: \text{the worker} \quad C_P: \text{the worker} \\
\text{Transition: CONT} \\
\hline
\end{array}
\]
DS11: صباح أمس توجهت إلى المطابع وعندما شاهدت السيد على: 
سلطان أثناء مروره حاولت مكالمته ولكنه رفض ونهرني فأخرجت السكين ولا أدرى ما حدث بعد ذلك ... وجريت بعد ذلك إلى الخارج خشية أن يعتدى على أحد من الموظفين أو العمال حتى جاء رجال الشرطة وضبطوني في الشارع ... وأضاف أنه إشترى السكين لتقطيع البرتقال ولم يقصد قتله.

Yasmin Mohammed El-Sayed Soliman

The accused continues the narration of the previous events that precede the main event of the attempted killing of the chairman. He tells the incidents from his viewpoint.

U33: صباح أمس توجهت إلى المطابع (Yesterday morning I headed for the printing house)
Local Coherence in Crime News Reports

A Centring Analysis of Arabic and English Crime News Reports

When I saw Mr. Ali Sultan during his passing

(I tried to talk to him)

(therefore, I took the knife out)

(And I do not know what happened afterwards)

| Arabic (Centring) | English (Centring) |
|-------------------|-------------------|
| CF: {ت (I/the worker), المطبع (the printing house)} | CF: {I(the worker), the printing house} |
| CB: the worker | CB: the worker |
| CP: the worker | CP: the worker |
| Transition: CONT | Transition: CONT |

CF: {ت (I/the worker), السيد علي سلطان (Mr. Ali Sultan), مروره (his passing)}
CB: the worker
CP: the worker
Transition: CONT

CF: {ت (I/the worker), مكالمته (talk to him)}
CB: the worker
CP: the worker
Transition: CONT

CF: {أ (he/the chairman), ني (me/ the worker)}
CB: the worker
CP: the chairman
Transition: RET

CF: {ت (I/the worker), السكين (the knife)}
CB: the worker
CP: the worker
Transition: CONT

CF: {أ (I/the worker)}
CB: the worker
CP: the worker
Transition: CONT
Yasmin Mohammed El-Sayed Soliman

U37: a. وجريت بعد ذلك إلى الخارج خشية أن يعتدى على أحد من الموظفين أو العمال (Afterwards, I ran away fearing that one of the employees or the workers would assault me)

| C_e: {I/the worker}, C_p: the employee or the workers} |
| C_b: the worker |
| Transition: CONT |

b. حتى جاء رجال الشرطة وضبطوني في الشارع (until the policemen arrived and arrested me in the street)

| C_e: {the policemen}, C_p: the street} |
| C_b: the worker |
| Transition: RET |

U38: وأضاف أنه اشترى السكين لقطع البرتقال (He added that he had bought the knife to cut the oranges)

| C_e: {a/the worker}, C_p: the knife (the oranges}) |
| C_b: the worker |
| Transition: CONT |

U39: ولم يقصد قتله (and he did not mean to kill him)

| C_e: {I/the worker}, C_p: the worker |
| C_b: the worker |
| Transition: CONT |

9) History & Consequences:

المتهم يعمل منذ 5 سنوات بالمطبعة ومرتبه الشهرى لا يتجاوز 5 جنيهات وله (...) أخوه ووالده كان يعمل في المطبوع قبل ذلك ومات منذ عامين وكان مرتبه 45 جنيهًا في الشهر. وقد نقل المحتوى عليه (50 سنة) إلى مستشفى بولاق وقال عند سواله أنه (لا) يعرف سبب تعدى المتهم عليه. وجاء في تقرير المستشفى أن الجرح نافذ بالتجويف (...) حالته ليست خطرة وتولى التحقيق الأستاذ أنطون باسيلي وكيل أول النيابة.
The accused has been working in the printing house for 5 years. His monthly salary does not exceed five pounds. He has (...) siblings. His father used to work in the printing house. He died two years ago. His salary was 45 pounds per month. The victim (50 years) was transported to Bulaq hospital. When asked, he said that he did not know the reason for the accused to assault him. It was reported in the hospital report that the cut is piercing the (...) cavity ... his state is not dangerous. Anton Basili, government commissioner, undertook the investigation.
Yasmin Mohammed El-Sayed Soliman

U42: (His father used to work in the printing house)

Cf: {father, printing house}  
Cb:  
Cp: his father  
Transition: ROUGH-SHIFT

U43: (He died two years ago)

Cf: {a, the father}  
Cb: the father  
Cp: the father  
Transition: CONT

U44: (His salary was 45 pounds per month)

Cf: {salary, 45, per month}  
Cb:  
Cp: the salary  
Transition: ROUGH-SHIFT

U45: (The victim (50 years) was transported to Bulaq hospital)

Cf: {victorl, Bulaq hospital}  
Cb:  
Cp: the victim  
Transition: ROUGH-SHIFT

U46: a. (he said when he was asked)

Cf: {a, the victim}  
Cb: the victim  
Cp: the victim  
Transition: CONT

b. (that that he did not know the reason for the accused to assault him)

Cf: {no, reason, accused}  
Cb: the victim  
Cp: the victim  
Transition: CONT

U47: (that the cut is piercing the cavity ... his state is not dangerous)

Cf: {a, the cut, cavity, dangerous}  
Cb: the victim  
Cp: the victim  
Transition: CONT
Local Coherence in Crime News Reports
A Centring Analysis of Arabic and English Crime News Reports

5-1-3- Findings:

DS1 through DS3, i.e. the headline and the lead, contribute largely to the coherence of the text, "as they communicate the main event and position the event in a particular context." (Jancarikova, 2017.p.111). They are closely linked through the continuation or retention of the mention of the main participants. Consequently, the reader makes inferences about the main topic and sets the expectations of the following information. Each discourse segment begins with a new center of focusing attention. DS4 through DS11 focus on different sides of the crime, namely, the accused (the worker), the victim (the chairman), the witnesses, and the police. Each is presented differently in accordance with their role in the crime.

Each participant is introduced to the discourse using an indefinite/definite
noun phrase. When the same participant is mentioned in the subsequent utterances, the proper personal pronoun (3rd person sing/pl) is employed anaphorically. This pronoun functions as the unique backward-looking center of the utterance. It is chosen from the list of forward-looking centers of the preceding utterance. However, it is worth noting that the pronoun is implicit and is represented by the affixed verbal pronoun specific for the Arabic language. Thus, Rule 1 is fulfilled. In each segment, the subsequent utterances continue discussing the same referent. The use of retentions assists in producing smoother transition to a new center. Therefore, Continuations > Retentions > Smooth-shift > Rough-shift. Local coherence is maintained throughout the specified segments as the repetition of the mention of the same referent within successive utterances heightens the effect and emphasizes particular features of the participants.

However, the final segment of the news report, namely DS12, is less coherent the preceding ones. This is due to "different degrees of continuity in which the discourse is about." (Grosz et al., 1995, p.7). Rough-shifts > Continuations or Retentions. The segment shifts focus from discussing the accused (in U39) to discussing his salary (U40). The focus suddenly shifts to discussing the father of the accused (U41 – U43). Then, there is a sudden mention of the victim and the seriousness of his cut (U44 – U46). The last utterance mentions a new center of focus, which is the police investigation.

5-2- English crime news report: (Four Women Slashed in Broadway Crowd)
5-2-1- Summary:

The crime news report is published in New York (The Evening Post) on November 2, 1917. The crime newsworthiness stems from its belonging to collective integrity category. It reports the unusual crime committed by a man against women: the man slashes women in the public streets and at different subsequent times. The text is divided into 8 discourse segments with a total of 15 utterances.
5-2-2- Analysis:
1) Headline:
   DS1: Four Women Slashed in Broadway Crowd
   The headline consists of a brief passive statement. The focus of attention is on the entity in the subject position, i.e. four women. The reader infers that they are the victims of the crime. The doer of the action is not mentioned. This arouses the reader's attention and gets encouraged to continue reading the report.
   U1: Four Women Slashed in Broadway Crowd
   
   \[C_r: \{\text{four women, Broadway crowd}\} \]
   \[C_b: \emptyset \quad C_p: \text{four women} \]
   Transition: NULL

   There is no \(C_b\) as this is the initial utterance. It is expected for the report to continue talking about the victims.

2) Lead:
   DS2: Antonie Karasinoke, arrested for crime, reported by the police to have made a confession.
   The lead consists of one passive statement. The focus is on the subject as the doer of the action of the slashing: the reader infers that the proper noun stands for the offender. The lead is short and precise.
   U2: Antonie Karasinoke, arrested for crime, reported by the police to have made a confession
   
   \[C_r: \{\text{Antonie Karasinoke, the police, a confession}\} \]
   \[C_b: \emptyset \quad C_p: \text{Antonie Karasinoke} \]
   Transition: NULL

3) Main Event:
   DS3: A "slasher" made his appearance in the downtown section of the city to-day, shortly after the noon hour, and cut four women with a knife inflicting ugly, although not dangerous, wounds. The man made his escape in the crowds which lined the downtown streets, but later in the
afternoon Abigall de Jongh, one of the women slashed, pointed out to the police a man whom she said had brushed by her at the time she was cut. When the policeman attempted to arrest this man he made a struggle and it took the combined efforts of two policemen to subdue him.

U3: A "slasher' made his appearance in the downtown section of the city to-day, shortly after the noon hour, and cut four women with a knife inflicting ugly although not dangerous, wounds.

| Cφ: {a slasher, his appearance, four women, the downtown section} |
| Cb: Ø | Cφ: a slasher |
| Transition: NULL |

U4: a. The man made his escape in the crowds which lined the downtown streets

| Cφ: {the man, his escape, the crowds} |
| Cb: a slasher | Cφ: the man |
| Transition: CONT |

The definite noun phrase (NP), the man, denotes the same highest ranked entity of U3, namely, the slasher. The employment of this definite conveys further information. By bringing it to the reader's attentional state, the reader draws additional inferences: the reader matches this definite noun phrase with the indefinite noun phrase that is mentioned in the preceding utterance, i.e. a slasher. Thus, the reader concludes that both noun phrases refer to the same referent. In addition, the gender of the offender is revealed.

b. but later in the afternoon Abigall de Jongh, one of the women slashed, pointed out to the police a man whom she said had brushed by her at the time she was cut.

| Cφ: {Abigall de Jongh, the police, a man} |
| Cb: Ø | Cφ: Abigall de Jongh |
| Transition: ROUGH-SHIFT |

U5: a. when the policeman attempted to arrest this man
b. he made a struggle

\[
\begin{align*}
\mathcal{C}_r & : \{ \text{he (the man), a struggle}\} \\
\mathcal{C}_b & : \text{a man} \quad \mathcal{C}_p : \text{the man} \\
\text{Transition: CONT}
\end{align*}
\]

c. and it took the combined efforts of two policemen to subdue him

\[
\begin{align*}
\mathcal{C}_r & : \{ \text{the combined efforts, two men, him (the man)}\} \\
\mathcal{C}_b & : \text{the man} \quad \mathcal{C}_p : \text{the combined efforts} \\
\text{Transition: RET}
\end{align*}
\]
4) Consequences:
   DS4: The arrest was made at Wall Street and Broadway, and the man was taken to the Greenwich Street police station. At the police station the prisoner refused to make any statement, and was taken to Police Headquarters in a patrol wagon. Later he described himself as Antoni Karasineki, of 137 East 15\textsuperscript{th} Street, a machinist, and confessed, the police reported, to having made the attacks on the four women.

U\textsubscript{6}: a. the arrest was made at Wall Street and Broadway

\begin{center}
\begin{tabular}{|l|l|}
\hline
C\textsubscript{p}: \{the arrest, Wall Street and Bradway\} \\
C\textsubscript{b}: \emptyset \\
Transition: NULL \\
\hline
\end{tabular}
\end{center}

b. and the man was taken to the Greenwich Street police station

\begin{center}
\begin{tabular}{|l|l|}
\hline
C\textsubscript{p}: \{the man, the Greenwich Street police station\} \\
C\textsubscript{b}: \emptyset \\
Transition: RET \\
\hline
\end{tabular}
\end{center}

U\textsubscript{7}: a. the prisoner refused to make any statement

\begin{center}
\begin{tabular}{|l|l|}
\hline
C\textsubscript{p}: \{the prisoner, statement\} \\
C\textsubscript{b}: the man (the offender) \\
Transition: CONT \\
\hline
\end{tabular}
\end{center}

The use of the definite NP 'the prisoner' is inferred to be referring back to the definite NP 'the man', in U\textsubscript{7b}. 'The prisoner' is used to denote the man's current state after the arrest.

b. and was taken to Police Headquarters in a patrol wagon

\begin{center}
\begin{tabular}{|l|l|}
\hline
C\textsubscript{p}: \{null subject (the prisoner), police headquarters, a patrol wagon\} \\
C\textsubscript{b}: the prisoner \\
Transition: CONT \\
\hline
\end{tabular}
\end{center}

U\textsubscript{8}: a. he described himself as Antoni Karasineki, of 137 East 15\textsuperscript{th} Street, a machinist
b. and confessed, the police reported, to having made the attacks on the four women

5) Context:

**DS5**: All the attacks took place on Broadway, one near Liberty Street, two at Broadway and Wall Street, and another near Exchange Place.

In DS5, the reader's attention is drawn to an important aspect of the slashing repeated crimes, that is, their location. The segment consists of one active utterance, where the focus is on the subject.

**U9**: a. all the attacks took place on Broadway

b. one near Liberty Street,

c. two at Broadway and Wall Street,
d. and another near Exchange Place

\[ C_R: \{ \text{one, two, another} \} \\
C_b: \text{all the attacks} \quad C_p: \text{another} \\
\text{Transition: RET} \]

U\textsubscript{9} contains one definite clause in addition to three embedded ones. The subject in each embedded clause, the locus of attention and the highest ranked entity, refers back to the main subject, which is 'all the attacks'. Therefore, the entity 'all the attacks' is 'indirectly realized' in the subsequent clauses.

**DS6:** Scores of persons were walking along the street when Irene Riley, thirty-two years of age, of 763 Franklin Avenue, Brooklyn, screamed and fell to the sidewalk. Several men ran to her assistance and carried her into the offices of the Baltimore & Ohio Railroad, at Liberty Street, where an ambulance surgeon from Volunteer Hospital found that she had been cut, with a knife.

U\textsubscript{10}: a. Scores of persons were walking along the street

\[ C_R: \{ \text{scores of persons, the street} \} \\
C_b: \emptyset \quad C_p: \text{scores of persons} \\
\text{Transition: NULL} \]

b. when Irene Riley, thirty-two years of age, of 763 Franklin Avenue, Brooklyn, screamed and fell to the sidewalk

\[ C_R: \{ \text{Irene Riley, the sidewalk} \} \\
C_b: \emptyset \quad C_p: \text{Irene Riley} \\
\text{Transition: ROUGH-SHIFT} \]

U\textsubscript{11}: a. several men ran to her assistance and carried her into the offices of the Baltimore & Ohio Railroad, at Liberty Street
Local Coherence in Crime News Reports

A Centring Analysis of Arabic and English Crime News Reports

b. where an ambulance surgeon from Volunteer Hospital found that she had been cut, with a knife.

DS7: A few minutes later Abigail de Jongh, thirty-two, of 1049. Grand Concourse, The Bronx, reported to the police that she, too, had been slashed, but had not been aware of it until she reached the Baltimore & Ohio offices and was informed that a young woman had been cut.

U_{12}: Abigail de Jongh, thirty-two, of 1049. Grand Concourse, The Bronx, reported to the police …

DS8: Miss Edith Fox, of 497 Sixth Avenue, Brooklyn, was also slashed while walking on Broadway near Wall Street. She received a wound across the right side of her face and was attended at the Broad Street Hospital. A few moments later Miss Florence Rogers, a stenographer living at 2137 Pacific Street, Brooklyn, was stabbed in the left shoulder.
Miss Edith Fox, of 497 Sixth Avenue, Brooklyn, was also slashed while walking on Broadway near Wall Street.

She received a wound across the right side of her face and was attended at the Broad Street Hospital.

A few moments later Miss Florence Rogers, a stenographer living at 2137 Pacific Street, Brooklyn, was stabbed in the left shoulder.

5-2-3- Findings:

The headline and the lead summarize the story of the crime report through focusing the reader's attention on the subject noun phrases: 'four women' in the headline and 'Antoni Karasinoke' in the lead. The reader infers the main participants in the crime, namely, the victims and the offender. However, introducing the victims in the headline serves to arouse the reader's curiosity to continue reading to know the details. The lead heightens the dramatic effect as the reader knows that the offender is male.
Local Coherence in Crime News Reports

A Centring Analysis of Arabic and English Crime News Reports

The most important information comes at the beginning utterance of each discourse segment, which is then followed by one or more specific utterances. In the eight discourse segments, the subsequent utterances either continue or retain the mention of the entity mentioned in the initial utterance. However, although the same discourse topic is continued, reference to previously mentioned entity is not implemented through using the appropriate personal pronouns. Different noun phrases to refer to the same entity in subsequent utterances are used (as in DS4). This violates Rule 1 of centring theory. The implied reader is urged to exert extra effort to infer the reference relying on the context and the discussed topic. In other discourse segments, human-reference third person pronouns are employed to create a logical link between the propositions. Each utterance has precisely a single $C_b$, which refers back to the highest ranked entity of the directly preceding utterance. Thus, local coherence is engendered.

One of the obvious remarks in the English news report is the tendency to have long, complex sentences. Likewise, "Sentence syntax expresses the semantic roles of participants in an event by word order, relational functions (subject, object), or the use of active or passive forms." (van Dijk, news analysis, p.11).

5-3- Results:

The application of centring theory to crime news reports in Arabic and English has revealed certain points of similarity and differences between the two languages. Besides, it has shown certain features of crime news reports as a form of written discourse.

The focus and salience of the discourse entities is determined by their grammatical role: entities in subject position are more salient in the reader's attentional state than direct or indirect objects which, in turn, are higher ranked that objects of prepositions and so forth. Therefore, they are easily processed.
The pronominal system in both languages is different. English is a pro-drop language (also known as a zero-pronoun or null pronoun language). In other words, the pronoun is not explicitly mentioned as it can be pragmatically inferred. The personal pronouns in the Arabic pronominal system, on the other hand, need not be explicitly mentioned. However, they can appear as overt attached personal pronouns. Thus, the inference load in English to deduce the proper referent is heavier than in Arabic language.

Another remark is the interplay between the linguistic structure and the attentional state of the discourse. "The linguistic expressions convey information about the discourse structure; conversely, the discourse structure constrains the interpretation of expressions (and hence affects what a speaker says and how a hearer will interpret what is said)." (Grosz & Sidner, 1986, p. 177). The attentional state, in turn, changes according to which objects are salient at each point in the discourse.

This accounts for the flow of information in discourse generally and crime news reports specifically. The discourse of crime news reports is not a group of isolated sentences. Rather, the comprehension of such discourse type entails the analysis of the sequences of sentences and "the interpretation of surrounding, usually preceding, sentences in the same text." (van Dijk, news analysis, p.11). Thus, this aspect of local coherence plays a significant role in discourse processing and comprehension.

The processing of discourse information renders easier when writers continue or retain the mention of the same referent in subsequent utterances through applying the pronominal system of the language. Intersentential pronominal reference tends to refer to the most salient entities in the discourse. Shifts to new topics are marked by mention of new discourse entities (Rule 2). This technique renews the implied reader's focus at each point of the discourse. Consequently, the analysis of crime news discourse has shown that recurring salient entities, namely, the victim (s), the offender (s), the witness (es), and the police, which are referred to using human-
Local Coherence in Crime News Reports

A Centring Analysis of Arabic and English Crime News Reports

reference third person pronouns. This feature of crime news discourse is also closely tied to maintaining 'authorial neutrality', also known as 'the ethic of objectivity', of the discourse producer.

Related to the previously mentioned remark, the preference for continuation is marked by the employment of either regular pronouns or definite noun phrases in both languages. However, in English, null pronouns mark continuation as well. As per retention, it is signaled by regular pronouns and they mark a slight change of topic.

6- Conclusion:

The present study is an attempt to apply centring theory devised by Grosz et al. (1995) to the analysis and investigation of intersentential pronominal anaphoric reference as a means of achieving local coherence. The paper concentrates on a discourse genre, that is, the discourse of crime news report. Likewise, the investigation extends to clarifying distinctive points of resemblance or difference between two languages, namely, Arabic and English in terms of anaphora.

Discourse anaphora is a means through which some entity of information, which is "previously placed in discourse memory and already bearing a minimal of attention activation", is recalled. (Cornish, 2006, p. 632). The interlocutor's attention and activation of information is both oriented and maintained through the discourse anaphoric reference. Therefore, one primary approach to anaphora resolution is how referring expressions interact with the attentional state (Grosz 1977, Grosz & Sidner 1986).

The analysis has shed light on some noteworthy unsolved issues in centring theory that need further exploration. An instantiation is duality: the computation of the backward-looking center of an utterance can be affected when the subject of the preceding utterance is dual, i.e. referring to two entities. In the analysis, they have been treated as an instance of indirectly realized entities. Another issue is
how the computation of forward-looking and backward-looking centers are affected by inverted or fronted phrases.
List of References

de Beaugrande, R. & Dressler, W. U. (1981). Introduction to text linguistics. London: Longman.
Cornish, F. (2006). Discourse anaphora. In K. Brown (Ed.), *Encyclopedia of Language and Linguistics* (2nd Edition) (631-638). Oxford: Elsevier Ltd.
Crystal, D. (1985). A dictionary of linguistics and phonetics. Oxford: Blackwell.
van Dijk, T. A. (1977). Text and context: Explorations in the semantics and pragmatics of discourse. London: Longman.
van Dijk, T. A. (1988a). News analysis: Case studies of international and national news in the press. New Jersey: Lawrence Erlbaum Association.
van Dijk, T.A. (1988b). News as discourse. New Jersey: Lawrence Erlbaum Association.
Dontcheva-Navratilova, O., Jancarikova, R., Missikova, G. & Povolna, R. (2012). Coherence and cohesion in English discourse. Masaryk University.
Di Eugenio, B. (1998). Centring in Italian. In M. A. Walker, A. K. Joshi & E. F. Prince (Eds.), *Centring Theory in Discourse* (pp. 115-137). Oxford: Clarndon Press.
Fehri, A. F. (1988). Agreement in Arabic: Binding and coherence. In M. Barlow & C. Ferguson (Eds.), *Agreement in Natural Language* (pp. 107-158). Stanford CA: CSLI.
Gordon, P. C., Grosz, B. J. & Gillian, L. A. (1993). Pronouns, names, and the centring of attention in discourse. *Cognitive Science* 17, 311-347.
Grosz, B. J. (1977). The representation and use of focus in a system for understanding dialogs. *Proceedings of the Fifth International Joint Conference on Artificial Intelligence*. Cambridge.
Grosz, B. J., Joshi, A., & Weinstein, S. (1983). Providing a unified account of definite noun phrase in discourse. *Proceedings of 21st Annual Meeting of The Association of Computational Linguistics*, 44-50.
Grosz, B. J., Joshi, A., & Weinstein, S. (1995). Centring: A framework for modelling the local coherence of discourse. *IRCS Technical Reprts Series 116*. 
Grosz, B. J. & Sidner, C. L. (1986). Attention, intentions, and the structure of discourse. *Computational Linguistics* 12(3), 175-204.

Halliday, M. A. K. & Hasan, R. Cohesion in English. London: Longman.

Hirst, G. J. (1979). Anaphora in natural language understanding: A survey. Canada: University of British Columbia.

Hirst, G. J. (1981). Discourse-oriented anaphora resolution in natural language understanding: A review. *American Journal of Computational Linguistics* 7(2), 85-98.

Jancarikova, R. (2017). Cohesion and coherence in newspaper discourse with a focus on crime reports in the modern British press. In O. Dontacheva-Navratilova, R. Jancarikova, G. Missikova & R. Povolna (Eds.), *Coherence and cohesion in English discourse*. Masaryk University.

Katz, J. (1987). What makes crime news? *Media, Cultur, and Society* 9, 47-75. London: SAGE.

Kintsch, W. & van Dijk, T. A. (1978). Towards a model of discourse comprehension and production. *Psychological Review* 85: 363-394.

Mann, W. C. & Thompson, S. A. (1988). Rhetorical structure theory: Towards a functional theory of text organization. *Text* 8(3): 243-281.

Mitkou, R. & Street, S. (1999). Anaphora resolution: The state of the art. *Computational Linguistics*, 1-34.

Pathanasin, S. & Aroonmanakun, W. (2014). A centring theory analysis of discrepancies on subject zero anaphor in English to Thai translation. *MANUSYA: Journal of Humanities* 17(1), 45-63.

Poesio, M., Stevenson, R., Di Eugenio, B. & Hitzeman, J. (2004). Centring: A parametric theory and its instantiations. *Computational Linguistics* 60(4), 309-363.

Reinhart, T. (1980). Conditions for text coherence. *Poetics Today* 1(4), 161-180.

Schulz, E. (2004). *A student grammar of modern standard Arabic*. Cambridge: CUP.

Stojnic, U., Stone, M. & Lepore, E. (2017). Discourse and logical form: Pronouns, attention, and coherence. *Linguistics and Philosophy* 40(5), 519-547.

Taboada, M. (2008). Deciding on units of analysis within centring theory. *Corpus Linguistics and Linguistic Theory* 4(1), 63-108.
Local Coherence in Crime News Reports

A Centring Analysis of Arabic and English Crime News Reports

Walker, M., Joshi, A. & Prince, E. (1994). Centring in naturally occurring discourse: An overview. Language 70: 1-53.

Wang, Y. & Guo, M. (2014). A short analysis of discourse coherence. *Journal of Language Teaching and Research* 5(2), 460-465.

Widdowson, H.G. (1978). Teaching language as communication. Oxford: OUP.

Zikanova, S., Hajicova, E., Hladka, B., Jinova, P., Mirovsky, J., Nedoluzhko, A. … Vacl, J. (2015). Discourse and coherence: From the sentence structure to relations in text. Prague: Ufal.