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Against backward control analyses of Japanese tokoro-clauses

Keisuke Yoshimoto¹

Abstract

This paper aims to shed new light on the Japanese circumstantial tokoro-clause in the context of the current discussion about whether control involves movement (Hornstein 1999 et seq.). Although it has been argued that this construction involves so-called backward control in which the matrix null object pro controls an argument within the tokoro-relative backward, the data from scope interaction show that the tokoro-clause is in fact an adverbial clause situated structurally higher than the matrix null object pro, and hence not an instance of backward control.

1 Introduction

Since the work of Polinsky and Potsdam (2002) on backward control in Tsez, a northeast Caucasian language, many attempts have been made to corroborate the existence of backward control in various languages. Usually, obligatory control holds between a PRO subject in the embedded clause and its controller in the matrix clause as shown in (1), so that the controller always precedes and c-commands the controllee.

(1)  John, tried [PRO, to find a new housemate].

It has been claimed, however, that in some languages there exists backward control in which the controller seems to follow and occupies a position structurally lower than its controllee.² Although backward control seems to be restricted to specific constructions in a few languages, its existence casts doubt on the existing PRO-based analysis of control because it has been generally thought that obligatorily controlled PRO requires a c-commanding controller. Furthermore, with the advent of the movement theory of control (Hornstein 1999 among others), backward control seems like a sanctuary for those who

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² For instance, it has been reported that backward control is observed in Brazilian Portuguese periphrastic causative constructions (Farrell 1995), in Malagasy object control (Potsdam 2006) and in Korean object control (Monahan 2003).
advocate the movement theory. This is because in the movement theory of control, the control relation can be reduced to an A-chain analogous to that arising from raising, and by capitalizing on the copy theory of movement, controller choice can be reduced to the question of which copy of a given chain is pronounced.

In this paper, I restrict myself to investigating the circumstantial *tokoro*-clause in Japanese, which is the oldest attested instance of backward control discussed in the generative literature dating back to Harada (1973), and argue whether this particular construction really involves backward control or not. By so doing, this paper will, it is hoped, contribute to a better understanding of hitherto undiscovered properties of this construction, and lead to re-examination of the presence of backward control itself. The structure of this paper is as follows. In the next section, I will outline the characteristics of the Japanese *tokoro*-clause by introducing previous work by Harada (1973), Kuroda (1978), Fujii (2004) and Narita (2007). Then, in section 3, I will discuss the nature of the null matrix object. Section 4 examines the structural position of the *tokoro*-clause. And in section 5, I will discuss the status of the particle –*o* attached to the *tokoro*-clause and zero pronominalization. Section 6 presents my overall conclusions.

2 Circumstantial Tokoro-clauses

In this section, I attempt to sketch the basic properties of the *tokoro*-clause, and look at previous analyses of it. Semantically, the *tokoro*-clause gives information as to the kind of circumstance in which the event denoted by the matrix verb takes place. The noun *tokoro*, literally meaning ‘place’, indicates ‘at the very moment’ or ‘at the instant’ in this construction:

(2) a. Keisatsu-wa [sono doroboo-ga nigete iku tokoro]-o tsukamae-ta.  
   The police- TOP [that burglar-NOM escape-TE go TOKORO]-ACC catch-PAST  
   ‘The police caught the burglar, as he, was escaping.’

b. Taroo-wa [Jiroo-ga komat-te iru tokoro]-o tasuke-ta.
What is unique about this construction is that the direct object of the matrix transitive verb, *tsukamaeta* ‘caught’ in (2a) and *tasuketa* ‘helped’ in (2b), does not appear in the matrix clause, but instead surfaces as the subject of the clause (underlined throughout) headed by *tokoro*. For instance in (2a), the subject of the *tokoro*-clause, *sono doroboo* ‘that burglar’, is interpreted as the direct object of the matrix transitive verb *tsukamaeta* ‘caught’, and in (2b) the subject of the *tokoro*-clause, *Jiroo*, is considered an object of the matrix transitive verb *tasuketa* ‘helped’. Another important thing to note is that although the *tokoro*-clause functions as an adverbial specifying the circumstance in which the matrix event occurs, it seems that the *tokoro*-clause is assigned Case by the matrix verb because it is marked with an accusative Case marker –*o*. This peculiar behavior of the *tokoro*-clause has been the object of much attention. In what follows, I will discuss how previous analyses have treated this construction chronologically.

2.1 Harada (1973)

2.1.1 Null direct object

Harada (1973) is the first generative linguist to discuss the *tokoro*-clause, in the framework of Extended Standard Theory. He claims that the *tokoro*-clause is a circumstantial adverbial complement, and that there is an underlying direct object in the matrix clause which gets deleted under identity with the subject of the *tokoro*-clause by a Counter Equi NP deletion rule (3) (Harada 1973: 183). The structure he suggests for (2a) is shown in (4):

(3) Counter Equi
Delete an NP in the matrix sentence if it is identical to the subject of the complement sentence.

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3 The page number of Harada (1973) is based on that of the reprinted version published in (2000).
As shown in (4), the direct object *doroboo-o* ‘burglar’ is deleted by the Counter Equi NP deletion rule since it is identical with the subject of the adverbial complement *tokoro*-clause, regardless of the fact that it is situated higher than the *tokoro*-clause subject.

Although it is tempting to assume that the *tokoro*-clause itself is the direct object of the matrix verb, there is some evidence to show that there exists a silent NP in the matrix which serves as the direct object. Let us first look at (non-adversative) passive sentences. As shown below, it is not possible to convert the *tokoro*-clause into a passive subject even though it seems to be assigned accusative Case (taken from Harada 1973)

(5) a. Keisatsu-wa [sono doroboo-ga nigete iku tokoro]-o
tsukamae-ta.
The police-TOP [that burglar-NOM escape-TE go TOKORO]-ACC
‘The police caught the burglar, as he was escaping.’

b.*[Sono doroboo-ga nigete iku tokoro]-wa,
keisatsu-ni tsukamae-rare-ta.
[That burglar-NOM escape-TE go TOKORO]-TOP
police-BY catch-PASS-PAST.

This contrasts with an ordinary embedded clause headed by the complementizer *-koto*. Just like the *tokoro*-clause, the embedded clause in (6a) is marked by accusative Case
particle -o, but it is different in that this clause can be converted into a subject through passivization of the matrix verb (taken from Harada 1973)

(6) a. Minna wa [kokutetsu-no suto-ga kyoo aru koto]-o
   Everyone- TOP [National Railway-GEN strike-NOM today be KOTO]-ACC
   know-TE be
   ‘Everyone knows that the employees of National Railway is going on strike today.’

   b. [Kokutetsu-no suto-ga kyoo aru koto]-wa minna-ni
   [National Railway-GEN strike-NOM today be KOTO]-TOP everyone-BY
   shir-are-te iru.
   know-PASS-TE be
   ‘It is known to everyone that the employees of National Railway is going on strike today.’

Accordingly, an obvious conclusion to draw is that the tokoro-clause behaves differently from a direct object. However, the tokoro-clause in (2a) (here repeated as (7a) for expository convenience) has the passive counterpart shown in (7b).

(7) a. Keisatsu-wa [sono doroboo-ga nige-te iku tokoro]-o
   The police- TOP [that burglar-NOM escape-TE go TOKORO]-ACC
   tsukamae-ta.
   catch-PAST
   ‘The police caught the burglar, as he was trying to escape.’

   b. Sono doroboo-wa keisatsu-ni, [nige-te iku tokoro]-o
   That burglar-TOP police-BY [run-TE go TOKORO]-ACC
   tsukamae-rare-ta.
   catch-PASS-PAST.
   ‘The burglar was caught by the police the moment he tried to escape.’

Since it seems that the subject of the tokoro-clause sono doroboo ‘that burglar’ in (7a) has moved to the surface subject position in (7b), one might suppose that the subject of the tokoro-clause could move across a clause boundary when the matrix verb is passivized. This assumption, however, is untenable in the light of the fact that a nominative embedded subject cannot generally move into a matrix clause as shown in (8) (taken from Harada 1973).
(8) * Kokutetsu-no suto-wa minna-ni [ t, kyoo aru koto]-o
     National rail-GEN strike-TOP everyone-BY [ today be KOTO]-ACC
     shir-are-te iru.
     know-PASS be
     ‘It is known to everyone that the employees of National Railway is going on
     strike today.’

Such data lead Harada (1973) to assume that there is in fact an underlying direct object in
the matrix clause and it appears on the surface only when it is passivized for reasons
which we will turn to discuss later.

Another piece of evidence for the existence of a matrix direct object comes from cleft
sentences. Harada (1973) notes that the sentences in (2) have the corresponding cleft
sentences shown in (9).

(9)  a. Keisatsu-ga sono doroboo-o/*ga tsukamae-ta-no-wa,
     Police-NOM that burglar-ACC/*NOM catch-PAST-NO-TOP
     [(soitsu-ga) nige-te iku tokoro]-o da-ta.
     [(that one-NOM) escape-TE go TOKORO]-ACC be-PAST
     ‘It was the moment he tried to escape that the police caught the burglar.’

     b. Taroo-ga Jiroo-o/*ga tasuke-ta-no-wa,
     Taro-NOM Jiro-ACC/*NOM help-PAST-NO-TOP,
     [(kare-ga) komat-te iru tokoro]-o dat-ta.
     [(he-NOM) trouble-TE be TOKORO]-ACC be-PAST
     ‘It was when he (=Jiro) was in trouble that Taro helped Jiro.’
     (Harada 1973: 187)

In order to derive the cleft sentences above from the sentences in (2), it is necessary to
extract the whole tokoro-clause as a chunk and move it to the position preceding the
copular da-ta. This movement is illustrated below (taken from Harada (1973: 187) with
slight modification).
As shown in the diagram above, the *tokoro*-clause as a whole NP is moved to the pre-copular position from the original position. However, it is also the case that the direct object *sono doroboo* ‘that burglar’ appears in the cleft sentences in (9) (as indicated in bold face). If the subject of the *tokoro*-clause cannot move to the matrix as we have just discussed in relation to (8), one plausible way of deriving the cleft sentences in (9) which Harada (1973) suggests is to assume that there is an underlying direct object separate from the *tokoro*-clause, and it only surfaces in the cleft sentences.

Further evidence for the presence of a direct object comes from selection restrictions. Harada (1973: 197) notes, citing the sentences below, that the *tokoro*-clause cannot take as its subject an NP which is not appropriate as the object of the matrix verb.

(11) a. *Keisatsu wa [ame-ga fut-te iru tokoro]-o tsukamae-ta.*
   The police- TOP [rain-NOM falling be TOKORO]-ACC apprehend-PAST
   ‘The police apprehended the rain while it was raining.’

   b. *Taro wa [ame ga fut-te iru tokoro]-o osot-ta.*
   Taro- TOP [rain-NOM falling be TOKORO]-ACC assault-PAST
   Taro assaulted the rain while it was raining.’
c.*Taroo wa [ame ga fut-te iru tokoro]-o tasuke-ta.
   Taro-TOP [rain-NOM falling be TOKORO]-ACC help-PAST
   ‘Taro helped the rain while it was raining.’

Intuitively, (11a) is out because the subject of the tokoro-clause ame ‘rain’ is not appropriate as the object of the matrix verb tsukamae ‘apprehend’. However, it is not usual for a matrix verb to impose selection restrictions on an embedded subject. Harada (1973) suggests that this can be accounted for if there is a silent direct object that is co-referential with the subject of the tokoro-clause, and the matrix verb selects this direct object. Accordingly, the subject of the tokoro-clause cannot be the one which is not a suitable direct object for the matrix verb.

In subsequent work, Fujii (2004) provides further evidence for the presence of a silent direct object. He notes that if the subject of the tokoro-clause is a pronoun such as kare ‘he’, it cannot be co-referential with the matrix subject as shown in (12).

(12) John-i-ga [kare-*i/j-ga ochikonde iru tokoro]-o nagusame-ta.
   John-i-NOM [he-*i/j-NOM disappointed be TOKORO]-ACC console-PAST
   ‘John i consoled pro when he*i/j was disappointed.’
   (Fujii 2004)

In (12), the subject of the tokoro-clause kare ‘he’ cannot be interpreted as John, the matrix subject. Since the matrix subject John and the subject of the tokoro-clause belong to different clauses, in theory, binding condition B is not violated; and hence they should be able to co-refer. Fujii (2004) argues that this fact can be accounted for if we assume that there is a silent matrix object which is identical with the subject of the tokoro-clause, and it is this matrix object that violates condition B of the binding theory. This is illustrated in (13).

(13) John-i-ga pro-*i/j [kare-*i/j-ga ochikonde irutokoro]-o nagusame-ta.
   John-i-NOM [he-*i/j-NOM disappointed be TOKORO]-ACC console-PAST
   ‘John i consoled when he*i/j was disappointed.’
   (Fujii 2004)
2.1.2 Double-o Constraint and Counter Equi

So far, we have seen that evidence supporting the existence of a silent matrix object comes from (i) passives, (ii) cleft sentences, (iii) selection restrictions and (iv) binding condition B. A natural question to ask is, then, why the matrix object has no overt spellout other than in passive and cleft sentences. In this section, I will present an answer to this question following Harada (1973).

Let us begin by looking at a constraint which is known to apply in Japanese. According to Harada (1973), there is a surface constraint in Japanese known as the Double-o Constraint which prohibits two NPs marked with –o from occurring within the same VP. This is cited in (14).

(14) The Double-O Constraint
A derivation is marked as ill-formed if it terminates in a surface structure which contains two occurrences of NPs marked with o both of which are immediately dominated by the same VP-node.

Harada maintains that Counter Equi (14) applies only when the resulting surface structure would violate the Double-o Constraint. In other words, Counter Equi is a look-ahead rule (or peeping rule in Harada’s terminology) which avoids violating the Double-o constraint, and if the resulting structure would not break the Double-o constraint, normal forward Equi would apply. Let us look at how this works in the tokoro-clause:

    Police-TOP that burglar-ACC [that burglar-NOM escape go TOKORO]-ACC catch-PAST

    b. Keisatsu-wa sono doroboo-o [sono doroboo-ga nigete iku tokoro]-o tsukamae-ta.
If forward Equi NP deletion applies as shown in (15a), the two NPs marked with \(-o\), namely the matrix direct object and the *tokoro*-clause, remain. Thus, this sentence violates the Double-o constraint. In order to circumvent the Double-o constraint, Counter Equi is employed as in (15b) and the matrix direct object is deleted under identity with the subject of the *tokoro*-clause. Note that if the matrix direct object is deleted, there is only one NP marked with \(-o\), i.e., the *tokoro*-clause, within the VP in the resulting surface structure. In the case of passive and cleft sentences, however, one of the NPs is extracted out of the VP. In passives, the direct object is moved to the subject position, and in cleft sentences, the *tokoro*-clause marked with \(-o\) is extracted out of the VP and occupies the pre-copular position. Consequently, passive and cleft sentences do not violate the Double-o constraint in the sense that there are no two NPs marked with \(-o\) which are directly dominated by the same VP. Therefore, in these sentences, forward Equi NP deletion is applied, and thus the direct object appears.

2.1.3 The *tokoro*-clause with intransitive matrix verbs
Another point to note about the *tokoro*-clause is that it co-occurs with an intransitive main verb as shown in (16) (Harada 1973: 194).4

(16) a. Sono doroboo-wa [nigete iku tokoro]-o
That burglar-TOP [escape go TOKORO]-ACC
keisatsu-ni tsukamat-ta.
police-BY be.caught-PAST
‘The burglar was arrested by the police when he was escaping.’

b. Taro-wa [kanningu-o shi-te-iru tokoro]-o
Taro-TOP [cheating-ACC do-PROG TOKORO]-ACC
sensei-ni mitsukat-ta.
teacher-BY be.found-PAST
‘Taro was found by the teacher cheating in the exam.’

This data strengthens Harada’s assumption that the *tokoro*-clause is a circumstantial adverbial clause. As for the Case-particles which attach to the *tokoro*-clause, Harada

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4 The verbs *tsukamaru* and *mitsukaru* in (16) are not passivized transitive verbs but intransitives. This is because, according to Harada (1973: 195), there are no corresponding active transitive forms like *mitsuku*, and *tsukamu* [grasp, grip, hold] does not correspond to *tsukamaru* [be.caught].
(1973: 194) maintains that the occurrence of the particle -o is considered as a result of whatever process is in charge of placing postpositions.

2.2 Kuroda (1978)
Notwithstanding Harada’s (1973) view of the tokoro-clause as a circumstantial adverbial clause, Kuroda (1978) proposes that the tokoro-clause originates as a relative clause which modifies the matrix direct object. The rationale for this argument comes from the fact that there is an obvious case in which the tokoro-clause is Case-marked by the matrix verb. In (17) below, the matrix verb butsukaru ‘bump into’ assigns dative Case to its object. Note that the same Case is assigned to the tokoro-clause (Kuroda 1978: 42):

(17) a. Taroo-wa Hanako-*o/ni butsukat-ta.
    Taroo-TOP Hanako-*ACC/DAT bump into-PAST

   b. Taroo-wa [Hanako-ga nigete iku tokoro]-*o/ni butsukat-ta.
    Taroo-TOP [Hanako-NOM escape go TOKORO]-*ACC/DAT bump into-PAST
    ‘Taro bumped into Hanako, when she, was escaping.’

In order to account for this fact, Kuroda (1978) suggests that the base structure for the sentence (17b) is as follows:

(18)
As shown in (18), the structure Kuroda (1978) presents is such that the direct object Hanako is adjoined to the tokoro-clause, so that the tokoro-clause is assigned Case by the matrix verb. However, Kuroda also notes that the tokoro-clause later moves to the adverb position and results in a structure similar to that of Harada given in (4) in order to account for the fact that the tokoro-clause co-occurs with an intransitive matrix verb. The direct object is subsequently deleted by Counter Equi NP deletion. In sum, Kuroda’s (1978) analysis aims to reconcile the conflicting behaviors of the tokoro-clause as it is like a direct object in the sense that it is assigned Case, and also like an adverb in that it co-occurs with an intransitive matrix verb.

2.3 Fujii (2004) and Narita (2007)

Fujii (2004) reformulates the basic analysis of Harada (1973) in terms of the movement theory of control (Hornstein 1999 and others). He proposes that while the Case assigned by the matrix verb is checked by the tokoro-clause, some features of the subject of the tokoro-clause which is relevant to binding (see 13) is moved to the direct object position to check off the weak θ-feature of the matrix verb. This derivation is schematized in (19).

\[\text{(19)}\]

\[
\text{…} v \text{…}
\]

\[
\text{VP} \quad \text{v} \quad \text{XP} \quad \text{V} \quad \text{TP} \quad \text{tokoro}_{(\text{ACC})} \quad \text{FF(D)} \quad \text{V}_{[\theta]} \quad \text{\textit{Overt Case-Marking}}
\]

\[
\text{doroboo-ga nigete-iku\textsubscript{burglar} is escaping}
\]

\[
\text{\textit{Covert θ-feature attraction}}
\]

(taken from Narita 2007: 188)
In this way, he attempts to capture the fact that the tokoro-clause is Case-marked by the matrix verb, and that there is a null unpronounced direct object. Note that his analysis is contingent on the claim of Hornstein (1999) that θ-roles are formal features, and also an assumption that there is covert (feature) movement post Spell-out.

While maintaining a movement approach to the tokoro-clause construction, Narita (2007) questions Fujii’s (2004) analysis, especially the treatment of movement motivated by θ-feature checking. Since movement presupposes Agree which takes place between a c-commanding Probe and a Goal, in order for V to attract features of the tokoro-clause subject, V must c-command it. However, as Narita (2007: 187) points out, the tokoro-clause can occupy the indirect object position as in (20).

(20) Sono omawari-ga [bokan-ga kare,-o naguritaoshimeshita]
That cop-NOM [thug-NOM he-ACC had.knocked.down]
tokoro]-ni okyushochi-o shi-ta.
TOKORO]-DAT first.aid-ACC do-PAST
lit. ‘That cop, gave first aid to [the moment a thug had knocked him, down].’

It is standardly assumed that the indirect object occupies the Spec VP position. Thus, it is not possible for V to c-command any elements within the tokoro-clause in (20), and this casts doubts on movement into a θ-position.

A second problem which Narita (2007: 187) poses concerns cases in which the understood silent matrix object corefers with the object of the tokoro-clause as in (21).

(21) John-ga [proi tezukuri-no keeki-o kanseisa-ta tokoro]-o
John-NOM [pro homemade cake-ACC complete-PAST TOKORO]-ACC
(ayamatte) yuka-ni buchimaketeshimat-ta.
accidentally floor-to drop-PAST
lit. ‘John, (accidentally) dropped [the moment he, finished making a home-made cake] to the floor.’
(Narita 2007: 187)
As a Probe searches for a closest matching Goal, it is in principle not allowed to skip the *tokoro*-clause subject, the closet matching Goal. Hence, in face of cases where the understood silent matrix object corefers with the *tokoro*-clause object, Fujii’s analysis becomes untenable. For these reasons and others, Narita concludes that movement into a matrix $\theta$-position is untenable. As an alternative analysis, he proposes that the *tokoro*-clause subject (or object) is covertly moved to the edge of the *tokoro*-clause, where it can be assigned an internal $\theta$-role from the matrix verb by V that will enter into External Merge with the *tokoro*-clause. More specifically, Narita suggests two possible structures for the *tokoro*-clause construction as shown in (22).

\begin{align*}
(22) & \text{a. Structure 1} & \text{b. Structure 2} \\
& \text{VP} & \text{VP} \\
& \text{CP}_1 \theta V & \text{NP}_{\text{CP}} \theta V \\
& \text{doboroorni} & \text{dorobooy} \\
& \text{burglar} & \text{burglar} \\
& \text{TP tokoro} & \text{TP tokoro} \\
& \text{dorobo-nga nigete-iku} & \text{dorobo-nga nigete-iku} \\
& \text{burglar escape} & \text{burglar escape} \\
\end{align*} \\
\text{(Narita 2007: 191)}

In (22a), the subject of the *tokoro*-clause is adjoined to the *tokoro*-CP, making CP a two segment category. In (22b), the landing site for the *tokoro*-clause subject is the Spec position, but the moved subject projects, leading the *tokoro*-clause to be labeled by both N and C simultaneously. Although the technical details of the two structures vary, the gist of the analysis is that by moving the *tokoro*-clause subject to the edge position of the *tokoro*-CP, the mismatching properties of the construction are accounted for. That is, because the *tokoro*-clause subject is a segment of the CP in (22a) and a projection of CP/NP in (22b), the *dorobooy* ‘burglar’ can be assigned an internal $\theta$-role (as it is in a phase edge position). Since these structures render the *tokoro*-clause as a whole recognizable as a representative of *dorobooy* in terms of binding, violation of Condition B
(as in 13) is accounted for. A natural question which arises at this point is why the moved tokoro-clause subject is not pronounced at the moved position. Narita suggests that movement of the tokoro-clause subject is an instance of pre-Spellout covert movement (Bobaljik 2002, Bošković 2002, Kato 2004). On the assumption that A-chains are pronounced at the Case-marked position, the tokoro-clause subject would be pronounced at the foot position of the chain, although it moves to the edge position of the tokoro-clause for semantic reasons.

While maintaining the basic insights of Harada (1973), the approaches of Fujii (2004) and Narita (2007) reformulate the classic analyses within Minimalist frameworks. Fujii (2004) states that only the relevant features of the tokoro-clause subject move to the matrix position, whilst Narita (2007) assumes that the tokoro-clause subject moves to the edge position of the tokoro-CP yet its movement is inaudible at PF. Although these analyses presuppose movement in order to account for backward control, there remains a fundamental question as to whether or not movement needs to be involved. An approach from a different angle could be made possible if we pay closer attention to the nature of the unpronounced matrix object.

3 The nature of the null direct object

In the previous section, we looked at four analyses of the tokoro-clause. What they have in common is that the four analyses all treat the subject of the tokoro-clause as strictly identical to the null direct object. More specifically, analyses based on Counter Equi NP deletion such as those of Harada (1973) and Kuroda (1978) assume that the direct object is deleted under identity with the subject of the tokoro-clause if it would violate the Double-o Constraint on the surface. Likewise, although Fujii’s (2004) and Narita’s (2007) analyses are formulated within a different framework, they capitalize on movement which is supposed to leave strictly identical copies of a controller.

In this section, I try to show that the implicit argument in the matrix clause does not necessarily have an exactly identical controller by adducing evidence from structures
with (i) split antecedents, (ii) a long-distance antecedent and (iii) no explicit antecedent. Then, I suggest that these are properties of little pro, and so the earlier analyses sketched above are untenable.

Take split antecedents first. Sudo (2009) suggests, citing the example below, that the null object in the matrix clause can have two split antecedents:

(23)  Gyofu-wa [shigi-ga hamaguri-o tsutsuiteiru tokoro]-o
Fisherman-TOP [snipe-NOM clam-ACC was.poking TOKORO]-ACC
tsukamae-ta.
catch-PAST
‘At the time a snipe was poking a clam, the fisherman caught {the snipe/the clam/both of the snipe and clam}.’

As the English translation suggests, the object of the matrix verb tsukamae-ta ‘caught’ can be interpreted either as the snipe or the clam, or both of them. This is unexpected if the implicit matrix object and its controller are supposed to be strictly identical.

Another piece of evidence comes from Fujii (2006:211-212) regarding the possibility of having a long distance antecedent. He notes that the controller of a null matrix object does not have to be local. Consider (24):

(24)  Yakuza-wa pro_i [terorisuto-ga [hitojichi-ga bujina koto]-o
Yakuza-TOP pro_i [terrorist-NOM [hostages-NOM safe KOTO]-ACC
kakuninshi-ta tokoro]-o kyuushutsushi-ta.
make sure-PAST TOKORO]-ACC save-PAST
‘Yakuza saved the hostages i as the terrorists made sure that they_i are safe.’

As shown in (24), the controller of the null matrix object is not an argument of the tokoro-clause, but it is the subject of the clause embedded in the tokoro-clause. Moreover, Fujii (2006: 211) cites the following example to illustrate that the controller does not have to be the subject of the tokoro-clause (see also example 21):

(25)  Mary-wa pro_i [gunshuu-ga sono-kashui-ni akushu-o
Mary-TOP pro_i [crowd-NOM that-singeri-DAT shake-hand-ACC
‘Mary handed a bunch of flowers to the singer while the crowds were trying to shake hands with him/her.’

Here the controller *sono-kashu* ‘that singer’ is an internal argument of the *tokoro*-clause. This fact further undermines the Counter Equi and movement analyses as the Counter Equi analysis supposes that it is the subject of the *tokoro*-clause that should be identical to the null matrix object (cf. (3)), and the movement account presupposes that movement is local, and so the internal argument cannot skip the subject of the *tokoro*-clause when moving to the matrix clause.

A final piece of counterevidence comes from Sudo (2009), who argues that in sentences like that below, is no apparent controller:

‘John sipped it as the ice began to melt’

The sentence in (26) is interpreted as meaning that John sipped the water into which the ice melted, so that there is no clear controller in the *tokoro*-clause. This cannot be accounted for if the silent matrix object requires an identical controller since there is no overt NP which serves as the controller. These facts can be best captured if we assume that the silent matrix object is a little *pro* because *pro* does not necessarily require a local c-commanding controller, and allows as its controller a salient NP (or NPs) in the discourse. This is a plausible assumption given that Japanese is a language which permits object *pro*-drop quite freely.5

4 The position of the *tokoro*-clause

5 These (and other) observations lead Sudo (2009) to conclude that the null matrix object is an E-type pronoun. Although I do not pursue the E-type analysis any further due to space limitation, it is worth mentioning that Kubota and Smith (2007) argue that a null matrix pronoun in Japanese head-internal relative clauses (which in many ways have similarities with *tokoro*-clauses) need not be an E-type pronoun but it is actually an object *pro*. See Yoshimoto (2010) for a detailed discussion.
In the preceding section, we looked at the nature of the null matrix object. In this section, I will examine the structural position of the *tokoro*-clause. In the earlier analyses of Harada (1973), Kuroda (1978), Fujii (2004) and Narita (2007), the *tokoro*-clause was taken to be situated lower than the null matrix object as schematized in diagram (4).\(^6\) It was therefore assumed that this is an instance of backward control in which the controller, i.e., the subject of the *tokoro*-clause, follows the controllee. Contrary to these analyses, I propose here that the *tokoro*-clause is in fact situated above the matrix object *pro*, hence no backward control is involved. Specifically, the structure I present for the sentence (2a) (repeated here as (27a) is schematized below, with the internal structure of *vPs somewhat simplified due to space limitation):\(^7\)

\[
(27) \begin{align*}
\text{a. Keisatsu-wa [sono-doroboo-ga nigete iku tokoro]-o tsukamae-ta.} \\
\text{Police-TOP [that-burglar-NOM escape go TOKORO]-ACC catch-PAST} \\
\text{“The police caught the burglar} \text{i} \text{while he} \text{i} \text{was escaping.”}
\end{align*}
\]

\[
\begin{align*}
\text{b.} & \quad \text{TopP} \\
& \quad \text{TP} \\
& \quad \text{TP} \\
& \quad \text{TP} \\
& \quad \text{TP} \\
& \quad \text{TP} \\
& \quad \text{TP} \\
& \quad \text{TP} \\
\end{align*}
\]

\[^{6}\] This is so even though Harada (1973) analyses the *tokoro*-clause as an adverbial clause.

\[^{7}\] In the structure (27b), it seems that the *tokoro*-clause cannot be assigned accusative Case by the matrix verb *tsukamae-ta ‘caught’*, and hence the status of the Case-particle –*o* attached to *tokoro*-clause remains unresolved. I will return to discuss the Case particle –*o* in the next section.
As shown above, in my analysis, the *tokoro*-clause is situated above the matrix object *pro*, and thus this is not an instance of backward control. The rationale for this analysis comes from the scope of negation. Let us first look at a case in which a quantified NP appears as the head of a relative clause:

Teacher-TOP [class-GEN within came.late] Mary only-ACC deliberately scold-NEG-PAST
“The teacher did not scold only Mary deliberately who came late in the class (but the teacher scolded other students).”
*only>*not,  \*not>*only

As the English translation suggests, the interpretation of the sentence (28) is such that the teacher did not scold only Mary but he/she might have scolded other students. Therefore, the quantified NP *Mary dake* ‘only Mary’ takes narrow scope with respect to negation. In contrast, when the quantified NP occurs in the *tokoro*-clause, the sentence has a different interpretation as shown in (29):

(29) Sensei-wa [kurasu-no nakade Mary dake-ga okuretekita] Teacher-TOP [class-GEN within Mary only-NOM came.late tokoro]-o aete shikara-nakat-ta.
“TOKORO]-acc deliberately scold-NEG-PAST
“The teacher did not scold Mary deliberately when only she came late in the class.”
\*only>*not, \*not>*only

Of particular importance here is that there is no interpretation such that *sensei* ‘the teacher’ did not scold only Mary but might have scolded others (the narrow scope reading of only). Rather, the sentence just means that only Mary came late. This suggests that the quantified NP takes scope over negation, and that this quantified NP does not reconstruct into a position where it can take narrow scope with respect to negation. And if the locus of negation is NEGP which is situated between TP and vP (Pollock 1989) and the scope of negation is sensitive to the c-command relation, this fact is naturally accounted for if we assume that the *tokoro*-clause is situated above NEGP. One might contend, however,
that the *tokoro*-clause originates as a relative clause and then moves to adjoin to the matrix TP along the lines proposed by Kuroda (1978). However, as shown in (28), this sentence does not have the interpretation which it should have if it originated as a relative clause. Accordingly, it can be concluded that the *tokoro*-clause is not a relative clause, and it is base-generated as an adverbial. Given that the *tokoro*-clause is above NEGP which is projected between TP and vP but it occurs below the topicalized subject *sensei-wa* ‘the teacher’, I assume here that the *tokoro*-clause is adjoined to TP as the structure (27b) shows.

My claim that the *tokoro*-clause is not a relative clause is further supported by following examples. As shown in (30), the *tokoro*-clause in (30a) and the relative clause in (30b) have different interpretations regarding scope interaction between quantified NPs.

(30)  a. Sensei-wa [dareka-ga dono-ronbun-mo kopii-shi-te kure-te
Teacher-TOP [someone-NOM every paper copy do-TE give-TE
i-ta *tokoro*-o machigat-te mata kopii-shi-te shimat-ta.
be-PAST TOKORO]-ACC by mistake again copy do-TE happen-PAST
‘Although someone had copied every paper, the teacher by mistake copied them again.’
Ok some>every, *every>some

b. Sensei-wa [dareka-ga kopii-shi-te kure-te i-ta]
Teacher-TOP [someone-NOM copy do-TE give-TE be-PAST]
donoronnun-mo machiga-te mata kopii-shi-te shimat-ta.
every paper by mistake again copy do-TE finish-PAST
‘The teacher by mistake copied every paper again which someone had copied.’
Ok some>every, Ok every>some

In (30a), there is only a reading in which *dareka* ‘someone’ has wide scope over *dono ronbun* ‘every paper’. On the other hand, (30b) can be interpreted either with *someone* having wide scope over *every paper*, or vice versa. This scope interaction in the relative clause (30b) is accounted for if, as generally assumed, there is movement of a null operator which is coindexed with the head of the relative clause from the object position of the relative clause. This is because the wide scope reading of *dareka* ‘someone’ is possible as it c-commands the null operator in the object position, and the wide scope
reading of *dono ronbun* ‘every paper’ is allowed since it c-commands *dareka* ‘someone’, the subject of the relative clause. If the *tokoro*-clause had much the same structure as the relative clause, it should have the same interpretation with regard to scope interaction between existential and universal quantifiers as the relative clause. However, this assumption runs counter to the data illustrated in (30a). The movement analysis of *tokoro*-clauses is also untenable, because if the universal quantifier were moved into the matrix clause, it should c-command the existential quantifier at LF, and therefore it would be expected to have wide scope over the existential quantifier. This is however counterfactual. Consequently, we have been led to conclude that the *tokoro*-clause has a different structure than relative clauses, and it is an adverbial adjoined to TP.\(^8\) It is therefore not an instance of backward control since the *tokoro*-clause is situated in a position higher than the null matrix object.

### 5 The status of the particle –*o*

In the previous section, we saw that the *tokoro*-clause is not a relative clause but an adverbial adjoined to TP. Yet, a problem still remains as to the status of the seemingly accusative Case particle –*o* attached to the *tokoro*-clause, which motivates Kuroda (1978) to assume that the *tokoro*–clause is a relative clause. In this section, I follow the idea of Mihara (1998, 2006) that this particle is in fact a postposition.

Mihara (1998) notes, in his analysis of Japanese small clauses, that the particle -*o* in this construction serves to function as associating it with the rest of the clause via an ‘aboutness’ relation. Let us consider (31):

\[\text{(31) } \text{Watashi-wa rinjin-no shinsetsu-o arigataku kanji-ta.} \]

I- TOP neighbor-GEN kindness-PP grateful feel-PAST

‘I felt grateful for my neighbour’s kindness’

(Mihara 1998)

\(^8\) There are similarities between the *tokoro*-clause and so-called head internal relative clauses headed by –*no*, and I am aware that there are accounts that analyze head internal relatives as adverbials (Murasugi 1995, Mihara and Hiraiwa 2006; chap. 6). However, this cannot be discussed here for lack of space.
Mihara (1998: 74) analyses the particle –o as a postposition and suggests that the sentence in (31) has the following structure:

(32)

\[
\begin{array}{c}
\text{TP} \\
\text{NP} \quad \text{VP} \\
\text{watashi-wa} \\
\text{rinjin-no shinsetsu-o} \\
\text{my neighbour’s kindness} \\
\text{kanji-ta} \\
\text{PRN} \\
\text{ADJ} \\
\text{pro} \\
\text{arigataku} \\
\end{array}
\]

According to Mihara (1998:74), the NP rinjin-no shinsetsu-o ‘neighbour’s kindness’ modifies the embedded TP and associates them with an aboutness relation. In other words, this sentence can be roughly paraphrased as ‘as for my neighbour’s kindness, I considered it nice,’ in which the NP rinjin-no shinsetsu-o ‘neighbour’s kindness’ represents what the sentence is about. Leaving aside his detailed analysis of Japanese small clauses, one reason why he regards this particle –o as a postposition is that this –o cannot be dropped. It is often the case in Japanese that the Case particles –ga (nominative) and –o (accusative) can be omitted in casual conversation. It is also generally considered that the accusative Case particle is dropped more frequently than the nominative Case particle. The sentences below illustrate how both nominative and accusative Case particles can be omitted (the Ø mark represents a gap) (Mihara 1998: 76).

(33) a. Taroo-chan-{ga/Ø} okashi-{o/Ø} tabechat-ta.
    Taro-{NOM/Ø} sweets-{ACC/Ø} eat-PAST
    ‘Taro has eaten sweets.’

b. Hanako-{ga/Ø} kompyuuta-{o/Ø} kat-ta-rashii-zo.
    Hanako-{NOM/Ø} computer-{ACC/Ø} buy-PAST-seem
‘It seems that Hanako bought a computer.’

On the other hand, Mihara suggests that postpositions cannot be omitted as the sentences in (34) show.

(34) a. Taroo-ga Hanako-{kara/*Ø} tegami-o uketot-ta.
    Taro-NOM Hanako-{FROM/*Ø} letter-ACC receive-PAST
    ‘Taro received a letter from Hanako.’

b. Taroo-ga naifu-{de/*Ø} keeki-o kit-ta.
    Taro-NOM nife-{WITH/*Ø} cake-ACC cut-PAST
    ‘Taro cut the cake with a knife.’

Bearing this in mind, let us look at the small clause in (35) (Mihara 1998:77).

(35) a. Watashi-wa rinjin-no shinsetsu-{o/*Ø} arigataku kanji-ta.
    I-TOP neighbour-GEN kindness-{ACC/*Ø} grateful feel-PAST
    ‘I felt grateful for my neighbour’s kindness.’

b. Hiroshi-wa Sachi-no gendou-{o/*Ø} fushin-ni omot-ta.
    Hiroshi-TOP Sachi-GEN behaviour-{ACC/*Ø} suspicious think-PAST
    ‘Hiroshi thought Sachi’s behaviour as suspicious.’

As shown above, the particle –o in the small clause cannot be dropped. This leads Mihara (1998) to conclude that this particle is a postposition. Interestingly, the same point can be made in relation to the tokoro-clause. As shown in (36), the particle which is attached to the tokoro-clause cannot be omitted.

(36) a. Keisatsu-wa [doroboo-ga nige-te iku tokoro]-{o/*Ø}
    The police-TOP [burglar-NOM escape-TE go TOKORO]-{ACC/*Ø}
    tsukamae-ta.
    catch-PAST
    ‘The police arrested the burglar when he was escaping.’

b. Taroo-wa [Jiroo-ga komat-te iru tokoro]-{o/*Ø} tasuke-ta.
    Taro-TOP [Jiro-NOM troubled be TOKORO]-{ACC/*Ø} help-PAST
    ‘Taro helped Jiro when he was in trouble.’

Accordingly, a plausible conclusion to draw is that the particle attached to the tokoro-clause is not a Case particle, but a postposition which represents aboutness, specifying the
situation in which the matrix event takes place. It might be objected, however, that the particle attached to the *tokoro*-clause seems to match the Case which the matrix verb assigns. Note that Kuroda (1978) cites the example (17) (repeated here as 37) in which the *tokoro*-clause is assigned a particle –*ni*, which makes it look like as if it is assigned dative Case by the matrix verb.

(37)  a. Taroo-wa  Hanako-*o/ni     butsukat-ta.
    Taroo-TOP  Hanako-*ACC/DAT bump into-PAST

    b. Taroo-wa  [Hanako-ga nigete iku tokoro]-*o/ni
    Taroo-TOP  [Hanako-NOM escape go TOKORO]-*ACC/DAT
    butsukat-ta.
    bump into-PAST

But it might be a little far-fetched to conclude from this example that the *tokoro*-clause is Case-marked by the matrix verb because counter-examples abound. If we add some extra context, it becomes possible for the *tokoro*-clause to be assigned the particle –*o* as well as –*ni*:

(38)  a. Hubert-wa  [Midori-ga ushiromuki-ni suberi dashi-ta
    Hubert-TOP  [Midori-NOM backward skate start-PAST
    tokoro]-{o/ni}  ikiioyoku wazato butsukat-ta rashii.
    TOKORO]-{ACC/DAT} rushingly deliberately bump.into-PAST seem
    ‘It seemed that Hubert rushed to bump into Midori deliberately when she started skating backward.’

    b. John-wa  [Mary-no kuruma-ga monokage-kara tobidashi-ta
    John-TOP  [Mary-GEN car-NOM shade-FROM shoot.out-PAST
    tokoro]-{o/ni}  wakimi-o shiteite shoototsu shi-ta.
    TOKORO]-{ACC/DAT} looking aside crash do-PAST
    ‘John crashed into Mary’s car while looking aside when her car shot out from hiding.’

In (38), both the verbs *butsukaru* ‘bump into’ and *shoototsu suru* ‘crush’ normally assign dative Case to their object. However, it seems to me that when these verbs and the *tokoro*-clause are separated by some elements in between, it becomes possible for the *tokoro*-clause to be assigned the particle –*o*. This is not possible for direct objects of these
verbs. Even if the direct objects and these verbs are separated by the same elements in (38), the direct objects still have to be assigned dative Case as shown in (39).

(39) a. Hubert-wa Midori-{*o/ni} ikiioyoku wazato
    Hubert-TOP Midori-{*ACC/DAT} rushingly deliberately
    butsukat-ta rashii.
    bump.into-PAST seem
    ‘It seemed that Hubert rushed to bump into Midori deliberately.’

b. John-wa Mary-no kuruma-{*o/ni} wakimi-o shiteite
    John-TOP Mary-GEN car-{*ACC/DAT} looking aside
    shoototsu shi-ta.
    crash do-PAST
    ‘John crushed into Mary’s car, looking aside.’

Although the status of the particle –ni attached to these tokoro-clauses remains to be ascertained, it seems reasonable to assume that the particle –o attached to the tokoro-clause is a postposition. This argument, however, leads us to question the Double-o Constraint. As we saw in section 2.1.2, according to Harada (1973), the Double-o Constraint prohibits two occurrences of NPs marked with –o from being dominated by the same VP. And this surface constraint peculiar to Japanese can only be obviated through use of counter Equi NP deletion, since if the subject of the tokoro-clause is deleted, the matrix object and the tokoro-clause are still marked with –o, leading to violation of the Double-o Constraint. Instead of forward Equi NP deletion, therefore, backward Equi NP deletion is called into play to delete the matrix object instead so as not to violate the Double-o Constraint. In other words, in Harada and Kuroda’s analyses, the Double-o Constraint ensures that the matrix object is unpronounced.

Here, we are led to consider two important points in relation to this constraint. One is that the domain of the Double-o constraint is restricted to NPs dominated by the same VP according to Harada’s (1973) definition in (14). Now that we have seen that the tokoro-clause is adjoined to the matrix TP, however, it is clear that this constraint does not apply to the tokoro-clause. The other point to mention is that the Double-o Constraint is actually a lexical constraint which prohibits a predicate from having two direct objects (cf.
Sells 1990). To see this, let us look at some examples. In Japanese, some stative transitive verbs require nominative-marked objects as shown in (40) (taken from Sells 1990: 447).

(40)  Taroo-ga  teeon-dake-{ga/*o}   tsuyoku  kikoeru.
Taroo-NOM low sound-only-{NOM/*ACC} strongly can hear-PRES
‘Taro can only hear low sounds strongly.’

When the sentence in (40) is embedded as the complement of a causative verb, the object Taroo has to be assigned dative Case but not accusative Case irrespective of the fact that there is no other NP marked with –o in the sentence (taken from Sells 1990):

(41)  Naoko-ga   Taroo-{ni/*o}    teeon-dake-ga   tsuyoku
Naoko-NOM Taro-{DAT/*ACC} low sound-only-NOM strongly
kikoe-sase-ta.
can hear-CAUS-PAST
‘Naoko caused Taro to only be able to hear low sounds strongly.’

This suggests that the object teeon-dake ‘only low sounds’, although assigned nominative Case, serves as the object, and so another direct object is banned from occurring due to the Double-o Constraint. Notably, the Double-o Constraint applies to prevent the occurrence of two direct objects irrespective of the surface morphological Case realization. If this is true, we are faced with a problem since we have seen that the tokoro-clause is not an object of the matrix verb, but an adverbial. Thus it is no longer the case that the Double-o Constraint applies to this construction, and so there is no means of guaranteeing that the matrix object is null. Instead of the Double-o Constraint, I suggest here, following Ohso (1976), that the matrix object has a strong tendency to be unpronounced when its referent is pragmatically recoverable from the content of an adverbial clause.

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Note that if the embedded predicate is intransitive, the object can be assigned accusative Case.

Naoko-wa  Taroo-o  hashir-ase-ta.
Naoko-TOP  Taro-ACC  run-CAUS-PAST
‘Naoko made Taro run.’
It is well known that in Japanese both subjects and objects can be omitted quite freely when they are recoverable from the given context or relevant world knowledge. This is known as pro drop, or zero pronominalization. Of particular importance here is that this zero pronominalization only applies forward for processing reasons as shown in (42) (Ohso 1976).

(42) a. John-wa [Maryi-ga haitte kuru] nari,
    John-TOP [Maryi-NOM entering come] as soon as
    proi donaritsuke-ta.
    proi shout at-PAST
    'John, as soon as Maryi came into the room, shouted at proi.'

    b.*John-wa [proi haitte kuru] nari,
    John-TOP [proi entering come] as soon as
    Maryi-o donaritsuke-ta.
    Maryi-ACC shout at-PAST
    'John, as soon as proi came into the room, shouted at Maryi.'

In (42a), the object pro is most naturally interpreted as co-referential with Mary. This is because, given the context introduced by the adverbial clause including Mary, if the matrix object is interpreted as the same as the salient argument in the context, the matrix object is omitted in order to avoid duplication. By contrast, in (42b), pro in the adverbial clause cannot be co-referential with the matrix object Mary (although it can be co-referential with the subject John). This suggests that since pro precedes Mary, it is not possible for the context to set up Mary as a salient argument, considering that processing applies forward. Therefore, one generalization drawn from this is that the matrix object tends to be omitted if it co-refers with a preceding argument salient in the context. This gives us justification for the proposed analysis of the tokoro-clause construction because the tokoro-clause, as an adverbial, precedes the matrix object; and the subject in the tokoro-clause and the matrix object are co-referential in much the same way in (42a). Furthermore, the present analysis accounts for the fact that in passives and cleft sentences as those in (7) and (9), the null matrix object appears overtly on the surface. This is because in these sentences the null matrix object is moved to the front of the sentence, and precedes the tokoro-clause subject. Accordingly, I conclude from these considerations that the unpronounced matrix object in the tokoro-clause construction is a
null pronoun pro which is made silent because of co-reference with the preceding tokoro-clause subject, without recourse to the Double-o Constraint.

6 Conclusion

In this paper, I have presented an adverbial analysis of the Japanese tokoro-clause in opposition to the previous backward control analyses of it. Subjected to close scrutiny, it becomes apparent that this construction which has been considered as an exponent of backward control does not in fact involve backward control. Rather, the tokoro-clause is an adverbial adjoined to the matrix TP and situated above the matrix object. The matrix object is then made silent because of the ordinary object pro-drop operation. Although the exact nature of backward control in other languages still remains to be determined, it is hoped that this paper has provided a possibility that seemingly backward instantiations of co-reference phenomena could be reanalyzed as forward instantiations.

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References

Harada, S. (1973) “Counter Equi NP Deletion,” University of Tokyo Research Institute
of Logopedics and Phoniatrics Annual Bulletin 7, 113-147. [Reprinted in N.
Linguistics, 181-216, Taishuukan, Tokyo.]
not an E-type Pronoun,” MIT Working Papers in Linguistics 55, 149-60.
Kuroda, S.-Y. (1978) “Case Marking, Canonical Sentence Patters, and Counter Equi in
Japanese (a Preliminary Survey),” in J. Hinds and I. Howard (eds.) Problems in
Japanese Syntax and Semantics, 30-31, Kaitakusha, Tokyo.
Mihara, K. (1998) Seisei Bunpou to Hikaku Tougoron [Generative Grammar and
Comparative Syntax], Kuroshio, Tokyo.
Structure of Japanese], Shohakusha, Tokyo.
Kinjo Gakuin Daigaku Ronshu 164, 327-350, Kinjo Gakuin University.
Linguistics 55, 185-96.
Ohio State University.
245-282.
Linguistic Inquiry 20, 365-424.
Analysis.” Proceedings of the 25th West Coast Conference on Formal Linguistics,
328-36.
Farrell and E. Mejias Bikandi (eds.) Grammatical Relations: a
of Essex.
The effects of text types and L2 reading proficiency on Saudi L2 students’ reading problems and strategies when processing expository and narrative texts: An exploratory study

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Abstract

Research into L2 reading strategies has reported various factors affecting ESL/L2 readers’ cognitive and metacognitive processing of texts. These include variables related to the reader, to the text and to the task at hand. Although L2 readers’ variables (e.g., L2 reading proficiency, vocabulary knowledge, prior background knowledge, etc.) have received considerable attention from L2 reading investigators, there still remains a lack of qualitative empirical studies that investigate how variations in text types and L2 reading proficiency can have an effect on L2 readers’ strategic processing. Hence, this paper presents an exploratory study that utilized think-aloud reporting and retrospective interviews to explore the reading problems and strategies reported by Saudi L2 readers as they processed expository and narrative texts for different reading purposes. The qualitative coding of the verbal protocols revealed a constructed taxonomy of sixty-six strategic processes being reported in both text types. The findings indicated that the structural variation of text types was the main factor affecting the quantity and quality of L2 readers’ problems and strategies reported. With regard to the effects of L2 reading proficiency, no significant differences were found between good and poor readers’ problems and word-related, text-related and metacognitive-related strategies. However, the qualitative findings revealed that L2 good and poor readers varied in how they employed the strategies in both text types.

1 Introduction

In language learning and/or academic contexts, acquiring reading skills is often equated with increased progress in academic learning (Grabe, 1991). In fact, acquiring reading proficiency is regarded as the most important skill needed to achieve wider learning or academic success in various educational, scientific or professional fields (Cziko, 1980; Alderson, 1984). Furthermore, L2/FL reading is crucial not only for acquiring knowledge and obtaining academic success but also for developing and improving L2 learners’ reading abilities and language proficiency, as well. In second language or foreign

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language learning contexts, young and adult learners are often required to read texts that are linguistically and structurally challenging for them. In Saudi Arabia, learning English as a foreign language is compulsory in middle and secondary schools and is now becoming widely spread throughout various educational, academic, scientific or business fields. Most Saudi universities have long recognized English as the only language of instruction in various academic departments, such as English, medicine, computer sciences, or technical studies. This policy of enforcing English as the medium of instruction has meant that Saudi university students are required to develop their L2 vocabulary knowledge, listening, speaking, writing and reading skills to satisfy requirements for passing academic courses taught in English. With regard to English departments, developing reading skills in particular is integral for fulfilling course requirements since some prerequisite subjects (e.g., literature, linguistics) are taught in English. This requires that Saudi students read different English text types (e.g., narrative, expository, argumentative) extensively in order to fulfil the reading requirements for such courses. The purposes for reading these text types varies according to the objectives of the course syllabus and lecturers’ interests in assessing learners’ academic reading. These reading purposes include, for example, reading to take comprehension tests, reading to write an essay or reading to discuss the content in peer groups or with the lecturers in class. In final exams, students are sometimes required to answer multiple-choice questions or answer open-ended questions designed to reflect students’ understanding and critical insights about certain themes drawn from the texts.

2 Background of the study

Over the last few decades, there have also been some dramatic changes in how researchers investigate reading comprehension. From being concerned solely with analyzing the product of reading comprehension, researchers have turned towards investigating the cognitive and metacognitive strategies readers employ throughout the process of constructing meaning from texts (Alderson 2000; Anderson, 1991; Carrell, 1989). Revealing the role cognitive and metacognitive strategies play in the process of
reading comprehension, various studies in L1 and L2 reading strategy use have utilized introspective think-aloud methods (Abbott, 2006; Afflerbach, 1990b; Block, 1986, 1992; Garner, 1982; Hare and Smith, 1982; Hosenfeld, 1977; Kavale & Schreiner, 1979; Kletzien, 1991; Lau, 2006; Olshavsky, 1976-77; Pritchard & O’Hara, 2008; Yoshida, 2008). They investigated what strategies young and adult readers, with different L1 and L2 reading abilities (e.g., good versus poor readers), employ when processing various texts for different tasks. A major finding drawn from studies exploring L1 and L2 readers’ strategic processing is that a positive relationship exists between readers’ use of cognitive and metacognitive strategies and their reading comprehension (Block, 1986, 1992; Kletzien, 1991; Olshavsky, 1976-77). This line of research has demonstrated that readers’ strategies employed in processing texts not only influence the product of readers’ comprehension but that differences in learners’ reading abilities often direct the quantity and quality of readers’ local or global strategies.

However, researchers have long debated over defining what a ‘strategy’ means in reading research. Various definitions of the term and what it constitutes have been suggested in L1 and L2 reading research (Block, 1986; Cohen, 1990) which resulted in some problematic issues surrounding the term and what it involves. Part of the inconsistency and overlapping that emerge from previous taxonomies in the reading strategy research has much to do with the various, and sometimes, conflicting definitions of what a reading strategy means. Given this knowledge that investigators varied in their definitions of what a strategy is, it is not surprising that the classifications of reading strategies have varied as a result. Some of these studies applied two or three general categories (Block, 1986, 1992; Fagan, 1987; Hosenfeld, 1984; Olshavsky, 1976/1977), some four or five broad categories (Anderson, 1991; Kucan & Beck, 1996; Pritchard, 1990a) and some studies extended their strategy-use taxonomies beyond the five categories (Lau, 2006; Mushait, 2003; Pang, 2006). In a more cautious approach, the present study defines reading strategies as any physical or mental processes that are consciously and deliberately employed by L2/L2 readers in order to either solve problems in and/or facilitate comprehension of texts during reading task(s).
Process studies on L1 and L2 reading strategies have also varied considerably in focus and in the procedures used to investigate the relationship of readers’ strategy use to various factors, including, for instance, L2 language and/or reading abilities (Block, 1986, 1992; Hosenfeld, 1977; Sarig, 1987), rhetorical structuring of texts (Carrell, 1984a, 1992; Raymond, 1993), topic familiarity (Pritchard, 1990), reading purposes (Linderholm & van den Broek, 2002; van den Broek, Lorch, Linderholm, & Gustafson, 2001). However, some researchers in L2 reading were not only interested in inspecting good and poor readers’ cognitive strategic processes but also on their comprehension monitoring abilities in checking when success or breakdowns in comprehension take place. In other words, L2 reading researchers investigated the reading problems that L2 learners often encountered in processing various texts, be they lexical or comprehension difficulties, and how readers reacted by employing different strategies to repair such problems while processing texts (Block, 1992; Casanave, 1988; Jiménez, García & Pearson, 1996; Paris, Lipson & Wixson, 1994). For instance, Block (1992) conducted a study on the comprehension-monitoring abilities of both first and second language readers. The study found that L1 and L2 proficient and less proficient readers encountered two types of reading problems: referent and lexical problems. While both L1 and L2 reading proficiency groups demonstrated similar levels of awareness about problems encountered, the proficient reading group showed more abilities in identifying the sources of the lexical and referent problems, in solving them and in checking their solutions than the less proficient group. However, the findings of the study were limited to the problems and strategies reported and employed by native and ESL readers processing only expository texts.

A major trend of empirical research in L1 and L2 reading has demonstrated how readers’ awareness of the rhetorical structuring of texts plays a prominent role in directing how information in text is identified, organized, extracted and eventually recalled. L1 and L2 reading research has shown that readers tend to recall major parts of texts due to their abilities to direct attentive focus on how information given is structured in the texts (Carrell, 1984a; Kletzien, 1992; McGee, 1982; Meyer, Brandth & Bluth, 1980). The more
readers exhibit awareness in identifying how texts are rhetorically organized, the more and more information they can draw from the texts. The most common genres often used in experimental studies investigating the effects of text structures on readers’ comprehension are narrative (as in stories, novels, etc) and expository (as in social sciences, newspaper articles, etc) texts. Because of their distinctive rhetorical properties, narrative and expository texts remain the most commonly met genres in language learning and/or academic contexts. A number of researchers have pointed out the structured differences between narrative and expository texts and the distinctive rhetorical features that underlie each genre (Graesser, Golding & Long, 1991; Koda, 2005; Weaver & Kintsch, 1991). As stated previously, an overwhelming number of studies in L1 and L2 reading has shown that readers vary in their awareness of the structural organizations of texts and that directing readers’ attention to the text’s structural properties helps facilitate their comprehension of text (Carrell, 1984a; Kletzien, 1992; McGee, 1982; Meyer, Brandth & Bluth, 1980). In addition, various studies in L1 reading research have demonstrated that young readers show more abilities in recalling and comprehending narrative texts than expository texts due to readers’ greater familiarity with or formal schema for narrative texts. However, the majority of this research investigated the effects readers’ formal schema of texts on their reading comprehension but not on their strategic processing.

Furthermore, the empirical procedures used to measure the effects of certain variables on readers’ strategic processing of texts can be questioned. Koda (2005), for instance, criticized the conclusions drawn from previous studies on the relationship between readers’ cognitive processing and rhetorical structuring of narrative and expository texts because they relied mostly on offline oral or written recalls (e.g., memory) and not on online think-aloud verbal reports to measure the product of readers’ comprehension of texts. In addition, despite the overwhelming number of think-aloud studies into L2 reading strategies, empirical research examining L2 readers’ strategic behaviours when reading narrative and expository texts for different purposes has received less attention and has not been thoroughly explored by investigators. Hence, the primary purpose of the present study is to investigate the cognitive and metacognitive strategies employed and
reported by L2 Saudi male students designated as good readers and poor readers when engaged in think-aloud processing of expository and narrative texts. In other words, the present study is conceived as an exploratory qualitative and quantitative study and its main focus is neither to test a hypothesis/ hypotheses nor to conduct a fully-designed experiment but to examine the relationships of text types on designated L2 good and poor readers’ cognitive and metacognitive strategies via conducting think-aloud reading tasks and retrospective interviews with each subject participating in the study. The research questions that guided this study are as follows:

1. What are the reading problems and strategies that Saudi EFL readers report in their reading?
2. Do Saudi L2 readers report different number or quality of strategies when processing texts? And what accounts for such similarities and/or differences in readers’ strategy use?
3. Does the rhetorical structuring of text types (expository versus narrative) affect the quantity and quality of Saudi L2 readers’ difficulties and strategies reported?

3 The study

3.1 Participants

The subjects of the study were sixteen Saudi L2 students enrolled, at the time, in the Fourth-year of the undergraduate programme in English at Imam University in Riyadh. The students, whose ages ranged between 22 to 24, were all males and were all English majors. The subjects were selected from a total sample of seventy-five students who participated in the TOL2 paper-based reading proficiency test administered twice in two classrooms by the researcher in the second week of December 2006. Similar to the

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11 Due to lack of space, a research question on the effect of reading purposes on L2 readers’ problems and strategies reported is excluded in this paper.

12 A state institution founded in 1953 and regulated by the Ministry of Higher Education in Saudi Arabia, the University, with over 24,000 registered students, was primarily established to promote and foster the learning of Islamic and Arabic studies domestically and internationally. The English Department was one of the various departments under the Faculty of Arabic for many years before it was acknowledged as a separate department under the Faculty of Languages and Translation established in 2001.
sampling procedures employed in previous research (e.g., Kavale & Schreiner, 1979; Strømsø & Bråten, 2002), the standardized L2 reading test used consisted of five expository passages with different topics followed by 55 multiple-choice questions and the subjects completed the test within the fifty-five minute time limit given. Based on the test scores, eight students obtaining the highest and eight receiving the lowest scores, representing two different L2 reading abilities, were selected as the study subjects. These subjects shared similar characteristics since they 1) were young males 2) were native speakers of Arabic learning English as a foreign language for the last nine years, 3) were higher-intermediate to advanced L2 learners 4) were English majors 4) had received the same load of academic course requirements from their first three years into the programme, and 5) had the same academic experience of reading various text types (including narratives and expository texts). In this study, the sixteen subjects sampled were representative of the students enrolled in the English department. As with all other undergraduate students in different faculties, the English majors had to take prerequisite University and Departmental upper-level courses. These compulsory modules included a few on Arabic/Islamic studies, linguistics, learning and teaching methods, and English/American literature, all totalling 26 to 28 course credits as part of the prerequisite academic loads for fourth-year students. Assessment of fourth-year students' academic progress in the required courses is heavily dependent on their overall scores in mid-term and final exams, with a marginal focus on in-class activities and participation. Hence, this has an impact on the importance of investigating how L2 readers react to texts when given different reading purposes that they can relate to in their academic contexts. With regard to text types, the selected subjects possessed a first-hand experience of processing a variety of required course materials that included narrative and expository texts since their second year into the English programme.

3.2 Reading materials

Past research concerning Saudi learners has been limited to using only expository texts (Bin Ghali, 2001; Al-Melhi, 1999; Alsheikh, 2002; Mushait, 2003), thus resulting in some gap in our knowledge as to how adult Saudi L2 readers processed other text types
required for them to read in their academic settings. To fill in this gap, the study used a set of reading materials, one narrative and one expository text (see Appendix A). Therefore, the study belongs to a line of research in L1 and L2 reading (Fagan, 1987; Kucan and Beck, 1996; Langer, 1990; Matsubara, 1997; Narvaez, van den Broek & Ruiz, 1999; Zhang, Gu & Hu, 2008) that combined both narrative and expository texts in an effort to broaden our understanding of how readers' strategic processes can be affected by the distinctive rhetorical structures of text types. The narrative passage selected was a 307-word excerpt from *4.50 from Paddington* (1957), a mystery crime novel by the British novelist Agatha Christie. The excerpt was structured around a woman's story witnessing a murder scene on another train and how she reacts to the crime. The expository text was a 317-word passage on crime and how it has grown into being a serious problem in our world. The excerpt was adapted from an article by James and Evans (1989) in an ESL reading resource intended for advanced L2 learners. The textbook consisted of authentic articles drawn from various magazines, newspapers, and professional journals dealing with different topics and current issues. The rationale behind selecting the text types was mainly due to the study focus in controlling the topic (and presumably the effects of readers' background of the topic) since both texts dealt with crime as the central theme. Each text type presented crime from different perspectives with the information or action being organized around different rhetorical structures as distinctive of the text genres. Moreover, as confirmed during the preliminary study, the texts were neither part of the reading syllabus assigned by the English Department nor were they read by the subjects prior to collecting the study data. The same conclusion was also verified about the narrative text selected. The reading texts projected some compelling similarities to the academic materials that the students had normally read in class although they by no means belonged to the list of texts covered in their academic settings (this was confirmed during the stages of the preliminary study conducted earlier).

### 3.3 Instruments of the study

#### 3.3.1 Concurrent think-aloud reports
In line with previous studies that utilized verbal reporting to extract readers’ online strategic processing in L1 reading research (Afflerbach, 1990b; Bereiter & Bird, 1985; Crain-Thoreson, Lippman, & McClendon-Magnuson, 1997; Deegan, 1995; Kletzien, 1991; Linderholm & van den Broek, 2002; Olshavsky, 1976-1977) and L2 reading (Block, 1986, 1992; Hardin, 2001; Hosenfeld, 1977; Jiménez, García & Pearson, 1996; Mushait, 2003; Pritchard, 1990; Strømsø & Bråten, 2002; Yang, 2006; Yoshida, 2007), this study proposed to employ concurrent think-aloud reports to explore L2 readers’ strategies as they read two different text types (narrative and expository) for two different reading purposes.

3.3.2 Retrospective interviews

Retrospective interviews with the subjects constituted the second main instrument in this study. In qualitative research, interviews provide in-depth insights and better understanding of the phenomenon or behaviours(s) under observation in the participants’ normal contexts (McMillian & Schumacher, 1989; McDonough & McDonough, 1997). In L1 and L2 reading research, various studies have employed retrospective interviews aimed at eliciting readers' responses to their processing behaviours when undergoing some specific reading tasks (Gambrell & Heathington, 1981; Block, 1992; Kletzien, 1991, 1992; Jiménez, García & Pearson, 1996; Upton, 1997; Hardin, 2001; Strømsø & Bråten, 2002; Yang, 2006). Similarly, this study devised a set of semi-structured interview items in order to elicit readers’ comments on their own strategy use at higher level of awareness than their think-aloud tasks. Thus, the interviews were designed to provide for more encouraging, flexible, and stimulating one-to-one interactions with each of the selected subjects (McDonough & McDonough, 1997) and to triangulate the findings drawn from think-aloud protocols along with the researcher's observation notes taken during the reading tasks. The interview questions were organized around four main parts. First, examining whether or not readers demonstrated awareness of each of the reading purposes imposed for each text type and whether such awareness or lack of awareness affected their strategic processing of each text. Second, eliciting readers’ responses with
regard to the difficulties encountered in each text types and how readers attacked or solved such lexical or comprehension problems in the specific tasks just done. Third, investigating whether or not readers recognized the rhetorical structuring differences between the narrative and expository texts and whether such knowledge/awareness of these differences affected their reading process of each text. These questions were first discussed with an expert in strategy researcher who validated the accuracy and the wording of the questions and were further revised and fine-tuned after piloting the retrospective interviews with the selected participants.

3.4 Procedures of collecting and analyzing the data

The procedures used in collecting the data for the study involved three scheduled group and individual meetings with the selected participants within a six-month period, starting from October 2006 until March 2007. However, prior to collecting the data, the researcher piloted the study in order to assess the suitability of the study instruments and procedures in collecting the data. Drawing on the feedback obtained from the participants\textsuperscript{13}, the pilot study was valuable in informing the researcher of some of the main drawbacks noted in conducting the instruments and the procedures. These included the problems of 1) not providing enough training and modelling in think-aloud verbalization (i.e., the participants were not familiar with think-aloud reading and had shown difficulties in verbalizing their thoughts) 2) failing to set definite time limits for the reading tasks, 3) not asking participants to bring their own preferred electronic or hardcopy dictionaries prior to piloting the study, 4) not clarifying some of the closed and open-ended questions about the study variables in the retrospective interviews. Building on the outcome of the pilot study, the researcher found it imperative to make certain necessary modifications related to executing the instruments and task conditions of the study in order to fine-tune and monitor the accuracy and consistency of the procedures proposed. These decisions included providing peer and individual training and couching in think-aloud reporting, setting time-limits for the reading tasks, informing the subjects

\textsuperscript{13} Four Saudi graduate students enrolled in the ELT summer courses in the University of Essex during the summer academic term of 2006
that they had the choice of using their own dictionaries, if they preferred, in certain tasks where dictionary use was allowed, and revising the wording of the interview questions. In conducting the procedures for the main study, the researcher held three meetings with the selected subjects at different times. These meetings summed up the procedures used in collecting the study data.

3.4.1 Administering the standardized L2 reading proficiency test (Session I)

After arrangements were made with one of the department lecturers with regard to meeting his students in one of their regular courses, the researcher first introduced himself to the students, explained the aims of the study and requested their cooperation in helping the researcher collect the necessary data for his research study which included completing the L2 reading proficiency test\(^\text{14}\). Later, the researcher administered the reading proficiency paper-and-pencil TOL2 practice test (the 2004 Kaplan’s Edition) to 75 fourth-year students in the English Department at Imam University in November, 2007. The Reading Comprehension Section of Kaplan’s TOL2 materials consisted of three practice tests, each made of five medium-range passages followed by multiple-choice comprehension questions. The five expository reading passages of the test (which did not fully reflect the types of texts used in the study) varied in length and content (some scientific and some bibliographical) followed by 50 multiple-choice questions. Based on the raw and converted score scales of the test (as validated by the TOL2 score conversion chart provided), a two-independent group design was maintained. That is, eight students who obtained the highest scores (representing the Good Reader Group) and eight receiving the lowest scores (representing the Poor Reader Group) agreed to participate in the second phase of the main data-gathering procedures.

3.4.2 Providing think-aloud training and practice sessions (Session II)

\(^{14}\) Prior to administering the test, the researcher assured the students that their names were considered strictly confidential and that the outcome of the reading test would have no bearing whatsoever on their academic standing and assessment. However, the students were told that they could withdraw at any time, if they preferred. Then, the students were given the Consent Forms to read and sign.
Having completed the sampling phase, the researcher first decided to select sixteen subjects (eight subjects obtaining the highest and eight receiving the lowest scores in the L2 reading test). Each of these selected subjects previously agreed to participate in another one-hour meeting held in one of the lecture rooms two weeks after the first meeting. The objectives of the second meeting were to 1) introduce and familiarize the subjects with the practice of verbal reporting and what it meant, 2) have them receive some practice and training sessions in verbalizing the process of their thoughts while undertaking a short translation activity in order to set the stage for a more comfortable and less threatening atmosphere in performing the actual think-aloud tasks, and 3) allow them to read the written instructions for the verbal reporting tasks both in L1 and L2. As advised by some researchers (Ericsson and Simon, 1984; Cohen, 1989, 1998; Pressley and Afflerbach, 1995), care was taken in this study to provide these warm-up sessions by engaging the subjects in think-aloud training and practice activities. A translation activity (from L1 to L2) was deliberately selected for the coaching and training purposes in order to minimize, if not to eliminate, any possible interference from similar verbal report patterns on subjects’ protocols (as suggested by McDonough & McDonough, 1997).

3.4.3 Conducting the think-aloud reading tasks and retrospective interviews (Session III)

Two weeks after the second meeting, the researcher began individual meetings with each of the subjects scheduled earlier. The consecutive meetings took place in the researcher's office during morning and evening sessions. After undertaking the same training practices in think-aloud reporting (in session II), each subject was then asked that he was to read two short reading passages (one narrative and one expository). Each participant was asked to read the following written think-aloud instructions:

“You are going to read two texts in English for two purposes: for oral discussion and for comprehension test-taking. Please read them and think aloud (verbalise your thoughts) as you are reading. You can do that either in Arabic (L1) or English (L2) or both, if you prefer. Please note that you do not need to make your thoughts more coherent. And please do not try to explain or describe the logic or processing of your thoughts. There is a red dot at the end of every sentence just to remind you to think aloud. However, you can
Think aloud at any small segment of each sentence. Once you start reading the texts, you will not be interrupted by the researcher unless there is a recording problem. Please do not ask the researcher questions about the content of the two passages. Your think-aloud will be tape-recorded for research purposes only. After you finish your think-aloud reading, please stop the tape recorder. After you complete the reading tasks, you will be asked some questions depending on the reading purpose assigned for each text. Finally, we kindly ask you to be as honest as possible in verbalising your thoughts. Please do not hesitate to ask me if you have any questions concerning the instructions before you start.”

The instructions (both in L1 and L2) stated that the subjects should report their thoughts whenever they reached a red dot marked at the end of each sentence in the two texts, a procedure widely used in think-aloud studies (Afflerbach, 1990; Hare & Smith, 1982; Kletzien, 1991; Kucan & Beck, 1996; Long, Winograd & Bridgem, 1989; Olshavsky, 1976-1977;), and L2 reading (Block, 1986, 1992; Sarig, 1987; Pritchard, 1990) to elicit subjects’ online cognitive behaviours. The researcher devised an appropriate scheme aimed at controlling possible text-presentation effects on readers’ reported strategic processing, as shown in table 1.

Table 1: Design of presenting text types and reading purposes in the two texts in each group in order to control text-presentation/order effect

<table>
<thead>
<tr>
<th>Group</th>
<th>Distribution scheme of text types (NT/ET) and purposes (OD/CT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Readers (n=8)</td>
<td>2 Ss reading NT for OD purpose and ET for CT purpose</td>
</tr>
<tr>
<td></td>
<td>2 Ss reading ET for CT purpose and NT for OD purpose</td>
</tr>
<tr>
<td></td>
<td>2 Ss reading NT for CT purpose and ET for OD purpose</td>
</tr>
<tr>
<td></td>
<td>2 Ss reading ET for OD purpose and NT for CT purpose</td>
</tr>
<tr>
<td>Poor Readers (n=8)</td>
<td>2 Ss reading NT for OD purpose and ET for CT purpose</td>
</tr>
<tr>
<td></td>
<td>2 Ss reading ET for CT purpose and NT for OD purpose</td>
</tr>
<tr>
<td></td>
<td>2 Ss reading NT for CT purpose and ET for OD purpose</td>
</tr>
<tr>
<td></td>
<td>2 Ss reading ET for OD purpose and NT for CT purpose</td>
</tr>
</tbody>
</table>

As for dictionary use, the study manipulated the conditions upon which dictionaries were allowed. These included imposing restrictions on using neither bilingual nor monolingual dictionaries when tasks involved reading texts for the comprehension test-taking purpose but that such restrictions were lifted when subjects processed texts for oral discussion.

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Note. NT = Narrative text, ET = Expository text, OD= oral discussion, CT = comprehension test-taking
purpose whereby they were permitted to refer to any of the two dictionaries, if they preferred (see table 1). The primary objective of such manipulation was (as in the case of the reading-purpose scheme design) to maintain an accurate and consistent design in replicating subjects’ ‘real’ academic settings in which using both dictionaries was permissible (when reading for classroom oral class discussion) or prohibited (when taking a comprehensive test-taking). To meet these ends, the researcher had provided two types of dictionaries: a bilingual/monolingual (2005 student edition of Al-Quareeb Al-Mawrid) and a monolingual one (the 1999 Collins Pocket Dictionary and Thesaurus) although the selected subjects were informed that they could use their own dictionaries, if they preferred.

As expected, the researcher used few necessary probes such as ‘what are you thinking of now’? after noticing some long pauses (over 10 seconds). These probes were useful in minimizing the long silent instances of the subjects’ verbal reporting (Afflerbach and Johnston, 1984). The two reading tasks were audio recorded for later transcription and coding. Placing himself away from the subjects, the researcher kept observing the readers’ reactions and behaviours as they were engaged in the tasks and was constantly taking necessary notes. Having completed all subjects’ think-alouds, the researcher then began conducting the retrospective interviews with each subject. As stated previously, the underlying purpose of the retrospective interviews was to triangulate the data collected via the think-aloud protocols so as to compare how subjects’ responses in the interviews were reflective of the types of strategies they used when processing both the narrative and expository texts. In other words, the interviews required more awareness of what the participants were doing than what they reported in the think-aloud tasks.

Table 2: Conditions imposed on the reading tasks of the narrative and expository texts

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Reading for the OD purpose</th>
<th>Reading for the CT purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dictionary use</td>
<td>Allowed (any bilingual/monolingual dictionaries)</td>
<td>Not allowed</td>
</tr>
<tr>
<td>Time limit</td>
<td>20 minutes</td>
<td>20 minutes</td>
</tr>
</tbody>
</table>
3.5 Data analysis

3.5.1 Analysing think-aloud reports

All the thirty-two think-aloud protocols (as well as the sixteen interviews) were transcribed verbatim in which readers’ Arabic (L1) verbalizations were first transcribed in L1 and then translated into L2. Cautioned against any potential danger of losing data through the transcription stage, the researcher was mindful and attentive to those sometimes neglected verbal (e.g., intonation, emphases, tone) and nonverbal features (e.g., sighing, coughing, clearing throat, noises) in the verbal protocols (Afflerbach and Johnston, 1984). A careful consideration was also paid to those spoken or non-spoken reactions or emotional behaviours which signalled readers’ interest or affective responses (e.g., groaning, exclamations, etc.) which play crucial role in the interpretation process of the data (Dörnyei, 2007). With the verbal reports being transcribed, the next stage involved attentive and careful segmentation of all the protocols collected. In qualitative research, the segmentation process often involves breaking verbal data into separate chunks or idea units of different lengths (e.g., phrases, clauses, sentences, etc.) to be later labelled and coded. This process is dictated by the systematic analytical procedures of the ‘open-coding’ analysis, a well-established practice in the grounded theory research (Strauss & Corbin, 1990). It involves assigning certain tentative or conceptual, rather than descriptive, codes or labels to the collected data (Dörnyei, 2007). With the research primarily focused on detecting readers’ explicit problems and reading strategies when processing the text types, the researcher first went through this stage of breaking protocols into different idea units that bore some potential evidence of strategy-use processing on the part of the readers. These units were often a collection of words,
phrases, clauses or even sentences that qualified for careful marking and labelling of potential strategic reading behaviours.

3.5.1.1 Coding the think-aloud protocols

Data analysis in the present study was guided by the constant-comparison approach of the grounded theory (Strauss, 1987; Strauss & Corbin, 1990). The coding phase consisted of different stages carried out with the aim of establishing a series of systematic procedures in coding the protocols and verifying the consistency and reliability of the coding scheme constructed. Throughout the stages of coding the think-aloud protocols, the researcher ensured validity of the coding procedures by including the input of an expert in strategy use into the development of the codes. This included discussing the preliminary and revised codes and resolving doubts about some processes detected in readers’ verbal protocols.

3.5.1.1.1 The initial/preliminary coding scheme

Having randomly selected sixteen protocols from three readers of two different L2 reading proficiency groups, the researcher decided to begin the process of labelling these protocols and then devise a preliminary coding scheme which should then be compared against the more systematic coding scheme of the second stage. Drawing on an extensive and careful review of the taxonomies of strategies identified in L1 and L2 reading literature (e.g. Abbott, 2006; Anderson, 1991; Block, 1986; Hardin, 2001; Jiménez, García & Pearson, 1996; Pritchard, 1990), the researcher initiated the early stages of coding the sampled verbal protocols. However, the researcher made the decision not to be confined within a pre-determined taxonomy of strategies drawn from the literature when constructing the initial coding scheme. Rather, the coding scheme emerged out of a series of constant efforts to examine and re-examining both problems and strategies detected in readers’ think-aloud protocols. This insured the objectivity of this study in generating a coding scheme that had been exhaustively refined in order to validate its application. This involved devising a coding scheme out of the protocols and then comparing it across a
larger spectrum of strategy-use classifications before a finalized coding scheme was devised.

3.5.1.1.2 The revised and final coding of previous tentative codes

During the early stages of segmenting and coding the verbal protocols, the researcher also addressed some other concerns regarding the identification of certain processes detected in readers’ protocols. For instance, the researcher was not sure whether readers’ self-questioning should be seen as strategic or signs of problems in reading. So, in order to address these concerns, the researcher kept constant notes and raised questions about some processes that posed difficulty during the revised coding stages. These questions were then carefully examined and discussed with an expert in strategy research in order to deal with the uncertainty of coding certain reading behaviours spotted in readers’ protocols. After some considerable attention was given to these cognitive behaviours, the researcher was able to resolve the doubts surrounding the processes and decisions were made as to how these stances were to be coded.

3.5.1.1.3 Categorizing revised codes and constructing a strategy-use taxonomy

Careful examination of the taxonomies reported in L1 and L2 strategy research reveals an overwhelming evidence of overlapping as to how strategy-use categories were classified. In other words, previous taxonomies did not always distinguish clearly between problems, strategies and non-strategic behaviours. Hence, one of the aims of this study is to insure that the finalized coding scheme used in analyzing the protocols should address these apparent issues by distinguishing problems, strategic and non-strategic processes in the present study. After the coding and re-coding stages were completed, the researcher first categorized the coded processes in readers’ protocols into two main classifications: those that signified problems and those that reflected strategic processing on the part of readers to either overcome the problems or to facilitate comprehension of texts. But as more categories were emerging from the data, the researcher moved towards categorizing the
coded strategic processes into three main categories: word-related strategies, text-related strategies, and metacognitive strategies.

3.5.2 Analyzing the retrospective interviews

There were sixteen semi-structured interviews in total collected from the study subjects. Similar to the stages applied in transcribing and coding the think-aloud protocols, analysis of the retrospective interviews was carefully monitored. First, all the interviews in L1 were translated and transcribed in L2. After completing the transcription stages, the researcher began coding each reader’s responses in the initial coding by giving some general description of the responses drawn from the interviews. A later stage involved careful reviewing of the initial coding by comparing responses from the same or different L2 reading ability groups. Overall, the researcher identified six types of codes classified in terms of their relevance either to the think-aloud tasks or to the study variables. These included the codes on 1) problems encountered in reading texts (RV1: TA_Task: RP), 2) strategies executed (RV2L TA_Task: RS), 3) awareness of structural difference (RV3 (a): STRUCT (AWARE) ), 4) effects of structural differences on readers’ text processing (RV3 (b): STRUCT. (EFFECT)), 5) awareness of purposes while reading texts (RV4 (a): PURPOSE (AWARE), and 6) effects of purposes on readers’ processing of texts (RV4 (b): PURPOSES (EFFECT). These six types of codes were categorized as such and constant comparison between similar and/or different codes across both good and poor readers’ think-aloud protocols and exist interviews were carried out as an example of how codes were indentified and interpreted. This was carried out in order to indentify similar and/or different patterns in readers’ responses to the researcher’s questions about either the reading problems and strategies taken in both tasks or about the study variables (i.e., questions about awareness and effects of text types/ text structuring, or of purposes for reading on readers’ process of reading texts).

3.5.3 Issues of validity and reliability in the study
The study achieved systematic patterns of obtaining intra-rate reliability of the data coded by researcher’s continuous efforts of coding and re-coding the think-aloud protocols collected, as well as categorizing the (explicit) reading problems and strategies emerging from the data. This was achieved by a series of systematic procedures that consisted of 1) the initial coding of the recorded data, 2) revised coding of the initial segments, which involved the constant-comparative methods discussed previously, and 3) the emerging categories of the coded problems and strategies. This process was carefully monitored over the various stages of the data analysis. For example, during the initial and revised coding of the protocols, the researcher coded some random protocols drawn from the two different L2 reading proficiency groups and came back to the same protocols at different intervals (approximately a month period) in order to compare the two stages of coding. The study also provided evidence of the inter-reliability of the coded reading problems and strategies and their categorization. This was carried out by asking a fellow graduate student, who had been conducting research in L2 writing strategies to code randomly-selected protocols. Overall, eighty-nine instances of strategic process were identified and coded by the first independent coder in the first verbal protocol (good reader processing the narrative text) and 33 instances were coded in the second protocol (same reader processing the expository text), with a percentage agreement of 83.5. Instances that reflected differences between the researcher’s and the independent raters’ coding of the sampled protocols were resolved through discussion.

4 Results of the study

4.1 Types of reading problems and strategies reported by Saudi L2 readers processing the expository and narrative texts: Research Questions 1 & 2

The results of coding the sixteen Saudi L2 readers’ think-aloud protocols (which were supported by evidence of the interviews) revealed that a list of sixty-six reading processes, including reading problems and strategies reported by readers processing narrative and expository text. As stated earlier (see section 3.5.1.1.3), the constructed taxonomy of strategies is categorized into three main categories, each with two subcategories: word-related strategies (word-attack strategies and word-facilitating strategies), text-related
strategies (bottom-up strategies and top-down strategies) and metacognitive strategies (self-monitoring comprehension and self-monitoring strategic actions). The taxonomy included some strategic processes not found in previous L1 and L2 reading strategy. These include, for instance, the strategies of shortening a difficult word in pronunciation while reading (WRD_SHORT), self-revising/ changing point of view/position expressed (TXT_REVISVIEW) or problems monitored such as recognizing a problem in comprehending concept/idea behind a word/phrase (META_PROBCONCPT) or the various types of questioning which, unlike previous studies in L1 or L2 reading, were coded in the study as explicit problems being monitored by L2 readers.

4.2 Effects of text types (expository v. narrative) and L2 reading proficiency (good readers v. poor readers) on reported problems and reading strategies: Research Questions 2

The present study used descriptive and inferential statistics to determine differences in the mean frequency of the reported problems and strategic processes employed in the expository and narrative texts. This part reports the findings drawn from the quantitative analysis in the main categories identified in the strategy-use taxonomy.

4.2.1 Effects of text type and L2 reading proficiency on L2 readers’ word-related strategies (WRD_WA and WRD_WF)

Findings of the descriptive and inferential analysis indicated that there was a difference in the mean frequency of both word-attack (WRD_WA) and word-facilitating strategies (WRD_WF) between the L2 reading groups when processing the expository and narrative texts, as shown in Table 3.

Table 3: Descriptive statistics for word-attack (WRD_WA) and word-facilitating strategies (WRD_WF) reported by L2 reading proficiency groups in the text types (NT v. ET)

<table>
<thead>
<tr>
<th>L2 reading proficiency groups</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET_WRD_WA good readers (GR)</td>
<td>7.37</td>
<td>6.50</td>
<td>8</td>
</tr>
</tbody>
</table>
Table 4: Results of a two-way ANOVA on word-attack (WRD_WA) and word-facilitating (WRD_WF) strategies reported in text types

<table>
<thead>
<tr>
<th>Word-related strategies</th>
<th>Effects of variables</th>
<th>Sum of square</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>WRD_WA</td>
<td>Text Type (within-subject effect)</td>
<td>185.281</td>
<td>1</td>
<td>185.281</td>
<td>7.272</td>
<td>.017*</td>
</tr>
<tr>
<td></td>
<td>L2 reading proficiency (between-subject effect)</td>
<td>132.031</td>
<td>1</td>
<td>132.031</td>
<td>3.131</td>
<td>.099</td>
</tr>
<tr>
<td></td>
<td>Interactions effect (text types and L2 reading proficiency)</td>
<td>52.531</td>
<td>1</td>
<td>52.531</td>
<td>2.062</td>
<td>.173</td>
</tr>
<tr>
<td>WRD_WF</td>
<td>Text Type (within-subject effect)</td>
<td>19.531</td>
<td>1</td>
<td>19.531</td>
<td>2.982</td>
<td>.160</td>
</tr>
<tr>
<td></td>
<td>L2 reading proficiency (between-subject effect)</td>
<td>47.531</td>
<td>1</td>
<td>47.531</td>
<td>2.198</td>
<td>.160</td>
</tr>
<tr>
<td></td>
<td>Interactions effect (text types and L2 reading proficiency)</td>
<td>5.281</td>
<td>1</td>
<td>5.281</td>
<td>.806</td>
<td>.384</td>
</tr>
</tbody>
</table>

As we see from Table 4, descriptively good readers (GR) used more word-attack (WA) strategies than poor readers (PR) and the narrative text (NT) elicited word-attack strategies more than the expository text, especially among good readers. As for word-facilitating (WF) strategies, the descriptive results showed similar differences, with good readers reporting more word-facilitating strategies than poor readers for both text types and that the narrative text elicited WRD_WF more than the expository text. However, the two-way ANOVA (see table 5) showed that only the difference between text types (NT vs. ET) was significant in the use of word-attack strategies (WRD_WA) amongst the L2 reading proficiency groups (F (1,14)= 185.281, p= .017) but no between-subject effects of L2 reading proficiency or interaction effects were found.
As shown in Figure 1, both L2 good and poor readers employed more word-attack (WRD_WA) strategies in the narrative than in the expository text although the narrative text elicited more WRD_WA strategies from good readers than the expository text. The reason for the frequent use of WRD_WA strategies in the narrative text is mainly due to the frequent instances of explicit problems being reported by both L2 reading proficiency groups. For instance, self-questioning meaning of an unknown words (META_QUSTWRD) was reported by the L2 readers more frequently in the narrative than in the expository text (\(M = 3.37, SD = 2.12\) in NT and \(M = 2.56, SD = 1.75\) in ET) although this difference was not found significant (\(p = .325\)). The more L2 readers showed recognition of lexical problems, the more they employed word-attack strategies to resolve such problems in texts. Overall, the results here contradict previous findings which showed evidence that expository texts elicited readers’ word-related strategies (e.g., using contextual guessing) than narrative texts (Yoshida, 2007).

With regard to the difference between L2 good and poor readers’ WRD_WA strategies,
Figure 1 reveals a difference in the mean frequency of WRD_WA reported, with good readers reporting WRD_WA strategies more frequently when encountering lexical difficulties in both the narrative and expository texts, as shown in Table 3. However, no between-subject effects of L2 reading proficiency were found significant (F (1,14)= 3.131, p= .099) nor were there significant interactions found between text types and L2 reading proficiency on readers’ word-attack strategies (F (1,14)= 2.062, p= .173). These results were not expected since previous research (Mushait, 2003) has shown significant differences in word-related strategies between L2 readers, with poor readers reporting more word-related strategies than good readers.

Figure 2: Differences between text types and L2 reading proficiency groups in word-facilitating strategies (WRD_WF) reported in text types (ET v. NT)

Although not significant, Figure 2 reveals mean frequency differences between the L2 reading ability groups in reporting WRD_WF strategies (e.g., shortening a word while reading (WRD_SHORT), retrieving and substituting an L2 synonym for a word read in text (WRD_SUBSTIT), translating a selected familiar word) in their strategic processing of both text types. Furthermore, as shown in table 3, L2 good readers employed WRD_WF strategies almost the same in the expository and narrative texts whereas poor readers employed WRD_WF strategies more frequently in the narrative than in the
expository text even though this interaction effect was not found significant
\(F(1,14)= .806, p= .384\).

4.2.2 Effects of text type and L2 reading proficiency on L2 readers’ text-related
strategies (TXT_BU and TXT_TD)

The quantitative analysis of the text-related strategies between the two L2 reading ability
groups revealed significant effects of text types (expository versus narrative) on the use
of bottom-up and top-down strategies by both L2 reading ability groups. The results also
revealed some differences in the mean frequency of both bottom-up (TXT_BU) and top-
down strategies (TXT_TD) between good and poor readers across the two text types.
Although not significant, some differences between the L2 reading ability groups in the
mean frequency of top-down strategies were found, with good readers employing more
instances of top-down strategies than poor readers in the expository and narrative texts
(see tables 5 and 6).

Table 5: Descriptive statistics for bottom-up (TXT_BU) and top-down (TXT_TD)
strategies reported by L2 reading proficiency groups in the expository and narrative texts

<table>
<thead>
<tr>
<th>L2 reading proficiency group</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET_TXT_BU</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good readers (GR)</td>
<td>29.87</td>
<td>19.98</td>
<td>8</td>
</tr>
<tr>
<td>poor readers (PR)</td>
<td>32.12</td>
<td>13.38</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>31.00</td>
<td>16.47</td>
<td>16</td>
</tr>
<tr>
<td>NT_TXT_BU</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good readers (GR)</td>
<td>49.37</td>
<td>24.31</td>
<td>8</td>
</tr>
<tr>
<td>poor readers (PR)</td>
<td>48.37</td>
<td>17.68</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>48.87</td>
<td>20.54</td>
<td>16</td>
</tr>
<tr>
<td>ET_TXT_TD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>good readers (GR)</td>
<td>16.87</td>
<td>7.97</td>
<td>8</td>
</tr>
<tr>
<td>poor readers (PR)</td>
<td>14.12</td>
<td>8.40</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>15.50</td>
<td>8.04</td>
<td>16</td>
</tr>
<tr>
<td>NT_TXT_TD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>good readers (GR)</td>
<td>11.37</td>
<td>6.69</td>
<td>8</td>
</tr>
<tr>
<td>poor readers (PR)</td>
<td>6.62</td>
<td>3.42</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>9.00</td>
<td>5.69</td>
<td>16</td>
</tr>
</tbody>
</table>

Table 6: Results of a two-way ANOVA on bottom-up (TXT_BU) and top-down
(TXT_TD) strategies used for text types

<table>
<thead>
<tr>
<th>Text-related strategies</th>
<th>Effects of variables</th>
<th>Sum of square</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 6 reveals that difference in text types has a main effect on L2 readers’ bottom-up and top-down strategies reported, with the narrative text eliciting more frequent and significant bottom-up strategies by both L2 reading groups (F (1,14)= 17.340, p=.001).

As shown in Figure 3, both good and poor readers employed bottom-up strategies (e.g., rereading part of sentence or text, paraphrasing in L1, reading on, etc.) more frequently and significantly when processing the narrative text than the expository text. This
apparent difference between text types in both L2 reading groups’ mean frequency of employing bottom-up strategies can mainly be attributed to the differences between the texts in the lexical and comprehension difficulties readers reported in think-aloud and interviews protocols. For instance, both L2 readers’ think-aloud protocols revealed a frequent use of rereading the text, reading ahead, adjusting reading rate/speed or paraphrasing in L1 in the narrative text more than the expository text. In their interviews, good and poor readers stated that they had encountered more word-related and text-related problems in the narrative text than in the expository text and thus had to go over those parts of the text they found difficult to comprehend by either rereading the text, adjusting reading rate or paraphrasing the text content. With regard the differences between L2 good and poor readers in using bottom-up strategies, slight variations in the mean frequency of TXT_BU were found between good and poor readers in the narrative text. But overall, differences between L2 reading proficiency in reporting TXT_BU strategies were not significant and neither were interactions effects detected between text types and L2 reading proficiency groups (see table 6).

However, L2 readers reported top-down strategies (TXT_TD) more frequently and significantly (F (1,14)= 11.160, p= .005) in the expository text than in the narrative text. With regard to the effect of L2 reading proficiency, no significant effects were found in the use of TXT_TD nor were there interaction effects detected between text types and L2 reading proficiency (as shown in table 6).

Figure 4: Differences between text types and L2 reading proficiency groups in top-down strategies (TXT_TD) reported in text types (ET v. NT)
As shown in Figure 4, both L2 good and poor readers employed top-down strategies more frequently and significantly in processing the expository text than the narrative text (see table 6). Considering that both L2 reading ability groups reported less mean frequency of lexical and comprehension problems in the expository text than in the narrative texts, both good and poor readers were engaging in higher-up processes (e.g., relating information/action in text to personal background or experience, inference making) in the expository text but not frequently in the narrative text. For instance, poor readers reported 6 instances of relating to prior knowledge experience and 7 instances of relating to cultural knowledge in the expository text whereas no instances of these top-down strategic processing were ever detected in their think-aloud protocols in the narrative text. This provides evidence that both good and poor readers found the expository text as less problematic in comprehending as opposed to the narrative text, a finding that is also supported by readers’ responses in the retrospective interviews.

4.2.3 Effects of text types and L2 reading proficiency on L2 readers’ metacognitive strategies (META_RS)

The quantitative results also yielded some notable differences between the L2 reading
proficiency groups in the metacognitive-related strategies (META_RS) reported and employed in processing the text types. That is, good readers reported more frequent instances in self-monitoring difficulties or breakdowns (META_MONITCOMP) in both the narrative and expository texts than poor readers. However, there were variations in L2 readers’ frequent use of self-monitoring strategies (META_MONITACT) across text types. For instance, good readers had a slightly higher mean in reporting self-planning what action to take, questioning or dismissing taking an action than poor readers. On the other hand, poor readers reported more instances of self-directing attention to selected parts of the text or deciding to take action while reading than good readers, as will be discussed in the following sections.

Table 7: Descriptive statistics for self-monitoring comprehension processes (META_MONITCOMP) and monitoring strategic actions (META_MONITACT) reported by L2 reading proficiency groups in the expository and narrative texts

<table>
<thead>
<tr>
<th>Metacognitive-related strategies</th>
<th>L2 reading proficiency group</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET_META_MONITCOMP</td>
<td>good readers (GR)</td>
<td>9.37</td>
<td>4.80</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>poor readers (PR)</td>
<td>7.12</td>
<td>3.27</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>8.25</td>
<td>4.13</td>
<td>16</td>
</tr>
<tr>
<td>NT_META_MONITCOMP</td>
<td>good readers (GR)</td>
<td>12.75</td>
<td>8.32</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>poor readers (PR)</td>
<td>11.75</td>
<td>6.54</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>12.25</td>
<td>7.25</td>
<td>16</td>
</tr>
<tr>
<td>ET_META_MONITACT</td>
<td>good readers (GR)</td>
<td>5.50</td>
<td>5.09</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>poor readers (PR)</td>
<td>7.37</td>
<td>7.00</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>6.43</td>
<td>5.99</td>
<td>16</td>
</tr>
<tr>
<td>NT_META_MONITACT</td>
<td>good readers (GR)</td>
<td>8.87</td>
<td>6.51</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>poor readers (PR)</td>
<td>6.37</td>
<td>5.06</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>7.62</td>
<td>5.78</td>
<td>16</td>
</tr>
</tbody>
</table>

Table 8: Results of a two-way ANOVA on self-monitoring comprehension problems (META_MONITCOMP) and monitoring strategic actions (META_MONITACT) reported in text types

<table>
<thead>
<tr>
<th>Metacognitive strategies</th>
<th>Effects of variables</th>
<th>Sum of square</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>META_MONITCOMP</td>
<td>Text Type (within-subject effect)</td>
<td>128.000</td>
<td>1</td>
<td>128.000</td>
<td>7.059</td>
<td>.019*</td>
</tr>
<tr>
<td></td>
<td>L2 reading proficiency</td>
<td>21.125</td>
<td>1</td>
<td>21.125</td>
<td>.385</td>
<td>.545</td>
</tr>
</tbody>
</table>
### Table 2: Interactions effect (text types and L2 reading proficiency)

<table>
<thead>
<tr>
<th>Test Type</th>
<th>(within-subject effect)</th>
<th>(between-subject effect)</th>
<th>p-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interactions effect (text types and L2 reading proficiency)</td>
<td>3.125</td>
<td>1</td>
<td>3.125</td>
<td>.172</td>
</tr>
<tr>
<td>META_MONITACT Text Type (within-subject effect)</td>
<td>11.281</td>
<td>1</td>
<td>11.281</td>
<td>1.082</td>
</tr>
<tr>
<td>L2 reading proficiency (between-subject effect)</td>
<td>.781</td>
<td>1</td>
<td>.781</td>
<td>.013</td>
</tr>
<tr>
<td>Interactions effect (text types and L2 reading proficiency)</td>
<td>38.281</td>
<td>1</td>
<td>38.281</td>
<td>3.672</td>
</tr>
</tbody>
</table>

#### 4.2.3.1 Self-monitoring processes employed in comprehending the expository and narrative texts (ET_META_MONITCOMP vs. NT_META_MONITCOMP)

As shown in tables 7 and 8, there was a main effect of text types on L2 readers’ use of self-monitoring processes, with the narrative text eliciting more frequent and significant instances of monitoring problems or success of comprehension than in the expository text (F (1,14)= 7.059, p= .019). This shows that L2 readers had encountered and reported more lexical and sentence comprehension difficulties in the narrative text than in the expository text. As for the differences between L2 reading groups, the quantitative results showed some variations between good and poor readers in the mean frequency of monitoring comprehension problems, with good readers reporting more instances of self-awareness and monitoring of success and/or problems in comprehension (META_MONITCOMP) than poor readers in both text types (see table 7). However, these differences were not found significant nor were there significant interaction found between the L2 reading proficiency groups and text types (as shown in table 8).

Figure 5: Differences between text types and L2 reading proficiency groups in self-monitoring comprehension (META_MONITCOMP) reported in text types (ET v. NT)
A prominent feature of figure 5 demonstrates the significant effects of the text types in both good and poor readers’ monitoring-comprehension strategies with both L2 reading proficiency groups scoring more significant instances of detecting difficulties on a word or sentence levels in the narrative text than in the expository text. These variations are mainly due to the differences of lexical and comprehension difficulties found between the text types, with the narrative text causing more problems for readers than the expository text (as will be shown in section 5.3). Figure 5 also shows the differences between good and poor readers’ level of awareness of either success or difficulties being detected in both the expository and narrative texts. In processing both texts types, good readers reported more instances of monitoring the level of difficulties in comprehending the texts than poor readers.

4.2.3.2 Self-monitoring strategic actions taken in processing the expository and narrative texts (ET_META_MONITACT vs. NT_META_MONITACT)

The quantitative results revealed some variations in the mean frequency of monitoring the cognitive strategies amongst L2 good and poor readers when processing tyhe text types. These strategic processes refer to those in which L2 readers monitored or regulated their own strategies throughout the stages of comprehending the text, either before, during or after reading the text. Table 7 shows that while there was an increase in good readers’ META_MONITACT in the narrative text than in the expository text, the case was the
opposite for poor readers. However, as shown in table 8, no significant differences were found between good and poor readers with regard to the effect of text types on readers’ META_MONITACT (F (1,14)= 1.082, p=.316) nor were there significant effects of L2 reading proficiency on readers’ META_MONITACT (F (1,14)= .013, p= .912). As for the interaction effects of text types and L2 reading proficiency, the results indicated almost significant interactions of the variables (F (1,14)= 3.672, p= .076). This level of variations in good and poor readers’ frequent use of self-monitoring the strategies employed in both text types can be seen in figure 5.6 below.

Figure 6: Differences between text types and L2 reading proficiency groups in self-monitoring the strategies (META_MONITACT) reported in text types (ET v. NT)

As shown in Figure 6, the mean frequency difference between L2 readers’ META_MONITACT across the text types are due to the different amount of strategic processes being used. Both good and poor readers showed more efforts in monitoring their own strategic actions in the narrative text since it posed more difficulties to them than in the expository text. The more difficulties good readers reported in processing the narrative text, either at the local or global levels, the more instances of META_MONITACT strategies they used in order to monitor the success or failure of their cognitive strategies. For instance, good readers employed more instances of self-
directing attention (META_DIRECTATTEN) to certain selected parts of the narrative text and self-planning action prior to reading the text (META_PLAN) than in the expository text. While poor readers also showed metacognitive awareness of problems encountered in both the narrative and expository text, they relied heavily on attacking and resolving lexical problems than monitoring their comprehension of the text beyond the word-level.

5 Discussion of the results

5.1 Relationship between L2 reading proficiency (good vs. poor readers) and reported reading problems and strategies (Research Questions 1 & 2)

The overall findings of the study showed that while both L2 reading proficiency groups varied in reporting different problems and strategies across the narrative and expository texts, they did not significantly differ in employing set of word-related, text-related and metacognitive strategies. While the results of word-related strategies are not consistent with findings drawn from previous L2 reading studies (e.g., Horiba, 1990; Mushait, 2003; Pang, 2006; Zhang, Gu & Hu, 2008) which indicated that poor readers used more word-related strategies than good readers due to the attention given to isolated words, there were some studies that drew similar findings to the present study. For instance, Jiménez, García & Pearson (1996) found that both successful and less successful Latina/o readers encountered lexical difficulties but that the successful groups showed more abilities in overcoming these word-level problems than the less successful groups by engaging in more strategic processes being used frequently in texts.

With regard to text-related strategies reported, the study found no significant between-subject effects of L2 reading proficiency on reported bottom-up and top-down strategies across text types, although differences in the mean frequency of such strategies were detected. The findings here challenge those drawn from previous L2 strategy research which demonstrated how readers’ low reading proficiency levels significantly accounted for poor readers’ overreliance on using bottom-up strategies as opposed to the top-down strategies used by good readers (Carrell, 1989; Horiba, 1990; Mushait, 2003; Pang, 2006).
However, the findings related to bottom-up processes support the conclusion made by some previous L2 reading studies (e.g., Anderson, 1991; Sarig, 1987) which asserted that both L2 reading ability groups engaged in similar instances of bottom-up strategic processes.

As for the metacognitive strategies, the quantitative findings revealed that L2 good readers outscored poor readers in the number of instances indicating self-monitoring success and/or failures in processing both text types and monitoring the strategic actions taken in order to solve problems or facilitate comprehension. Although the differences were found significant, good readers showed more awareness of comprehension breakdowns in both text types by engaging in more frequent instances of different types of self-questioning than poor readers (e.g., self-questioning referents of pronouns and/or names in text, self-questioning coherence of information/action in text, self-questioning writing style used in text), although poor readers reported more instances of lexical and comprehension difficulties in texts. These findings are in line with some previous findings in L1 and L2 think-aloud studies (e.g., Hare, 1981; Garner & Kraus, 1981-82; Block, 1992; Jiménez, García & Pearson, 1996) which found that good or proficient readers demonstrated a higher level of awareness in detecting and monitoring reading problems in texts than poor or less proficient readers in their verbal protocols. These discrepancies in readers’ META_MONITCOMP resulted from the differences between good and poor readers’ monitoring abilities not only in maintaining awareness of difficulties throughout their comprehension process but also in detecting and indentifying sources of difficulties found in both the narrative and expository texts. As for readers’ abilities in monitoring their strategic actions (META_MONITACT), the findings were not consistent with those drawn from previous L2 reading research which indicated that L2 proficient readers showed more competence in monitoring their own processes than less proficient readers (Block, 1992; Yang, 2002).

5.2 Relationship between text types and readers’ strategic processing of the expository and narrative texts (Research Questions 3)
A major finding in the present study is that variations in text types (expository versus narrative) emerged as the main variable affecting L2 good and poor readers’ reported problems and strategies. With regard to the explicit reading problems, the study results revealed that both good and poor readers reported more significant lexical and comprehension difficulties in the narrative text than in the expository text due to the mean frequency differences in the number of instances signalling lexical, structural and comprehension problems.

The effect of text types was also present in L2 readers’ word-related and text-related strategies in which the narrative text significantly elicited more word-attack, bottom-up and top-down strategies than the expository text across L2 reading proficiency groups. The analysis of readers’ interviews revealed that L2 readers found the expository text easier in vocabulary than the narrative text which remains consistent with the quantitative results in which L2 readers reported more instances questioning meaning of unknown words in the narrative than in the expository text. Figure 4 also reveals some notable differences in the frequency use of top-down strategies between the two reading ability groups. As stated earlier, L2 good readers outscored poor readers in the number of instances that embodied higher-level processing of both the narrative and the expository text.

These results contradict previous findings which showed that (L1) readers reported more difficulties processing the expository text than the narrative text (e.g., Bridge & Tierney, 1981; Fagan, 1987; Englert, Hiebert & Stewart, 1988; Zabrucky & Ratner, 1992). These contradictions between the study findings and previous research findings can mainly be due to the differences between L1 and L2 learners’ reading abilities. Moreover, previous L1 studies relied on recalls to measure the structural effects of narrative and expository on young L1 readers’ comprehension of text content. On the other hand, this study focused on readers’ online processing of the text types. Another reason for these differences in research findings is that some previous research used materials whose content was not controlled and thus might have affected readers’ comprehension of the texts. Since variation in text types emerged as the significant factor influencing L2
readers’ problems and strategies reported, a qualitative discussion will be provided in the following sections to draw connections between the quantitative and qualitative findings in the present study.

5.2.1 Readers’ awareness of text structuring of the narrative and expository texts

The qualitative analysis of readers’ verbal protocols and interviews revealed that both good and poor readers possessed knowledge or awareness of how narrative and expository texts were structured with varying degrees. This included knowledge of the differences between the two texts in the structural organizations of the text genres. Evidence from readers’ think-aloud and retrospective interviews support the conclusion that readers drew on their formal schema of texts in demonstrating awareness of how the information or action in both texts were structured, as shown in the following think-aloud protocols:

Excerpts 1:

<table>
<thead>
<tr>
<th>Original text</th>
<th>Reader/text/ purpose</th>
<th>Think-aloud protocol</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.50 from Paddington (Title)</td>
<td>GR2/NT/OD</td>
<td>4.50 from padington... (it seems that it is) a story . the train gathered speed again the train gathered speed again</td>
<td>TXT_Predict (genre of text)</td>
</tr>
<tr>
<td>The train gathered speed again.</td>
<td>GR3/NT/OD</td>
<td>at the moment AHH (maybe it’s in the middle of a story) توضحت الضرورة (ohh now the picture got clearer) (ok)</td>
<td>TXT_Predict (genre of text)</td>
</tr>
<tr>
<td>The door of her compartment was drawn back and a ticket collector said ‘Ticket, please.’</td>
<td>GR6/NT/CT</td>
<td>the door of her compartment was drawn back and [a&gt;] ticket collector said ticket please… ok I need to read it again I think it’s a paragraph of a novel I think or something some description of the… to introduce the action</td>
<td>TXT_Predict (genre of text)</td>
</tr>
<tr>
<td>(same title)</td>
<td>GR6/ET/OD</td>
<td>an ever growing problem I think it’s a social text or pollution or something [reads the first sentence]</td>
<td>TXT_Predict (genre of text)</td>
</tr>
</tbody>
</table>

The examples above indicate good readers’ awareness of the genre type and structuring patterns of both the narrative and expository texts and are consistent with their responses.
to the researcher semi-structured questions related to awareness of structural differences between text types (RV: ST: AWARE), as shown below:

Excerpts 2:

<table>
<thead>
<tr>
<th>Reader</th>
<th>Interview excerpts</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>GR2</td>
<td>“Well, as I said.. I guess that the first [referring to the narrative text] has a structure of a literary text.. the title.. it has some sense.. also the train [referring to the train in NT].. a name of a character.. some action going on..”</td>
<td>RV: STRUCT_ AWARE</td>
</tr>
<tr>
<td>GR2</td>
<td>“..in the first passage, he was talking about facts.. facts based on facts.. based on statistics that are.. based on current conditions and research.. but the second [passage].. though it circles round the same subject somehow which is crime.. but he mentions it or [gives] description.. describing something, something that took place or..”</td>
<td>RV: STRUCT_ AWARE</td>
</tr>
<tr>
<td>GR3</td>
<td>“certainly this [referring to ET] is taken for example from a newspaper or.. well looks close to a newspaper or an internet site or some articles or something like that..”</td>
<td>RV: STRUCT_ AWARE</td>
</tr>
<tr>
<td>GR3</td>
<td>“..often you see the second passage in stories.. you find it in stories or.. TV stories as well like the ones in MBC4 programmes like 48 Hours Mystery which talks about crimes and some issues..”</td>
<td>RV: STRUCT_ AWARE</td>
</tr>
</tbody>
</table>

This level of explicit awareness about the differences between the rhetorical structuring of text types is also reflected in some of poor readers’ interview responses:

Excerpts 3:

<table>
<thead>
<tr>
<th>Reader</th>
<th>Interview excerpts</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>PR1</td>
<td>“well, in terms of the structure.. (short pause) in regard to the structuring.. with the first [text] the sequencing of the action was fast.. so the action was that fast that the story finished.. in a rapid way.. as for the second text, it was talking about as if it were an article.. telling an anecdote or some event.. which is related to the society.. the first [text] was a brief and rapid story.. so I got a series of rapid action and finished with this.. so I just read it as a story.. but with the second [text] you feel as it were touching on your own reality ..”</td>
<td>RV: STRUCT_ AWARE</td>
</tr>
<tr>
<td>PR5</td>
<td>“..maybe that one [pointing at the narrative text] was a novel or an extract from an novel so there were some difficulties in the words.. but this one [pointing at the expository text] is probably talking about something.. something that I might read on a daily basis.. just a normal report like any other reports..”</td>
<td>RV: STRUCT_ AWARE</td>
</tr>
<tr>
<td>PR5</td>
<td>“..as I said…the first text maybe because it was a story.. so it had its own style, its words, and its terms.. so it was different than the other text which was easier and.. maybe because it was like any other article which we might read in any newspaper so that’s about it..”</td>
<td>RV: STRUCT_ AWARE</td>
</tr>
<tr>
<td>PR6</td>
<td>“Umm.. the style of the first [text].. a story that had some action.. umm.. (short pause) its action is ordered.. one action follows the other.. but this essay..article.. is a general one.. not necessarily sequenced.. so it might talk about one thing and shifts to something else.. but with the first</td>
<td>RV: STRUCT_ AWARE</td>
</tr>
</tbody>
</table>
Similar to good readers’ responses, poor readers showed evidence of explicit awareness in detecting the structural differences between the narrative and the expository texts. The extracts shown demonstrate how both good and poor readers recognized the distinctive structural properties between the text types and the sources in which they were drawn from. But more revealing than identifying the structuring differences of texts is readers’ awareness knowledge with regard to the structural organization or sequence of the information or action in both texts, as shown previously. What can be concluded with regard to both good and poor readers’ responses here is that both L2 reading ability groups demonstrated similar levels of awareness in the rhetorical structuring of texts they processed although varied in the frequency mean of employing knowledge of structure when processing the text types (see excerpts1). This finding is line with conclusions drawn from previous research which show that readers often demonstrate awareness of text structures when processing the narrative and expository text (Englert & Thomas, 1987; Graesser et al, 1991; Weaver & Kintsch, 1991; Zabrucky & Ratner, 1992).

However, the findings of this study do not completely support the conclusion drawn from previous studies which argued that readers who activate their formal schema of texts when reading often help them in comprehending content of the text (Pressley & Afflerbach, 1995). The qualitative results of L2 readers’ think-aloud and interview protocols showed that while good readers utilised their formal schema about narrative and expository texts to help them facilitate comprehension of text content, the case is not necessarily true for poor readers. For instance, one of the poor readers reported more instances of problems in the global meaning of the narrative text (as opposed to the expository text) although the interviews showed that he was aware of the structural differences between the narrative and expository text. An example of the problems that the poor reader (PR8) encountered in the narrative text can be seen in the following excerpt from his think-aloud protocol:

Excerpt 4:

<table>
<thead>
<tr>
<th>Original text</th>
<th>Reader/ text</th>
<th>Think-aloud protocol</th>
<th>Problems</th>
</tr>
</thead>
</table>
The above excerpt shows one of the frequent instances of explicit comprehension problems found in the poor reader’s think-aloud protocol of the narrative text. This problem signalled the reader’s inability to identify what the story action was about, thus causing a breakdown in his comprehension of the story content. However, his interview responses revealed that he was aware that it was a story and that it was different in structure from the other (expository) text:

Excerpt 5:

<table>
<thead>
<tr>
<th>Reader</th>
<th>Interview excerpts</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>PR8</td>
<td>“Well, if you look at this one [pointing at the narrative text] and this one [pointing at the expository text], you will find that this passage [pointing at the narrative text] occurring in one single day but for this one [pointing at the expository text] you can still tell it more than once.. because it is talking about definite crime.. I mean the second [text] is a story (short pause)”</td>
<td>RV: STRUCT_AWARE</td>
</tr>
</tbody>
</table>

However, his formal schema of text was not explicitly and strategically employed to help him deal with these problems caused by the sequencing of actions in the narrative text. Other causes of such problems in comprehension also include his lack of awareness about other possible meaning of the word ‘blinds’ which he never questioned and his own confusion over pronoun referents in the text. This example provides evidence that demonstrating formal schema does not necessarily imply that L2 readers use such knowledge of text structures strategically to help them comprehend content of the text.

5.2.2 Effect of the difference between text types in structure on readers’ processes in the narrative and expository texts

A major finding of the present study is that processing the narrative text was found to be more difficult and demanding for both good and poor readers than processing the expository text. As demonstrated in the quantitative analysis of readers’ think-aloud
protocols, Saudi L2 good and poor readers reported more frequent problems (both lexical and comprehension) and employed more reading strategies (either to attack lexical or comprehension problems or to facilitate comprehension of texts) when processing the narrative text than when reading the expository text. A total of 178 instances of difficulties were reported by both L2 reading ability groups when processing the narrative text (88 instances by good readers and 90 instances by poor readers) as opposed to 109 instances reported in the expository text (56 instances by good readers and 53 instances by poor readers). This increase in the number of difficulties reported in the narrative texts caused an increase in the number of strategies, which are often problem oriented, as opposed to the expository text.

Results from the interviews revealed evidence of readers’ awareness of the structural differences between the narrative text and expository text and how this knowledge affected their reading process by creating different levels of reading difficulties, as shown the excerpts below:

Excerpts 6:

<table>
<thead>
<tr>
<th>Reader</th>
<th>Interview excerpts</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>GR2</td>
<td>“well.. the structuring I guess.. how the sentences were ordered made it more smooth when I move from one sentence to another.. there's what you can call something logical.. you begin with Crime [referring to the title of the expository text] as a topic sentence and then with examples and then with more examples in.. another paragraph.. whereas the first [referring to the narrative text] No.. the first [text] is certainly a story.. and it's impossible that he would have it [written] in the same way as Crime or it wouldn’t be a story..”</td>
<td>RV: STRUCT_ EFFECT</td>
</tr>
<tr>
<td>PR1</td>
<td>“well, it affected me.. sometimes the structuring of a story might include some action that you.. might have to read once and twice so that you would comprehend the action.. which is the one the first the second or something like that.. the other one the other text [expository] was about the facts something real.. you have it [referring to background knowledge of content] already but just as a reminder..”</td>
<td>RV: STRUCT_ EFFECT</td>
</tr>
<tr>
<td>PR5</td>
<td>“the second text was much easier.. because.. it was like a report that I can normally read in a newspaper.. well, a simple way.. but in the novel, it required.. it had its own style and words.. its own terms..”</td>
<td>RV: STRUCT_ EFFECT</td>
</tr>
</tbody>
</table>

What the above extracts suggest is that good readers and poor readers indicated the structural difficulties in processing and comprehending the series of actions in the narrative text as opposed to processing the information in the expository text. As shown
in good readers’ responses, the structuring of the story in the narrative text and the sequencing of its actions posed some difficulties for the readers in their efforts to comprehend its main actions. Overall, the above extracts (e.g., GR2) suggest that the differences between texts in structure made a shift in their reading process: reading tended to be more straightforward and linear in the expository text than in the narrative text which often lacks certain structures (e.g., introduction, topic sentence, etc.) found in the former. This is evident in the quantitative results which showed significant effects of text types on L2 readers’ use of word-attack strategies and bottom-up strategies reported in the narrative text and the top-down strategies reported in the expository text (refer to sections 4.2.2 and 4.2.3). This indicates that it is the structural properties of text types rather than L2 readers’ awareness of text types that had effects on the difficulties reported by readers in both the narrative and expository texts. Although both L2 reading proficiency groups demonstrated some awareness of the structuring differences between the two texts, it is the structural variation of the text types rather than readers’ awareness of the text structures that affected readers’ reported difficulties in both text types.

However, it should be pointed out that they were other problems (e.g., lexical problems, comprehension problems, problems with writing style, and so forth) that caused breakdowns in readers’ comprehension of the narrative text, as shown in poor readers’ responses above. Moreover, the difficulties found in the narrative text can also be due to the less exposure of narrative texts in readers’ academic context compared to the expository texts used. For example, good reader 5 (GR5), shown in the extracts above, indicated that he was more familiar with the structuring of expository texts than with the narrative texts. This reveals that the lack of exposure that Saudi L2 readers had with narrative texts in their academic context might also explain why they found the narrative text harder than the expository text. Examples of lexical problems can be seen in the extracts below:

**Excerpts 7:**

<table>
<thead>
<tr>
<th>Reader</th>
<th>Interview excerpts</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>GR3</td>
<td>“ok. If we start with the first one [referring to the expository text], maybe just.. some vocabulary.. but solving them came through the context and so there weren’t any problems.. the problem was in the second passage [referring to the narrative text]”</td>
<td>PROBWRD</td>
</tr>
</tbody>
</table>
As shown in the extracts above, both good and poor readers perceived the narrative text to be more demanding and challenging in decoding the difficult unknown words and phrases encountered. Compared to the words used in the expository text, the narrative text included a number of unknown words that required more strategic efforts in inferring their meanings from the context. L2 Readers’ perceptions about the variations of lexical difficulties between the text types are consistent with the quantitative findings which indicated a clear difference in the high frequency of lexical problems being reported and of the word-attack strategies employed in good and poor readers’ verbal protocols in both texts.

Overall, these finding regarding the level of difficulty between narrative and expository texts is not consistent with previous research in L1 and L2 reading which concluded that readers recalled more information or action from the narrative text than from the expository text (Englert & Thomas, 1987; Graesser et al, 1991; Weaver & Kintsch, 1991; Zabrucky & Ratner, 1992; Horiba, 2000; Yoshida, 2007). However, the conclusion drawn from these studies strictly relied on using retellings or written recalls to measure the
amount of information or action being recalled from the expository and/or narrative texts. Moreover, the subjects selected in these studies varied in crucial ways (e.g., their reading abilities, age and background knowledge) from the subjects recruited in the present study. Insofar, this line of research has not equally addressed the types and amount of cognitive and metacognitive processes and the types of difficulties that readers with varying reading abilities report and employ in think-aloud studies.

6 Pedagogical implications and suggestions for future research

The findings of the study add to the overwhelming support for the interactive model of reading which recognizes the complex interactions of bottom-up and top-down strategies in the reading process to be incorporated in ESL/L2 reading programmes. A major contribution of the study lies in its comprehensive constructed taxonomy of reading problems and strategies that emerged from readers’ verbal protocols, a taxonomy that was not constructed from a pre-existing list of strategies identified from previous research in L1 and L2 reading strategies. Although the study was not designed to follow previous reading research on the effects of strategy instructions on readers’ process and product of comprehension (Carrell, 1985; Barnett, 1988; Raymond, 1993; Al-seweed, 2000; Salataci and Akyel, 2002), the constructed taxonomy drawn from the study can be utilized to help ESL/L2 reading instructors recognize some of the reading problems that L2 readers often encounter in texts and the strategies they employed either to overcome these problems or to facilitate comprehension of the text.

Therefore, major implications of the present study concern the pedagogical issues of teaching L2 readers/learners some of the reading strategies that might be effective for them (although the study did not directly measure the effectiveness of strategies used) as suggested by the comprehensive constructed taxonomy of the study to help them either repair problems while reading texts and/or facilitate their comprehension. Although the constructed list of strategies does not include all possible cognitive and metacognitive strategies, the strategy-use taxonomy provides potential resources for L2 reading instructors to use in their teaching of L2 reading strategies in L2 reading programmes or
academic contexts that involves reading English texts. L2 students need to be aware of the repertoire of reading strategies available to them and to know what, when and how certain strategies can be used when reading texts. Furthermore, since the study findings indicated that good readers used more metacognitive strategies than poor readers, L2 readers need to taught such strategies to help plan, regulate and monitor their strategic processing of texts, as well as to evaluate their comprehension breakdowns and/or success while engaged in reading the assigned texts. This study has contributed to these issues by drawing instructors’ attention to identifying problems or difficulties that L2 readers encounter while processing narrative and expository texts.

This study also found that both L2 good readers and poor readers demonstrated similar levels of awareness about the structural differences of the expository and narrative texts although varied slightly in how they made use of this awareness in their strategic reading of texts. However, both L2 reading ability groups reported problems related to the structural organization of actions in the narrative text more frequently than the expository text. Therefore, the study suggests that ESL/L2 teachers should be careful in selecting differently structured texts with topics that ESL/L2 readers find interesting and relevant to their needs to be able to read and to help develop their ESL/L2 strategic reading abilities. It is preferred that the texts selected be authentic but not too challenging to hinder readers’ linguistic abilities and direct the process of their reading comprehension into merely decoding skills. Rather, the selected texts should include various text genres with content that can trigger readers’ background knowledge so that their experiences and previous knowledge can be brought into the process of comprehending the text content. However, more future research on using think-aloud protocols to elicit the reading difficulties and strategic processes of L2 readers need to extend our knowledge as to the various factors that play important roles in affecting the process of readers’ strategies in comprehending the reading tasks. There is also the implication that L2 Saudi university-level students need more work on reading narrative texts which are part of the required academic texts they need to read in class and be examined on.

However, it is important to recognize the limitations of the study which include
investigating subjects’ strategic processing but not the effectiveness of using such strategies, the small sample of subjects selected, the specific academic context from which the subjects were selected, the specific text types and reading purposes used and the incomplete study design which did not allow each subject to read two narrative and two expository texts for the two assigned purposes in a strict experimental design. With these limitations in mind, this study makes some recommendations for future research in ESL/L2 reading strategy. In particular, more research is need to include 1) a larger sample of ESL/L2 readers in different language learning and/or academic contexts to extend the generalizability of its findings and implications for instruction on reading, 2) different text types/genres (e.g., argumentative texts) in think-aloud studies in order to extend our knowledge of how readers’ strategic processes can be directed by the different rhetorical structures of texts and 3) qualitative and quantitative instruments (e.g., questionnaires, L2 reading tests, vocabulary tests) in investigating the process and product of readers’ comprehension, as well as the relationship between readers’ perceived use of strategies and their actual online reading behaviours when engaged in think-aloud reading tasks. There is also more need for research that investigates the effective use of L2 learners’ reading strategies and not simply reporting how such strategies are used.

**References**


Afflerbach, P. P. & Johnston, P. H. (1986). What do expert readers do when the main idea is not explicit. In P. P. Afflerbach and P. T. Johnston (Eds.), *Teaching main idea comprehension*.


Hare, V. C. & Smith, D. C. (1982). Reading to remember: Studies of metacognitive


Appendix A: The reading texts

I. The Narrative Text: 4.50 from Paddington

The train gathered speed again. At the moment another train, also on a down-line, swerved inwards towards them, for a moment with almost alarming effect. For a time the two trains ran parallel, now one gaining a little, now the other. Mrs. McGillicuddy looked from her window through the windows of the parallel carriages. Most of the blinds were down, but occasionally the occupants of the carriages were visible. The other train was not very full and there were many empty carriages.

At the moment when the two trains gave the illusion of being stationary, a blind in one of the carriages flew up with a snap. Mrs. McGillicuddy looked into the lighted first-class carriage that was only a few feet away.

Then she drew her breath in with a gasp and half-rose to her feet.

Standing with his back to the window and to her was a man. His hands were round the throat of a woman who faced him, and he was slowly and remorselessly, strangling her. Her eyes were starting from their sockets, her face was purple and congested. As Mrs. McGillicuddy watched fascinated, the end came; the body went limp and crumpled in the man's hands.

At the same moment, Mrs. McGillicuddy's train slowed down again and the other began to gain speed. It passed forward and a moment or two later it had vanished from sight.

Almost automatically Mrs. McGillicuddy's hand went up to the communication cord, then paused, irresolute. After all, what use would it be ringing the cord of the train in which she was travelling? The horror of what she had seen at such close quarters, and the unusual circumstances, made her paralysed. Some immediate action was necessary—but what?

The door of her compartment was drawn back and a ticket collector said, 'Ticket, please.'

II. The Expository Text:

Crime: An Ever-Growing Problem

Of the many problems in the world today, none is as widespread, or as old, as crime. Crime
has many forms, including crimes against property, person, and government. There is even a class of crimes called “crimes without victims” (e.g., prostitution). Crime in all its forms, penetrates every layer of society and touches every human being. You may never have been robbed, but you suffer the increased cost of store-bought items because of others’ shoplifting, and you pay higher taxes because of others’ tax evasion. Perhaps your house is not worth as much today as it was a few years ago because of the increased crime rate in your neighborhood, or maybe your business is not doing as well as it used to because tourism is down due to increased terrorism in your part of the world. Whatever you do, wherever you live, you are a victim of crime whether you like it or not, whether you know it or not.

Crime, especially violent crime, has risen to a point where many people are afraid to walk alone in their own neighborhoods, afraid to open their door after dark, afraid to speak out and voice their own opinions. Some citizens have reacted by arming themselves with various weapons, legal and illegal, to defend themselves. Citizen groups have taken the law into their own hands by forming their own vigilante groups to administer “judgement” when they feel that their criminal justice system has not performed its duty.

Expect arguments whether the number of crimes committed is actually on the rise or whether there is simply a rise in the number of crimes reported. This issue is particularly true in cases of conjugal violence, the abuse of spouse or children. Throughout much of history, cases of family violence and neglect often went unreported because of the attitude of society, which considered family matters to be private.
Phonological constraints on binomials in Iraqi Arabic with reference to English

Saaed Saeed

Abstract

Binomials are paired expressions having the formula $x$ and/or $y$ which frequently appear in a fixed linear order. Thus *day and night* is more widespread in this order than in the other one *night and day*. Many studies have shown that this order is not random; it is based on various ordering principles of both linguistic and extra-linguistic types. One of the foundational works dealing with this topic is Cooper and Ross's (1975) paper "world order and word order" which is a comprehensive analysis of such conjoined lexical pairs in English. The present paper presents an application of the phonological rules of conjunct ordering suggested by Cooper and Ross to expressions of this type that exist in the variety of Arabic spoken in Iraq. A wide range of examples have been analyzed to clarify the way phonological rules govern the process of linear conjunct ordering. Cross references are made to English examples to capture the similarities and/or the differences between these languages. The results imply that phonology plays a major role in conjunct ordering in these lexical pairs. Finally, the study also suggests a ranking based on the strength each of these rules seems to have.

1 Introduction

"A binomial is a sequence of two words which belong to the same form-class, and which are syntactically coordinated and semantically related" (Gustafsson, 1984: 123). In such expressions, a particular word order is more frequent and considered acceptable by native speakers. Thus, *food and drink* is more frequent than *drink and food*. Therefore, one might, quite reasonably, argue that the linear word order in these dyadic expressions is not random. Rather, this order is determined by rules. The present study confines itself mainly to the examination of the phonological constraints that determine the process of linear conjunct ordering in binomial expressions (BEs) in Iraqi Arabic (IA) with special references to English. Some short hints are also made about morphological and syntactic rules of ordering$^{16}$.

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$^{16}$ Probably one better designates them as 'linguistic' since morphological and syntactic constraints also play a part (i.e. syntactic-morpho-phonemic). But since phonology interfaces with both components, the title 'phonological constraints' proves to be justifiable.
2 Previous studies

Different labels have been used to capture this linguistic phenomenon. Thus, while Malkiel (1959), Bolinger (1962) and Gustafsson (1984) use *(irreversible)* binomials, Cooper and Ross (1975), Oden and Lopes (1984), and Gil (1988) prefer to use *freezes*. Another linguist, Bakir (1999), gives preference to *conjoined lexical pairs*.

Linear order preferences, i.e. which word takes the first position and which the second, has been explained differently by the above mentioned studies. Malkiel thinks that this order is determined by semantic factors, whereas Cooper and Ross think that it is determined by an interplay of phonological and semantic factors. According to Gil, these factors are only prosodic. But there are still others (Gorgis 1999 and Bakir 1999) who add pragmatic factors which partly relate to Cooper and Ross’s *‘Me First Orientation Principle’* (MFOP).

3 The data

The corpus analyzed in this study is a collection of BEs encountered in daily IA speech. These BEs have been collected by the researcher himself, being a native speaker of IA, or obtained through friends. Besides, some have been taken from those introduced by Gorgis (1999) and Bakir (1999). The approach to data collection excluded the possibility of using a tape-recorder during the process of data collection. The procedure which was systematically followed whenever a BE was heard was to write it down in ordinary Arabic orthography and to transcribe it phonemically at once.

English BEs listed in the present study are basically those of Cooper and Ross (1975).

4 Phonological constraints on binomials

To explore as fully as it is possible the phonological constraints on conjunct ordering in BEs, the overall phonological make-up of the two components of a BE is carefully examined. Based on a systematic examination of a wide array of BEs in IA, I have come
up with a number of phonological rules that govern the process of linear conjunct ordering in BEs. These rules are listed in 1 below:

(1) The phonological make-up of place 1 conjuncts will tend to differ from the phonological make-up of place 2 conjuncts as shown in table 1:

Table 1: A modified version of Cooper and Ross's phonological rules of conjunct ordering

<table>
<thead>
<tr>
<th>Symbol (used to stand for the rule)</th>
<th>Place 1</th>
<th>Place 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>a- (i) P (ii) (P)</td>
<td>Monosyllable Polysyllable with fewer syllables</td>
<td>Polysyllable Polysyllable with more syllables</td>
</tr>
<tr>
<td>b- V</td>
<td>Short vowel</td>
<td>Long vowel</td>
</tr>
<tr>
<td>c- Ci</td>
<td>A more obstruent single initial</td>
<td>A less obstruent single initial</td>
</tr>
<tr>
<td>d - Ci#</td>
<td>Fewer initial consonants</td>
<td>More initial consonants</td>
</tr>
<tr>
<td>e- Cf</td>
<td>A less obstruent single final consonant</td>
<td>A more obstruent single final consonant</td>
</tr>
<tr>
<td>f- Cf#</td>
<td>More final consonants</td>
<td>Fewer final consonants</td>
</tr>
</tbody>
</table>

Before starting to explain these rules, it is necessary to draw attention to the fact that what is needed for establishing the existence of each of these rules is, undoubtedly, a set of minimal pairs, i.e. pairs that differ in the segment under investigation only. Unfortunately, it is impossible to base all of these rules on examples that constitute minimal pairs because IA BEs form contrasts only in their initial consonants, e.g.:

(2)  a. /sallim ballim/ 'give, take (imperative)'
    b. /ʕaṭṭaal baṭṭaal/ 'unemployed, idle'

17 For the sake of simplicity, I have adopted the same phonological symbols suggested by Cooper & Ross. However, new rules have been given new symbols.
This means that IA does not have BEs whose elements are phonetically identical in all respects except that they differ in their vowel quality or in their final consonant. It follows from this that the only rule whose validity can be based on instances that are minimal pairs is the one that has to do with the initial consonant, viz, Ci. Therefore, the evaluation of the remaining rules is based on examples that are non-minimal pairs. However, strong support for the existence of most of these phonological rules is also provided by sampling a large number of examples for each rule, where this is possible. This has been the approach adopted in this study.

Let us now pass on to consider the above-mentioned rules. It is quite clear that the first rule is the same as the first rule proposed by Cooper & Ross (p. 71) in that both express the general tendency of placing short items before the longer ones when occurring together. But it should also be clear that this rule differs from the Cooper & Ross's rule in that it has been split into two sub-rules. The first sub-rule governs contrasts between elements which are composed of a single syllable and those composed of more than one syllable. This principle, which is given the symbol p, indicates that place 1 elements tend to contain only one syllable whereas place 2 elements have more than one. The following examples support this principle:

(3) a. /laff u dawaraan/ 'twisting and rounding' (i.e. beating about the bush)
    b. /leel u nahaar/ 'night and day'
    c. /ṣeef u ḟita/ 'summer and winter'
    d. /beeʕ u fira/ 'selling and buying'
    e. /ḥad u baxit/ 'luck and fortune'
    f. /ḥaq u baʕṭil/ 'truth and falsehood'
    g. /barr u bāhir/ 'land and sea'
    h. /ṭuum u buṣal/ 'garlic and onion'
    i. /ḥarr u barid/ 'heat and cold'
    j. /foog u ḷawwa/ 'above and below'
k. /ʔiid w riʔil/ 'arm and leg'

Apparently, all of these instances, and many more like them, show us that there exists a strong tendency among speakers to grant a sequential preference for monosyllabic items upon items that are polysyllabic. However, the following counterexamples have been come across:

(4)  
   a. /ʔanna w naaʔ/ 'heaven and hell'
   b. /ḥayaat u mooot/ 'life and death'
   c. /ʔibra w xeeʕ/ 'needle and thread'
   d. /sima w gaʕʕ/ 'heaven and earth'
   e. /haaða w ðaak/ 'this and that'

But a number of points should be noticed before we proceed in our exposition. First of all, saying that the ordering of conjuncts in certain BEs is determined by such and such phonological rules does not mean that other factors are not at work. In other words, our concentration on a certain rule should not be taken to indicate the exclusion of other types of rules. Secondly, it is not very difficult to see that none of these examples is a true non-pragmatic counterexample. Thus it is quite possible to encounter BEs which do not necessarily support the rule under discussion as it is determined by a different constraint. Moreover, most of the examples in 4 have, in addition to pragmatic ordering principles, some other phonological constraints which work in concert and, therefore, gather more strength by which they could have the upper hand over the phonological rule of syllabic economy (see section 5 below). Therefore, it should be noticed that counterexample BEs are regarded as counterexamples to the rule discussed at a particular stage only.

The second sub-rule of the first phonological rule, symbolized as (P), deals with cases in which both conjuncts are polysyllabic but which differ with regard to the number of syllables in that the first contains fewer syllables than the second. Let us consider the
following examples which provide much support for this principle. Counterexamples have not been found:

(5)  
   a. /ṣaaya w ṣurmmaaya/'mantle and capital' (i.e. whatever one possesses)  
   b. /ʔaabaaʔ u ʔummahaat/'fathers and mothers'  
   c. /ʔuxwa w ʔaxawaat/'brothers and sisters'  
   d. /ʔilmi loo ʔadabi/'Sciences or Arts?'  
   e. /ʔiṣiḥbaa loo masiiḥhi/'Moslim or Christian?'  
   f. /ʔaf zab loo mizzawwiya/'single or married'  
   g. /ṣiḥba w ʔaaфиya/'health and well-being'  
   h. /sitra w ʔanṭaruun/'jacket and trousers'  
   i. /hala w marḥaba/'hi and welcome'

In view of what has been mentioned, the first phonological rule with its two sub-rules indicates that there is an overwhelming preference for placing short items before longer ones. But the question that still needs to be answered is the precedence of short items over longer ones.

A reasonable interpretation was implicitly proposed by Bolinger (1962) who pointed out that this marked preference for short-before-long pattern serves a function related to prominence. According to Bolinger, prominence can be conceived of as due to a static scheme of values, or to a dynamic scheme (see p. 129). On the static side, prominence is measured by means of fixed points or quantities on a scale. "In terms of length, it might mean that a prominent syllable is twice as long as a subdued one; that it is twice as loud; of pitch, that it is twice as high"(ibid). Since these points or values are fixed on a scale and not affected by the values of the adjacent syllables in the environment, a static scheme is context free. On the contrary, a dynamic scheme is context sensitive because it achieves prominence through patterning in that in order to be prominent, a syllable must
be different from its neighbours, not just different from syllables that are more subdued. Thus, statically two or more prominent syllables may occur next to each other, and we know that they are prominent because they are substantially longer than other syllables in the environment. That is, in a static scheme there are fixed points on a scale according to which we measure prominence. But the matter is different in a dynamic scheme as shown by Bolinger (ibid) who remarks that

... in a dynamic scheme, say one in which a syllable in order to stand out must be raised or lowered from adjoining syllables, it is not so easy for two or more to stand side by side. If the first syllable has already been raised in order to make it stand out, and the second also has to be raised, and the third also, the pitch can conceivably mount until it is out of hand.

To avoid this problem in a dynamic scheme of pitches, Bolinger suggests that it is necessary to have an alternation in terms of syllable prominence. That is, if we want to raise the pitch, there must be a convenient arrangement of syllables in such a way that those to made prominent alternate with those to be kept subdued. This can be represented schematically as follows:

Figure 1: Alternation of Syllables

A Prominent

Rise  Rise  Rise

Fall  Fall

A Subdued Syllable

A question may be raised now: what has this to do with BEs in general and with the question of precedence in particular? Bolinger (p.130) asserts that “binomials are affected
by what … is a general tendency in English to have prominent syllables flanked by subdued ones”. I am inclined to believe that the same tendency is at work in IA. But this needs more clarification. To argue for such an inclination, I am taking the stand that when we form a binomial, we look for making the accented syllable flanked by unaccented ones. Since the first conjunct has a built-in unaccentable syllable, the conjunction 'and' or /w/in IA, the question of the accent can be narrowed to the second conjunct only. Accordingly, the first conjunct automatically meets the proviso that prominent(or accented) syllables should be flanked by subdued (unaccentable) ones, whereas the second conjunct should be long so that it can meet this condition.

This suggestion seems to be convincing. However, it might be argued that this is only a partial answer because just a little reflection is enough to show that it does not account for all sorts of BEs that display a marked short-plus-long partiality. It can successfully account for a BE composed of a monosyllabic item plus a disyllabic item. However, I have chosen to argue for this proposal because I believe that it can serve as a generalization due to the fact that the majority of BEs having the short-plus-long formula are composed of a monosyllabic item + a disyllabic item.

The second phonological rule concerns vowel length. This rule, referred to as V, states that the element which contains a syllable whose vowel is longer than the vowel of the corresponding syllable of the other element will often occupy place 2 position. In order to clearly indicate the syllable in which the relevant contrast occurs, I will, in most cases that manifest a contrast in V and specifically in those having the structure polysyllable + polysyllable, subscript the rule name. Thus, V2 to the right of, say, tikka w kabaab/ 'barbecued meat pieces and minced meat' means that the second syllable of the second conjunct contains a vowel which is longer than that of the corresponding syllable in the first conjunct. No minimal pairs exist in support of this principle but the following examples are very suggestive:

(6) a. /xadd u ðeen/ 'cheek and eye'
b. /ʔuxwa w xawaat/'brothers and sisters'  (V2)
c. /ʔanna w naa/'heaven and hell'  (V1)
d. /haqq u baat'il/'truth and falsehood'  (V1)
e. /sima w gaafa/'heaven and earth'  (V1)
f. /ʔawwal u ʔaxirr/'first and last'  (V2)
g. /ʔawwal u taali/'first and last'  (V1)
h. /dinya w ʔaaxra/'this world and the hereafter'  (V1)
i. /ʃiibha w ʕaafya/'health and well-being'  (V1)
j. /ziilim u niswan/'men and women'  (V2)

The following examples are, phonologically speaking, counterexamples:

(7) a. /ʔaani w ?inta/ 'I and you'
    b. /riʔaaal u mara/ 'man and woman'

However, the ordering in these pairs is determined by pragmatic principles.

It is worth stressing that the same rule also applies to English BEs as have been observed by Cooper & Ross:

(8) a. stress and strain
    b. trick or treat
    c. man and boy
    d. this and that

We may now turn to the third rule which bears on the obstruency of the initial consonant.
First of all, it is important to clarify that the gradient of obstruency to which I adhere in this study is the following sonority hierarchy suggested by Hooper(1972, 1976):
Turning back to our discussion of the phonological rule relevant to consonant obstruency, Ci, we have observed, depending on the above sonority hierarchy, that the initial consonant of place 2 elements more sonorous than that of place 1 elements. A number of minimal pairs exist in support of this sonority principle:

a. /ʃiri mirri/ (i.e. going back and forth)

b. /širiːtʃ mirriːtʃ/ (i.e. University graduate)

c. /ʃiriʃ w mirriʃ/ (i.e. nonsense) (Bakir, 1999:11)

d. /haana w maana/ (i.e. name of a place) (ibid)

e. /hali w maali/ 'my position and my money'

f. /ʃirif wilif/ 'acquaintance, (close) friend'

g. /qaariʃ waariʃ/ 'hanky panky' (i.e. funny business)

h. /ʃaati baati/ (i.e. inability to discriminate things)

i. /salil w maala/ 'give, take (imperative)'

j. /hammer w mma/ 'anxiety and worry'

k. /habb u dabb/ (i.e. every Tom, Dick, and Harry)

l. /hasab u nasab/ 'noble origin and lineage'

m. /ʤooz u looz/ 'walnut and almond'

What remains to be mentioned is that what is indicated by this phonological rule is exactly the reverse of Cooper & Ross's rule proposed for initial consonant obstruency in English. That is, while IA BEs tend to have a more sonorous onset in place 2 and a more
obstruent onset in place 1, English BEs have a more sonorous onset in place 1 and a more obstruent onset in place 2 as can be seen in 11:

(11) a. willy – nilly  
    b. make or break  
    c. wear and tear

Let us now pass to consider the fifth phonological rule, viz. Ci#, which says that place 1 elements tend to have fewer initial consonants than place 2 elements. No minimal pairs have been found in support of this principle but the following examples are suggestive. I have encountered no counterexamples:

(12) a. /ʃiːbiːɾ wizʃiːɾ/ 'big and small'  
    b. /ʃuwiːil wɪɡʃaːyɾ/ 'tall and short'  
    c. /ˈaːdɪ loo mlawwən/ 'ordinary or coloured?'  
    d. /ˈwɑləd wɪbnaːjə/ 'boy and girl'  
    e. /ˈwɔhɪd loo ðnɛn/ 'one or two'

the same rule is shown to be operative in English by Cooper & Ross. Here are some examples from English:

(13) a. see and ski  
    b. fair and square  
    c. sink or swim

The sixth phonological rule is related to the obstruency of the final consonant, viz. Cf, which indicates that the end of the first conjunct is more sonorous than the end of the second. Examples that lend support to this rule can be seen in 14 below:

(14) a. /ʃaːnaː w nɑːɾ/ 'heaven and hell'
b. /hunta w ḟaɣiir/ 'wheat and barley'

c. /hayya w ʕagrab/ 'snake and scorpion'

d. /liifa w šaabuun/ 'bath sponge and soap'

e. /diʤla w furaat/ 'Tigris and Euphrates'

f. /qisma w naʃiib/ 'fate and destiny'

g. /simə w gaʃʕ/ 'heaven and earth'

h. /haaða w ʕaak/ 'this and that'

These and, in fact many other examples, demonstrate the point that word-final obstruency is as important a principle as that of word-initial obstruency. Besides, no serious counterexamples have been attested.

The reverse of this rule holds in English in that the end of place 2 is more sonorous than the end of place 1 as has been shown by Cooper & Ross:

(15)  a. safe and sane  
       b. push and pull  
       c. might and main

The last principle involves the number of word-final consonants, viz. Cf#. it points out that place 2 elements should have fewer final consonants than place 1 elements. This can be seen in the following pairs:

(16)  a. /ʃibh u misa/ 'morning and evening'
       b. /ʃams u gumar/ 'sun and moon'
       c. /ʕasl u libis/ 'washing and wearing'
       d. /ʕaxð uʕaṭa/ 'taking and giving'
e. /ðiːh k u bæʧi/ 'laughing and crying'
f. /raʃ u kabis/ 'lifting and pressing'
g. /nəkl u noom/ 'eating and sleeping'
h. /xubz u buʃal/ 'bread and onion'

Surprisingly, there is one example that neither supports nor weakens this principle because a consonant cluster occurs at the end of each conjunct:

(17) a. /ʃarq u ʃarb/ 'east and west'

As Cooper & Ross have observed, the same rule is at work in English:

(18) a. sink or swim
    b. wax and wane

So far we have dwelt at some length upon the description of the phonological constraints of conjunct ordering. But one further theoretical question remains to be answered, viz.: How can we deal with BEs in which two or more of these phonological rules are opposed to each other? This will be our task for the next section.

5 The Conflict between Rules

In order to account for cases in which different rules are opposed, it is necessary to hypothesize an ordering on the 'strength' of the rules such that a stronger rule will override a weaker rule. I suggest the following strength ranking:
(19) Greatest Strength

a. P
b. V

c. Ci
d. Cf
e. Cf# 
f. Ci#

Least Strength

There is a considerable support in our data for the order shown in 19. The following examples show us that P, the principle of syllabic economy, overrides most of the other phonological principles in strength:

(20) a. /ʧaay uʃakar/ 'tea and sugar' (P > V)19
    b. /leel u naхаar/ 'night and day' (P > Ci)
    c. /foog uʤawва/ 'above and below' (P > Cf)
    d. /ṣubḥ u миса/ 'morning and evening' (P > Cf)

The rule that comes next in strength is V as shown below:

(21) a. /dinya wʔaaxṛa/ 'this world and the hereafter' (V > Ci)
    b. /nաʤa w xaruuf/ 'ewe and sheep' (V > Ci)
    c. /ʔawвал u тaаli/ 'first and last' (V > Ci)

The next rule in strength is Ci. That this rule is stronger than Cf can be supported by the following:

(22) a. /ʃаaϐid naазил/ 'ascending (up), descending (down)' (Ci > Cf)

---

18 In this section, the symbol P is used to stand for both P and (P) (see table 1).
19 The symbol > indicates that the rule written to its left overrides the rule mentioned to its right.
b. /ṣaayim loo muftir/ 'fasting or nonfasting' \((\text{Ci} > \text{Cf})\)

c. /faqq u yarb/ 'east and west' \((\text{Ci} > \text{Cf})\)

However, there are two pairs showing the opposite:

(23) a. /duxuul u xuruur/ 'entry and exit' \((\text{Cf} > \text{Ci})\)

b. /waraqa w qalam/ 'paper and pen' \((\text{Cf} > \text{Ci})\)

As for the last two rules, no cases have been found showing competition between them. Consequently, the frequency of occurrence is the basis on which the strength of these rules has been specified. Thus, it has been observed that the number of pairs which contrast in Cf# is higher than the number of pairs which contrast in Ci#. Accordingly, Cf# appears to be a stronger principle than Ci#.

It is important here to point out that the strength hierarchy suggested above is not very accurate due to the fact that the order of conjuncts in most of the examples that have been introduced is not only phonologically determined but pragmatically too. Therefore, this strength hierarchy should be taken with a grain of salt and its equivocal nature should be kept in mind.

In addition to analyzing cases in which the strength of two phonological rules is pitted against each another, we have also studied cases which display types of "tugs of war" (Cooper & Ross, P.79) and come up with the following results:

A-There are cases in which a single rule overrides two other rules:

(24) a. /madd u ḍazir/ 'high tide and low tide' \((\text{P} > \text{Ci} + \text{Cf})\)

b. /laff u dawaraan/ 'twisting and rounding' (i.e. beating about the bush)\((\text{P} > \text{Ci} + \text{Cf})\)

c. /mustawrad loo ṣiraaqi/ 'imported or Iraqi-made?' \((\text{V} > \text{Ci} + \text{Cf})\)

d. /ṣaayim loo muftir/ 'fasting or nonfasting' \((\text{Ci} > \text{Cf} + \text{V})\)
It seems that there are no cases in which a single rule overrides more than two opposing rules.

B- I have found a number of cases in which two rules outweigh one rule:

(25) a. /ʧaay u ʃakar/ 'tea and sugar'  
     (P + Cf > V)

   b. /muslim loo massihi/Moslim or Christian?'  
     (P + V > Cf)

   c. /leel u nahaar/ 'night and day'  
     (P + V > Ci)

   d. /ʔiid u rūqil/ 'arm and leg'  
     (P + Ci > Cf)

   e. /ʃams u gumar/ 'sun and moon'  
     (Ci + Cf# > Cf)

   f. /diʤla w furaaat/ 'Tigris and Euphrates'  
     (Cf + V > Ci)

   g. /ʃ aadi loo mlawwan/ 'ordinary or coloured'  
     (Ci + Cf + Ci# > V)

   f. /lihya wʃwaarub/ 'beard and moustache'  
     (P + Cf > Ci)

C- Only one instance has been found where two rules are pitted against two other rules:

(26) a. /ˈtuul u ʕurud/ 'length and width'  
     (P + Cf > Ci + V)

D- There are some pairs in which three different rules work jointly in order to override one single rule:

(27) a. /ʃanna w naar/ 'heaven and hell'  
     (V + Ci + Cf > P)

   b. /sima w gaʃʃ/ 'heaven and earth'  
     (V + Ci + Cf > P)

   c. /ญาδ u ʃaʃa/ 'taking and giving'  
     (P + Ci + Cf# > Cf)

   d. /ṣubh u ʃasir/ 'morning and afternoon'  
     (P + Ci + Cf# > Cf)

   e. /ʃaadi loo mlawwan/ 'ordinary or coloured'  
     (Ci + Cf + Ci# > V)

   f. /lihya wʃwaarub/ 'beard and moustache'  
     (P + Cf > Ci)
Yet, by examining other cases, it has been observed that there is a very noticeable tendency among these phonological rules to conspire with each other instead of making 'tugs of war' between one another. Below, I give some instances in which various phonological rules work in concert without any phonological conflict:

(28) a. /ħarr u barid/ 'heat and cold' (P + Ci + Cf)
    b. /ṣiḥha w ʕaafya/ 'health and well-being' (P + Ci + V)
    c. /ʔuxwa w ʔaxawaat/ 'brothers and sisters' (P+ Cf + V)
    d. /qisma w naṣiib/ 'fate and destiny' (Ci + Cf + V)
    e. /xoox u rummaan/ 'peach and pomegranate' (P+ Ci)
    f. /timman u marag/ 'rice and broth' (Ci + Cf)
    g. /ʔaxdar u yaabis/ 'green and dry' (Ci + Cf)
    h. /ħunṭa w ḥiṣiir/ 'wheat and barley' (Cf + V)
    i. /ʔimma w dammiir/ 'honesty and conscience' (Cf + V)
    j. /ʃibbir wi zʕayyir/ 'big and small' (Ci + Ci#)
    k. /ʔuwiil wi gsayyir/ 'tall and short' (Ci + Ci#)

A theoretically interesting issue is to further examine the possibility of ranking these phonological constraints with respect to each other and also to see whether this ranking can be formulated within Optimality Theory. Another significant suggestion is to check the possibility that several constraints can join forces to act together and therefore be spelled out as a more general constraint, reducing the large number of constraints to a small one. These questions are, in fact, under research now. Therefore, they are future works.

6 Other kinds of Constraints:
Next to the phonological constraints discussed so far, other kinds of formal constraints are also dealt with. These involve morphological and syntactic constraints on conjunct ordering in IA BEs. Let us first consider morphology. One major morphological principle is at work:

(29) When the elements of a BE are morphologically related, the basic element precedes the derived one\(^\text{20}\). These examples provide evidence for this principle:

\[
\begin{align*}
\text{a. } & \mathpzc{ṭullaab} \mathpzc{ṭaalibaat} /'\text{male students and female students}' \\
\text{b. } & /\mathpzc{baniin} u \mathpzc{banaat}/ '\text{boys and girls}' \\
\text{c. } & /\mathpzc{ʕummal} u \mathpzc{ʕaamilaat}/ '\text{male employees and female employees}' \\
\text{d. } & /\mathpzc{malik} u \mathpzc{malika}/ '\text{king and queen}'
\end{align*}
\]

Apparently, these pairs, which exhibit a formal distinction in gender, indicate that the feminine form, the morphologically complex item, is derived from the basic masculine form, the morphologically simple item. Therefore, the masculine form always precedes the feminine in such morphologically related pairs.

In English, the same ordering principle can be seen at work in pairs such as these:

\[
\begin{align*}
\text{a. } & \text{prince and princess} \\
\text{b. } & \text{steward and stewardess} \\
\text{c. } & \text{lion and lioness}
\end{align*}
\]

If we extend the data beyond these instances, we will be able to show that the same principle is responsible for the ordering of conjuncts in BEs like the following:

\[
\begin{align*}
\text{a. } & /\mathpzc{ʔaku} w \mathpzc{maaku}/ '\text{there is and there is not}' \\
\text{b. } & /\mathpzc{zeen} u \mathpzc{muuzeen}/ '\text{good and bad}' \\
\text{c. } & /\mathpzc{yriid} u \mathpzc{mayriid}/ '\text{want and not want}'
\end{align*}
\]

\(^{20}\) The same ordering principle is suggested in Bakir (1999).
In each of these pairs, the first element which is the base form and the morphologically positive one precedes the second element which is the derived form and the morphologically negative one.

As far as syntax is concerned, there is one basic syntactic principle of ordering:

(33) The agentive precedes the affected.

Here are some supportive examples:

(34) a. /daalim u maaluum/'the prosecutor and the prosecuted'
    b. qaatil u maqtuul/ 'the murderer and the murdered'
    c. /talib u ma'allub/ 'creditor and the one in debt'

Obviously, syntax in IA seems to determine the order in pairs having the grammatical pattern /fais il/ vs. /maff uul/, i.e. the agentive first and the affected second.

The existence of a similar syntactic ordering principle in English can be evidenced in the following example:

(35) hunter and hunted (Cooper & Ross, p.66)

However, it seems that this principle is more productive in Arabic than it is in English.

7 Conclusion

In this paper, I have mainly explored the phonological factors as well as the morphological and syntactic principles that govern the serial ordering of conjuncts in IA BEs. Also, I have tried to show how much these principles are similar to or different from the ones that pertain to English BEs, especially those presented by Cooper & Ross. In particular, it has been shown that both IA and English display a very marked tendency for
having place 1 characterized by containing fewer syllables, shorter vowels, fewer initial and final consonants. The only phonological difference that exists between these two language varieties is that which bears on the obstrueness of the initial and final sound in each element. In English, there is a strong preference for having the onset of place 1 more sonorous than the onset of place 2 and for having the terminal point of place 1 more obstruent than that of place 2. In IA, just the reverse has been discovered, i.e. in comparison with place 2, place 1 tends to have a more obstruent onset and a more sonorous termination. Moreover, the similarity between these language varieties is not found in phonology only but also in morphology and syntax: in both languages place 1 tends to contain the base morphological form rather than the derived one and the agentive form rather than the affected one, but Arabic seems to be more productive in this area since it is an inflectional language as opposed to English, a derivational language.

Therefore, one may conclude that the linguistic factors of conjunct ordering affect both Arabic and English on more or less equal footing. This brings us to the question of universality. Are there universal constraints of ordering? Or, to put it more specifically, can we regard these linguistic constraints universal? I believe that the phonological, morphological, and syntactic ordering principles suggested in this study can be expected to have some universal validity if applied to other languages.

References

Gustafsson, Maria. (1984)'The syntactic features of binomial expressions in legal English'. Text. 4: 1-3, 123-141.