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A corpus-based investigation of VSO-SVO usage in simultaneous interpreting

Investigación basada en corpus sobre el uso de VSO-SVO en la interpretación simultánea

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Abstract: One of the major challenges in English>Arabic simultaneous interpreting (SI) is the handling of structural asymmetry between subject-verb-object (SVO) English and the verb-subject-object (VSO) structure in Modern Standard Arabic (henceforth Arabic). In Arabic, a VSO word order is dominant although a nominal clause with several variations is also available, including a marked SVO structure with a preverbal subject followed by a verbal predicate (VPr.) functioning as its *khabar* (rheme/comment). This paper reports on an empirical study of the handling of structural asymmetry between English SVO and Arabic VSO structures in English>Arabic SI. The study uses a parallel corpus consisting of the transcription of 10 multiple Arabic SI versions of three political English speeches. We hypothesize that the Arabic simultaneous interpreters are more likely to use the English-mimicking SVO structure since it is easier to process and requires less cognitive load on their memory. The results of our corpus-based analysis indicate that the *marked* SVO structure was used more frequently than the *unmarked* VSO structure. These results lead to the conclusion that the use of the SVO clause is a feature of English>Arabic SI. We also conclude that the Arabic simultaneous interpreters were effectively engaged in «form-based processing» by opting for the structure that has the closest match to English SVO structures as a tactic to cope with syntactic asymmetry. Our conclusions lend support to the «language-pair specificity» hypothesis since the lack of need for restructuring is only available in SI between language pairs with similar or flexible structures.

Keywords: Language-pair specificity, Syntactic asymmetry, VSO-SVO ratio, Simultaneous interpreting, Corpus analysis

Resumen: Uno de los principales retos de la interpretación simultánea (IS) inglés>árabe es el manejo de la asimetría estructural entre el sujeto-verbo-objeto (SVO) inglés y la estructura verbo-sujeto-objeto (VSO) del árabe moderno estándar (en adelante, árabe). En árabe predomina el orden sintáctico VSO, aunque también existe una cláusula nominal con diversas variantes, incluida una estructura SVO marcada con un sujeto preverbal seguido de un predicado verbal que funciona como su *khabar* (rema/comentario). Este trabajo aborda un estudio empírico del manejo de la asimetría estructural entre las estructuras SVO inglesas y VSO árabes en interpretación simultánea (IS) inglés>árabe. El estudio utiliza un corpus paralelo que consiste en la transcripción de 10 versiones múltiples de SI en árabe de tres discursos políticos en inglés. Nuestra hipótesis es que los intérpretes simultáneos de árabe son más propensos a utilizar la estructura SVO que imita el inglés, ya que es más fácil de procesar y requiere menos carga cognitiva en su memoria. Los resultados de nuestro análisis basado en el corpus indican que la estructura SVO marcada se utilizó con más frecuencia que la estructura VSO no marcada. Estos resultados llevan a la conclusión de que el uso de la cláusula SVO es una característica de la IS inglés>árabe. También concluimos que los intérpretes simultáneos de árabe realizaban efectivamente un «procesamiento basado en la forma» al optar por la estructura que más se aproxima a las estructuras SVO del inglés como táctica para hacer frente a la asimetría sintáctica. Nuestras conclusiones apoyan la hipótesis de la «especificidad del par de lenguas», ya que la falta de necesidad de reestructuración sólo se da en las IS entre pares de lenguas con estructuras similares o flexibles.

Palabras clave: Especificidad del par de idiomas, Asimetría sintáctica, Ratio VSO-SVO, Interpretación simultánea, Análisis de corpus.

INTRODUCTION

A significant volume of research on interpreting strategies has addressed the problem of language-pair-specific factors. One such factor is structural asymmetry, i.e., when structural elements occur at different places in the source language (SL) and the target language (TL) segments being interpreted. Studies have focused on the impact of structural asymmetry on simultaneous interpreting (SI), especially involving languages with verb-last, left branching or subject-object-verb (SOV) structures. Interpreting from German has frequently been reported as an extreme challenge due to the German verb-last structure and multiple embeddings. The literature has long

identified strategies which interpreters often resort to to cope with these language-specific features. These include segmentation, waiting, lagging, restructuring, anticipation, using fillers or padding expressions (see, for instance, Goldman-Eisler, 1972; Kirchhoff, 1976/2002; Moser, 1978; Van Besien, 1999; Bevilacqua, 2009; Seeber & Kerzel, 2011). Syntactic asymmetry also caused difficulties in SI *into* SOV languages, forcing German and Dutch interpreters to use extraposition of subordinate clause elements from the middle field to a post-verbal position as a coping tactic (Collard, Przybyl & Defrancq, 2018).

Studies on SI involving Chinese discussed similar structural challenges and coping tactics. The coincidence of syntactic asymmetry and other variables such as information density or absence of cognitive context obstructed Chinese>English SI (Setton, 1999, p. 282), and «conflicting structure» was considered «a source of significant additional cognitive load» (Setton, 2005, p. 71). Differing «rhetorical patterns» in Chinese<>English SI may have impacted the choice of interpreting strategies (Chang & Schallert, 2007, p. 172). Strategies identified in Chinese<>English SI include re-structuring, waiting, segmentation and anticipation, as well as frequent and exceptionally long pauses (Dawrant, 1996, as cited in Chang & Schallert, 2007, p. 141; Guo, 2011, as cited in Wang & Zou, 2018, p. 67; Wang & Gu, 2016).

In SI from Japanese, predictable sentence endings were considered a language-specific factor that provided a potential relief of processing capacity by reducing simultaneity of listening and speaking compared to English, French and particularly German (Gile, 1992, 2009, p. 174). The English>Japanese SI of Obama's 2009 inaugural address was found to be more difficult than English>French and English>German SI (Gile, 2011). Frequent segmentation and passivation were used in Japanese<>English to reduce time lag while memory limitations led to generalizations and omissions (He *et al*., 2016).

Other languages were also the subject of investigation in studies of «language-pair specificity» (Setton, 1999, p. 55). Syntactic transformation attributed in some cases to language-pair specificity was more common during Polish>English SI than the opposite direction (Bartłomiejczyk, 2006, pp. 168-169). Linguistic autonomy of TL text from SL text was not supported for syntactic-semantic restructuring in an experimental study of English>French SI-with-text (Setton & Motta, 2007, p. 217). This finding indicates that when languages have similar structures, interpreters use reordering less frequently and vice versa. Language-pair specificity led to a higher frequency of repairs in English>Turkish than English>Lithuanian SI (Dailidėnaitė, 2009, p. 24). In English>Spanish SI, the Spanish TL renditions

were partly governed by the syntax, lexis, morphology, and phonology trademarks of the SL texts. It was thus concluded that SI is mostly a «language-specific» endeavor (Alonso Bacigalupe, 2010, p. 50).

Arabic has had its own, albeit modest, share of research into syntactic asymmetries and language-pair specificity as this area remains under-researched. In what represents one of the rare investigations into English-Arabic SI, Al-Rubai'i (2004) found that «problematic linear arrangements», including such features as pre-modification, noun-phrase and that-clause subjects, non-finite clauses and the combination of non-finite clauses and parenthetical sentences forced interpreters to employ «Trackings», a strategy that consists of closely following the English structures in order to avoid restructuring (Al-Rubai'i, 2004, pp. 257-258). In another comparative study of English>Arabic SI performance using the retrospective analysis of 15 postgraduates, it was found that there were reduced awareness levels of language-pair specific «problem triggers», including word order and passive structures (Shamy & De Pedro Ricoy, 2017). The co-occurrence of structural disparity and long/complex source initial subjects caused difficulty, cognitive overload and information loss in a corpus-analytical study of English>Arabic SI, providing evidence of language-pair specificity and form-based processing (Al Zahran, 2021). These studies make recommendations for incorporating strategy instruction, language-pair specific factors and the lessons learned into the interpreter educational curriculum.

As can be seen from the survey of the literature, there are only a few scholarly writings on language-pair specificity in English>Arabic SI. That being said, the present paper is an attempt to contribute to the scant literature and fill a gap in this under-researched area. Besides, the results and conclusions of this study could potentially contribute to existing literature on the challenges caused by structural asymmetry and the language-pair specificity hypothesis. The investigation of these asymmetries and the strategies interpreters employ to address them provides language-pair particulars that are valuable for interpreting practice, allowing interpreter training to go beyond generic issues.

The present paper investigates structural asymmetry in SI from English into Modern Standard Arabic (henceforth Arabic) brought about by the disparity between the English subject-verb-object (henceforth SVO) and Arabic verb-subject-object (henceforth VSO) structures. The VSO structure in Arabic is the basic or normal structure, but not the only one available for Arabic simultaneous interpreters since a nominal clause presenting itself in several variations, including an SVO structure, is also possible (see Section 1).

We therefore hypothesize that in English>Arabic SI, interpreters will more likely opt for subject-initial (henceforth S-initial) nominal clauses

because these are easier to process and require less cognitive load on memory. We further hypothesize that when the S-initial clause is opted for, the verbal predicate (VPr.) would be used as its *khabar* (rheme or comment), giving rise to an SVO clause that is identical to English SVO structures.

The main objective of this investigation is to determine the structure predominantly employed by professionals in English>Arabic SI. In other words, the focus is on how deviant the VSO/S-initial pattern ratio is in SI. The comparison of structures used across the multiple versions of the Arabic SI Sub-corpus is expected to provide an insight into the way syntactic asymmetry is handled by the professional interpreters. As has just been hypothesized, we anticipate here that our corpus-based analysis will display deviation from the dominant Arabic word order, VSO structure. We are of the opinion that the S-initial structure will be more frequently used by the Arabic simultaneous interpreters to cope with syntactic asymmetry and avoid the difficulties associated with syntactic asymmetry.

To further assess the validity of the VSO/S-initial distribution results, a second layer of analysis is conducted to determine the type of *khabar* used when an S-initial structure is opted for by the interpreter. If the VPr. is used more frequently as *khabar* of the S-initial clauses, the results will indicate a tendency for using the Arabic structure (SVO) that is easier to process because it bears the closest resemblance to English SVO structures. It could help to express the research objectives here as questions:

- Objective 1: What is the VSO/S-initial ratio in individual performances and overall, in Arabic interpreted speeches (Arabic SI Sub-corpus)?
- Objective 2: When the S-initial structure is opted for, which type of *khabar* is used in the nominal clause?

To that end, we implement a corpus-based analysis of 10 Arabic SI performances (Arabic SI Sub-corpus) of three original English Speeches (English Speeches Sub-corpus).

In the following sections, we discuss the structures available for the Arabic simultaneous interpreter when interpreting from an SVO language, in this case English. In the methodology section, we briefly review the contribution of corpus linguistics to the study of translation and interpreting before we embark on a description of the corpora employed for the present analysis.

1. ARABIC VSO AND S-INITIAL STRUCTURES

In Arabic, clauses have two types: verbal (*jumla fi'liyya*) and nominal (*julma ismiyya*). The typical, unmarked verbal sentence starts with the verb, which is normally followed by the subject and other components. Nominal clauses feature an S-initial word order, including an SV(O) structure. This SVO structure appears predominant outside the standard variety of Arabic, that is, in spoken dialects, although this is conditional on such factors as the foreground/background distinction, topicalization, focusing, topicality, animacy, aspect (perfective versus imperfective verbs) and rhythm (Dahlgren, 2009).

The VSO structures are realized through verbal clauses and are overwhelmingly regarded as the basic Arabic word order. Many designations have been used to describe the basicness of Arabic VSO structures, including «unmarked» (Fassi-Fehri, 1993, p. 19; Mohammad, 2000, p. 1) or «normal», «most frequent», «neutral», «dominant» structure (Abdul-Raof, 1998, pp. 43-57). They are also considered as the «default» (Hoyt, 2009, p. 654; Dahlgren, 2009, p. 728) and «discourse neutral» (Mohammad, 2000, p. 1) or «pragmatically neutral» (Fassi-Fehri, 1993, p. 19) word order. In fact, Hoyt (2009, p. 654) argues that whenever Standard Arabic is said to have a basic word order, it is nearly invariably considered to be the VSO structure.

In VSO constructions, the nominal constituent normally occurs in a postverbal position, and there is a broad consensus among classical and contemporary Arabic linguists that it is regarded as a syntactic «subject» irrespective of its semantic or pragmatic function. Sentence (1) in Table 1 has an unmarked VSO structure with a postverbal subject and is to be contrasted with (2) and (4), where the nominal constituents fall in a preverbal position, thus forming marked SVO structures.

Nominal clauses have an S-initial structure and are either verbless or have a verb that is not in an initial position (SVO) but follows a sentence-initial nominal constituent and functions as a VPr. Nominal clauses have two core elements with a nominative form, a *mubtada*, meaning «that which is begun with» or «inchoative» and *khabar* (predicate), which literally means «news, report [or] comment» (Hoyt, 2009, p. 653) because it communicates information on the *mubtada*. *Mubtada* and *khabar* have thus been described in English as topic and comment (Versteegh, 2007, p. 354), and are equated with theme and rheme (Abdul-Raof, 1998, p. 93), with theme or topic being the given information and rheme or comment communicating the new information on the theme.

The S-initial and SVO designations are used in Arabic irrespective of whether the sentence-initial (preverbal) nominal constituent is analyzed as a

«grammatical subject» or «grammatical topic» (Hoyt, 2009, p. 653). The question here is whether the verb is used in the normal initial position or has been *delayed*. In the latter case, delaying the verb occurs by opting for an Arabic structure identical to English SVO structures, potentially as a coping tactic for handling asymmetric word order. Thus, the S-initial and SVO concepts in Arabic are only used as in juxtaposition to the VSO structure whether the sentence-initial constituent functions as an agentive subject or *mubtada* functioning as a theme or topic.

Khabar has four types: (1) an adjective (adj.); (2) a verbal predicate (VPr.) with a verbal inflection to reflect agreement in tense, person, number and gender with the *mubtada*; (3) noun phrase (NP) with a personal pronoun or connector that refers back to or is bound by the *mubtada*; and (4) an adverbial (AdvP) or prepositional phrase (PP) (Al Afghani, 2003, p. 229; Hoyt, 2008, p. 381). Table 1 contains examples of VSO and S-initial structures with *khabar* types from the Arabic SI Sub-corpus used in the present analysis.

It is particularly noticeable that the Arabic S-initial structures in (2) and (4) consist of preverbal nominal constituents, thus forming with the following VPr. SVO structures that are identical to English SVO clauses. As will be seen in the discussion of methodology in Section 2, one layer of analysis of the Arabic SI Sub-corpus will be to investigate the type of *khabar* mostly used in the S-initial structures. If the VPr. is used as *khabar* more frequently, the results will indicate a tendency (or coping tactic or strategy for that matter) by the Arabic simultaneous interpreters to use the structure bearing the closest similarity to English SVO structures.

No.	Type of structure	Sentence and its transcription and word-for-word translation*	Source
(1)	VSO	لألف عام **وقف** الأزهر كمنارة لتعليم الإسلام. līʾalfī ʿāmin ūqfā al-ʾāzhru kāmānārt̄in lītāʿlīmī al-ʾīslām. For a thousand year(s), **stood** Al-Azhar as a beacon for teaching Al-Islam.	Speech I Arabic SI Version 1
(2)	S-initial / SVO	العلاقة بين الإسلام وبين الغرب **يدخل** فيها قرون من التعاون والتعايش. al-ʿlāqẗu bīna al-islāmi ūbīna al-ġarbi īadḫulu fīhā qurūnun mina al-taʿāūni wāltaʿāīuš.	Speech I Arabic SI Version 1

		The relationship between Al-Islam and the West **includes in-it** centuries of (the) coexistence and (the) cooperation.	
	***Khabar* types in S-initial clauses**		
(3)	*Khabar* as adj.	الشرق الأوسط ثري بجمال طبيعي وثقافة حيوية وكميات كبيرة من الكنوز الطبيعية. al-šarqu al-ʾāūsaṭu ṯarīun biǧamālin ṭabīʿīin ūṯaqāfīin ḥaīawīaʾtin ūkamīātin kabīraʾtin mina al-kunūzi al-ṭabīʿīaʾt. The East Middle (is) *rich* with beauty natural and culture vibrant and quantities big of treasures natural.	Speech III Arabic SI Version 2
(4)	*Khabar* as VPr. (SVO)	الأبطال **لا يقتلوا** الأبرياء. al-ʾābṭālu lā īaqtulwā al-ʾābrīā. (The) heroes **(do) not kill** the innocent.	Speech III Arabic SI Version 1
(5)	*Khabar* as NP	الإسلام *له تاريخ* يفخر به في التسامح. al-īslāmu lahu tārīḫun īafḫaru bihi fī al-tasāmuḥ. Al-Islam *to-it [has] (a) history* (that) prides itself in-it in tolerance (has a proud tradition of tolerance].	Speech I Arabic SI Version 2
(6)	*Khabar* as AdvP	اليوم عندي بيان مكتوب. al-īūma ʿindī baīānun maktūb. Today, *at-me*[1] [I have] (a) statement written.	Speech II, Arabic SI Version 1
(7)	*Khabar as* PP	ونحن *على استعداد* أن نسير قدما. wanaḥnu ʿalai aistiʿdādin ān nasīra qudumān. And *we* (are) *on readiness* [ready] to move forward.	Speech I, Arabic SI Version 3

[1] This is an example of AdvP functioning as a fronted *khabar*.

* The verbs in VSO and SVO structures and in *khabar* as VPr. are in bold type. Subjects or *mubtada* constituents are always underlined while other *khabar* elements are *italicized*. Word-for-word translations are provided, and items in brackets in the translations are implied. Items in square brackets are given to clarify word-for-word translations.

Table 1: Examples of Arabic VSO and S-initial structures and *khabar* types from Corpus

Arabic is normally characterized by a relatively high density of agreement signals between phrase and clause constituents. This agreement is clearly realized in declensions and the use of lower and upper diacritical marks to indicate function or case. The presence of declensions and diacritical marks allows for a great deal of structural flexibility, rendering word order not to be the primary identifier of grammatical function/case. The «relative freedom» of Arabic word order can be explained in terms of «basic» and «derived» word orders (e.g., Abdul-Raof, 1998, Ch. 3). The VSO structure is regarded as the basic word order while the S-initial variants are the derived ones. In Arabic, any sentence-initial constituent that is not a verb is used for «pragmatic (or rhetorical) purposes» (Abdul-Raof, 1998, p. 6). Normally, that purpose will be the emphasis of the fronted element.

Sentence (1) would be viewed as exhibiting a basic, unmarked word order not entailing any pragmatic or rhetorical function while (2) and (4) are exhibiting a derived order with fronted nominal constituents entailing a pragmatic emphasis of the fronted elements.

In SI from an SVO language, this relative structural flexibility in Arabic provides simultaneous interpreters with a choice between the *basic* VSO structure and any of the four *derived* S-initial structures realized in sentences (2) to (7), including the SVO structure. It must be borne in mind that the choice of the VSO structure would probably entail a risk of cognitive overload and potential ensuing information loss or even failure. This risk becomes more serious when syntactic asymmetry is combined with such aggravating factors as semantic density, syntactic complexity, or a high SL presentation rate. Opting for the SVO structure, however, would be easier to process but would have the downside of introducing a shift in register and pragmatic focus. Outside SI and in carefully conceived and drafted speeches and writings, each of the structures described above would be used for specific pragmatic, stylistic or rhetorical purposes. Often in SI, the simultaneous interpreters' chosen structure will presumably be the one that is easier to process without much consideration of pragmatic, stylistic or rhetorical purposes. This assumption is based on the well-documented memory and time constraints involved in SI. What is meant by 'easier to process' here may be explained in terms of structural similarity that, if it exists between a language pair, it will impose less or no more of a cognitive load on the simultaneous interpreter.

More importantly, we contend here that the Arabic simultaneous interpreters' violation of such discourse conventions should not be viewed as a language or interpreting error as such, but a tendency or coping tactic to handle linguistic disparity.

2. METHODOLOGY

The topic of interpreting strategies and language-pair specificity has been approached using various empirical methods of investigation, including experiments, retrospective, corpus analytical studies and, more recently, corpus-based analyses. Our research falls within the last category as it utilizes a corpus-based analysis to achieve the research goal and underlying objectives. In her depiction of different translation aspects that can be readily investigated using corpora, Shlesinger (1998, p. 488) includes grammatical features of the kind addressed in the present study.

2.1 Corpus design

Just like methodology, corpus design depends on the purpose of the study (Li, 2017). In our case, the focus is on the ratio of VSO and S-initial structures in interpreted texts. To achieve this target, a parallel corpus was built that consists of 10 multiple versions of professional English>Arabic SI of three original English speeches (see Table 2).

ENGLISH SPEECHES SUB-CORPUS	ARABIC SI SUB-CORPUS
Speech I	SI Performance 1
	SI Performance 2
	SI Performance 3
Speech II	SI Performance 1
Speech III	SI Performance 1
	SI Performance 2
	SI Performance 3
	SI Performance 4
	SI Performance 5
	SI Performance 6

Table 2: Multiple corpus composition

The corpus is multiple in the sense that for one source speech, several interpretations into the same TL are available, instead of only one. This has the obvious advantage of allowing for a comparison of performances across interpreters and among interpreters dealing with a given speech (Castagnoli, 2011, p. 2).

2.2 Material selection and sampling

The texts making up the corpus are authentic political speeches. The English Speeches Sub-corpus consists of three original English speeches. Speech I was delivered by President Obama at Cairo University (Egypt) on 04 June 2009. Speech II consists of a written statement and question-and-answer session during a press conference held by the Joint Special Representative for Syria, Mr Lakhdar Brahimi, at the UN Geneva Office on 31 January 2014. Speech III is President Donald Trump's speech to the Arab Islamic American Summit in Riyadh on 21 May 2017.

The Arabic SI Sub-corpus consists of multiple professional Arabic SIs of the English Speeches Sub-corpus as broadcast on several Arabic TV news channels and the UN Multimedia Website. There are three Arabic SIs for Speech I (Al Jazeera, Al Arabia and Egyptian Channel One), one version for Speech II (UN Multimedia) and six for Speech III (Al Jazeera Mubasher, Al Saudia, Al Arabia, Al Hadath, Al Ghad and France 24 Arabic[2]; see Table 2). A more detailed description of the three speeches and their Arabic SIs can be found in Al Zahran (2021, pp. 58-59).

The corpus is believed to be representative of the work of conference interpreters on several accounts. First, the original English speeches (English Speeches Sub-corpus) and Arabic SIs (Arabic SI Sub-corpus) are authentic conference speeches delivered and interpreted simultaneously in real-life conference settings. Second, at the current stage of its development, the corpus stands at 44,386 words and 8h 02' 26" (see Table 3). It can thus be considered a relatively sizeable corpus given the narrow focus and difficulties associated with compiling corpora of this structure in Interpreting Studies.

[2] Since most of the original links to the video recordings of the source English speeches and their Arabic simultaneous interpretations are no longer active, a link to these recordings can be provided by the first author upon request.

Materials and sample size				
Sub corpora	**No. of texts**	**No. of words**	**No. of segments analyzed**	**Duration**
English Speeches Sub-corpus: Transcripts of English Speeches	3	11,488	NA	1h 42' 57"
Arabic SI Sub-corpus: Transcripts of Arabic SI Performances	10	32,898	2,449	6h 19' 29"
Totals	**13**	**44,386**	**2,449**	**8h 02' 26"**

Table 3: Corpus size

Finally, the focus of the study, structural asymmetry, is independent of text types and genres; therefore, conclusions drawn within the corpus can be comfortably generalized. On the other hand, political speeches represent a good percentage of interpreters' jobs. Investigating the phenomenon of structural asymmetry as it is manifested in this domain is thought to be doubly pertinent.

2.3 Data coding

Verbatim records were created from the existing official transcripts of the speeches making the English Speeches Sub-corpus. The SI performances were orthographically transcribed verbatim. For validation, the transcription went through one QA pass that included meticulous audio checking and proofreading.

The transcription system adopted was basic but deemed adequate to achieve the research purpose and objectives (Setton, 2002, p. 35; Love *et al*, 2017, p. 333). Standard orthography and punctuation were used, together with a representation of speech phenomena such as idiosyncratic features (accent) filled pauses, reproducing hesitations, false starts (Umm, Aah). However, these filler statements were not normalized.

No markup was used. It is well known that XML markup is the option of choice for spoken corpora and their transcriptions (Love *et al*, 2017, p. 338). Although compiled within the framework of a more encompassing project, the corpus is not meant as a resource to «support human language technology research and evaluation» (Glenn *et al,* 2010, p. 2015). Many of the features characterizing speech and necessitating XML markup for their transcription

are absent from the corpus. For instance, the speeches do not contain backchannel acknowledgments («uhhuh»). Time alignment or synchronicity, temporal or prosodic features were not reflected in the transcripts.

Alignment for the multiple corpus was performed manually. Opting for manual alignment was motivated by the fact that the two languages involved are remote, which gets in the way of a reasonably acceptable accuracy rate (Ma, 2006, p. 489). Another determining factor for the use of manual alignment is that working on speech, though scripted, makes sentence boundaries blurred, with noise in the data (Ma, 2006, p. 489), false starts, skipped sentences, merged sentences, etc. The segmentation relied on units that are semantically and syntactically cohesive (Glenn *et al,* 2010, p. 2916).

At present, the corpus features no POS tagging. Only metadata indicating the structure of choice ('VSO' or 'S-initial') or 'Other' (in the case of non-clause/missing or incomplete segments) and type of *khabar* ('adj.', 'VPr.', 'NP' or 'AdvP'/'PP') were included. POS tagging represents one of the common steps in corpus building as it allows for more flexibility in the search for and identification of patterns. However, tagging is not considered necessary for the purposes of the current investigation (Kenning, 2010, p. 490). This situation is to be seen as a stage in the development of the corpus, rather than a final methodological decision about its building.

2.4 Data analysis

As indicated in 2.3, the speeches were segmented into independent finite clauses making up semantically and syntactically acceptable units. These units were categorized into VSO and S-initial structures. The S-initial cases were further categorized according to the type of *khabar* used. The first layer of analysis concerned the ratio of VSO and S-initial structures in interpreted texts.

A further layer of analysis was carried out when an S-initial clause was opted for by the simultaneous interpreters to determine the type of *khabar* used. The results of this analysis could validate the findings of the analysis of the ratio of VSO to S-initial structures. As indicated in the comment on Sentences (2) and (4) in Section 1, the type of *khabar* used can potentially provide reasonable assumptions on simultaneous interpreters' strategic behavior regarding their structure of choice. More specifically, the use of the VPr. as *khabar* of the nominal clause will give rise to an SVO clause that bears the closest similarity to English SVO structures. If the resultant SVO structure is used more frequently by the Arabic simultaneous interpreters, the findings will be indicative of a tendency or coping tactic to opt for the structure that is identical to English SVO structures. In other words, the interpreters will be opting for the structure that is easier to process in handling syntactic disparity,

thereby presumably avoiding cognitive overload and consequent information loss or failure. As a corollary, the interpreters can be said to be engaged in «form-based» processing (Isham, 1994, p. 207; Dam, 2001, p. 27), that is, following the structure of the SL speech closely as a tactic to cope with structural asymmetry.

Considering the oral nature of the Arabic SI Sub-corpus, some segments contained non-clause items, translation gaps or unfinished sentences and were coded 'Other'. These amounted to 906 cases, representing 27.0% of the corpus segments. They were discarded from the analysis as they represent noise in the data, and their exclusion will allow for a more effective comparison of the VSO/S-initial structure ratio.

3. FINDINGS AND DISCUSSION

This Section presents the results of the data analysis and discussion of the findings regarding the VSO/S-initial structure ratio and the type of *khabar* used when a nominal clause was chosen by the Arabic simultaneous interpreters.

3.1 VSO/S-initial structure ratio

A total of **2,449** segments qualified for analysis in the Arabic SI performances (see Table 3). The overall results as summarized in Figure 1 reflect a marked trend indicating that the S-initial structure was the structure mostly used by Arabic simultaneous interpreters in the majority (1,530) of the segments identified, thus averaging out at 62.5%. In comparison, the VSO structure occurred in 37.5% (919) of the total number of segments. Approximately comparable results are obtained at the level of individual speeches.

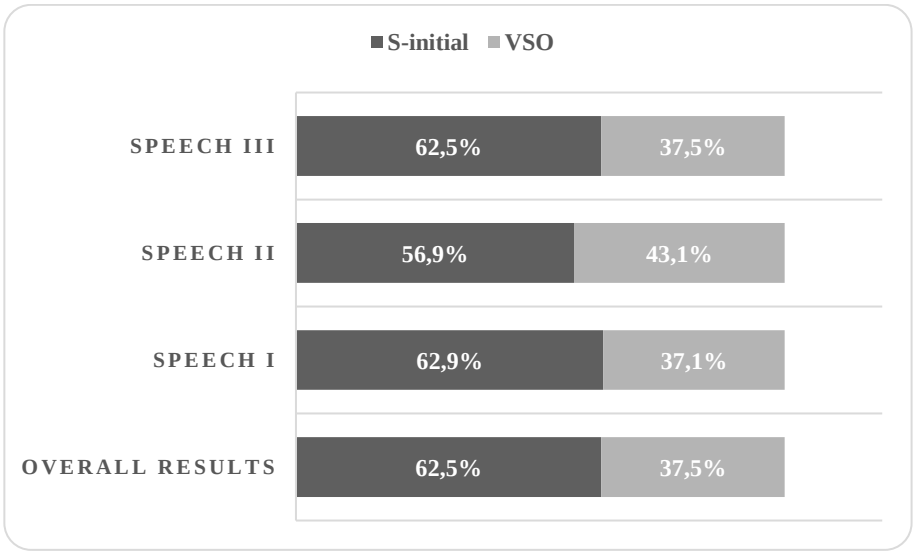

Figure 1: Summary of VSO/S-initial structure ratio

A similar trend is observed at the level of individual SI performances as is clearly demonstrated in Figure 2. This finding applies despite the noticeable variation in the S-initial structure scores, which range from an outlier of 49.7% obtained in Arabic SI Version 5 of Speech III, to 71.1% acquired in the Arabic SI Version 2 of the same speech. The score acquired in the Speech III Arabic SI Version 5 is an outlier in the sense that it is the only S-initial score that is exceeded by a VSO score in all Arabic SI versions, albeit very insignificantly.

The findings offer compelling evidence that the S-initial structure is mostly opted for by professionals in English>Arabic SI overall, as well as at the levels of speeches and individual performances. The results therefore provide support for our hypothesis and give a clear answer to the question of Objective 1 about the structure most frequently used in English>Arabic SI.

The result is significant not only because the S-initial structure was overwhelmingly opted for by the Arabic simultaneous interpreters, but also because we know that the basic or default structure in Arabic is the VSO structure. The VSO structure was expected to be the structure of choice by the Arabic simultaneous interpreters, but the results have indicated otherwise since the *derived S-initial* structure, not the *basic VSO* structure, was used more frequently.

Our plausible explanation is that the Arabic simultaneous interpreters opted for the S-initial structure because it is like the source English SVO structure and therefore easier to process than the VSO structure. Opting for the asymmetrical VSO structure would require more processing time and effort and restructuring and may very well impose a cognitive overload on memory and with potential information loss or total communication failure on occasions.

It is therefore reasonable to argue that the shift in register and, more seriously, pragmatic focus by opting for the *marked* S-initial structure should not be viewed as an interpreting error as much as a coping tactic. The Arabic simultaneous interpreters had to choose either a VSO structure and risk potential information loss or communication failure, or an S-initial structure and risk violation of discourse conventions. The simultaneous interpreters' more frequent choice in our analysis was obvious, opting for the S-initial structure and giving more consideration to the communication of information over rhetorical purpose.

The results also indicate that the Arabic simultaneous interpreters opted for the VSO structure in just more than one-third of the cases, apparently trying as much as possible to use what is known as the basic, default and unmarked sentence structure.

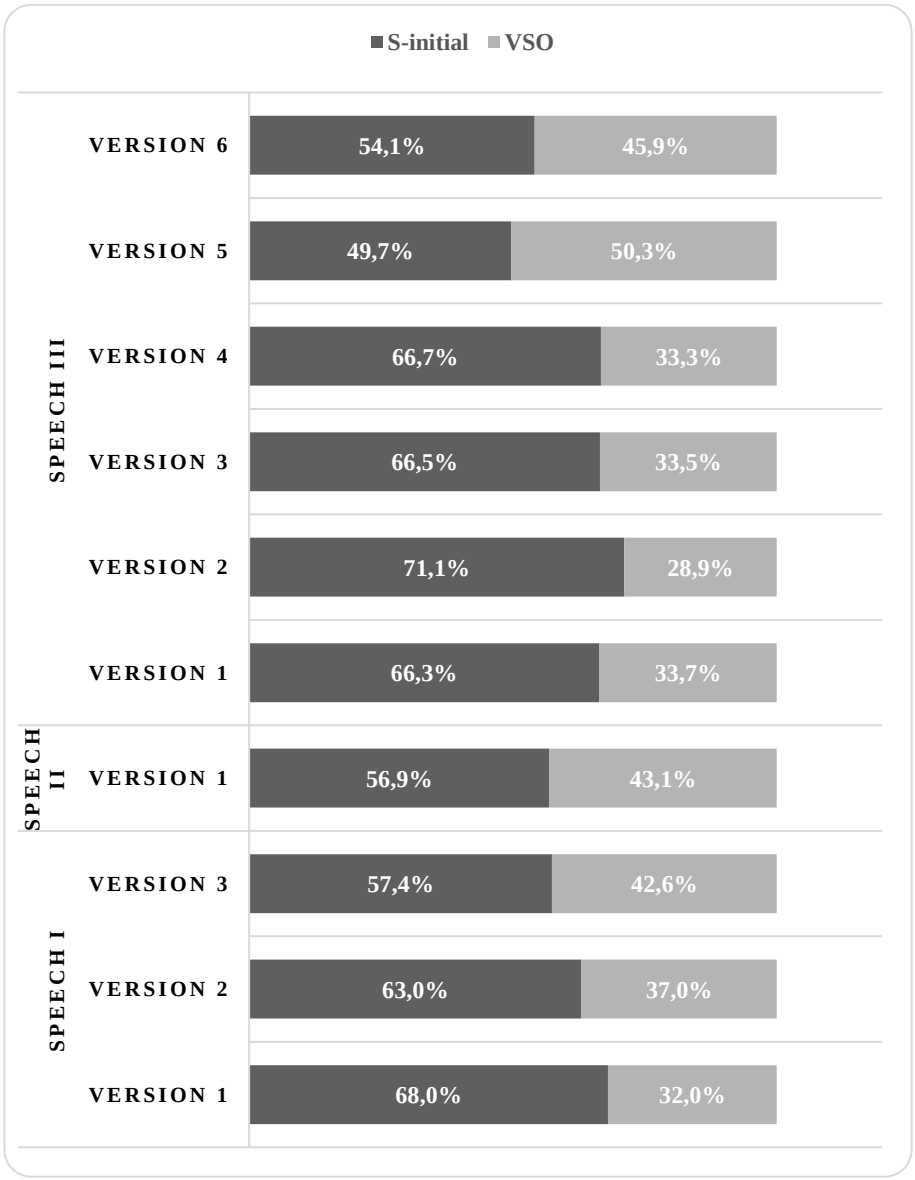

Figure 2: VSO/S-initial structure ratio in the Arabic SI performances of Speeches I, II and II

3.2 Khabar type

As was discussed in section 1, Arabic nominal clauses have two core elements, *mubtada* (theme or topic) and *khabar* (rheme or comment). *Khabar* has four types, which are adj., VPr., NP and AdvP/PP (see Table 1 for example sentences of the four *khabar* types from Corpus). A nominal clause with a VPr. as *khabar* features an SVO structure and therefore bears the closest resemblance to English SVO structures. This SVO construction is to be contrasted with the basic or default VSO word order in Arabic, and its use could represent a feature of English>Arabic SI.

The S-initial clauses were subjected to a further layer of analysis in a bid to determine which type of *khabar* was the most frequently used by the Arabic simultaneous interpreters. The overall analysis in Subsection 3.1 has identified 1,530 segments in which the S-initial structure was used. Two segments were excluded from the current analysis because the *khabar* was omitted, bringing the total number of segments to **1,528**.

The *khabar* type analysis indicates that the VPr., which together with the preverbal constituent bears the closest similarity to English SVO clauses, has been found to represent the predominant *khabar* type used by the Arabic simultaneous interpreters. This applies to the overall and speech results (Figure 3), as well as individual performances (Figure 4).

The most striking observation to emerge from the data comparison is that the overall score (69.8%) remains almost unchanged when compared with the average of each of the speeches making up the Arabic SI Sub-corpus.

Notwithstanding the range observed especially in the Arabic SI versions of Speech III, the results emerging from the findings of individual Arabic SI versions remain significant with the VPr. being the most exploited *khabar* type by the Arabic simultaneous interpreters. This finding is not unexpected because a nominal clause with a VPr. used as *khabar* features an SVO structure. This SVO construction helps the Arabic simultaneous interpreters relieve memory and avoid cognitive overload and potential information loss by following the English sentence structure closely with minimal waiting or time lag.

These findings have provided an answer to the question of Objective 2 on the most frequently used *khabar* type in nominal clauses in the Arabic SI Sub-corpus. Inevitably, the findings further substantiate the validity of our VSO/S-initial ratio results (Subsection 3.1) because an S-initial clause with a VPr. as its *khabar* forms an SVO structure that represents the closest match to English SVO clauses. It can thus be safely concluded that the preference

of the marked or derived SVO structure to the basic or default VSO structure represents a feature of English>Arabic SI.

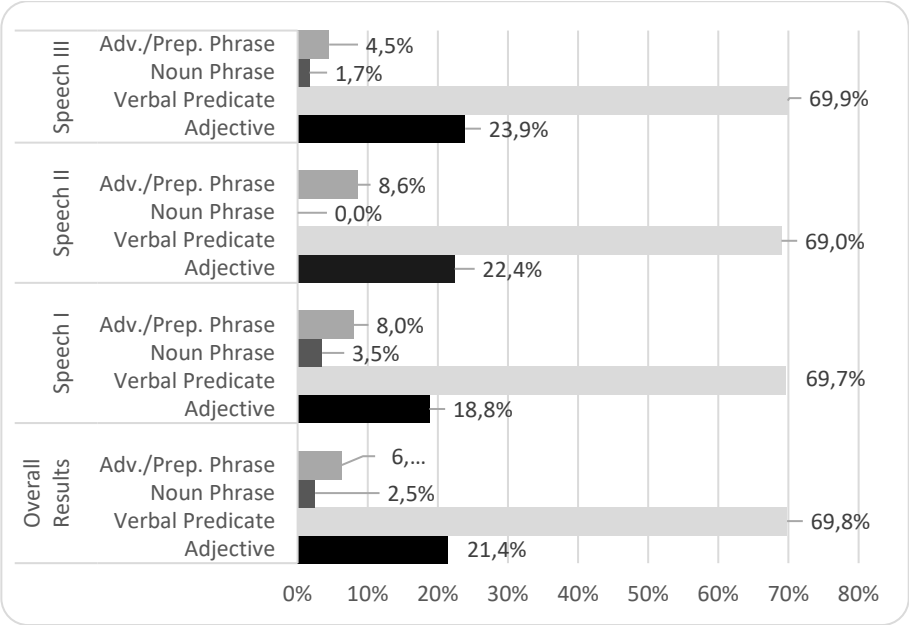

Figure 3: Summary of the *khabar* types of S-initial clauses in the Arabic SI Sub-Corpus

Our conclusion therefore lends considerable support to conclusions of previous studies that reported a tendency to use reordering less often in SI involving languages with similar structures (*cf*. Al-Rubai'i, 2004, pp. 257-258; Setton & Motta, 2007, p. 217; Alonso Bacigalupe, 2010, p. 50; Al Zahran, 2021, p. 65). The Arabic simultaneous interpreters were clearly following the SL structure, engaging in «form-based» (Isham, 1994, p. 207; Dam, 2001, p. 27) or structure-oriented processing.

Our conclusions also provide clear support for the language-pair specificity hypothesis. The absence of the need for reordering is only available to simultaneous interpreters working between languages with similar structures and into languages with a flexible word order such as Arabic. This is a luxury that is obviously not available in SI between languages with asymmetrical structures and when interpreting into a language with a rigid word order such as German (Bevilacqua, 2009).

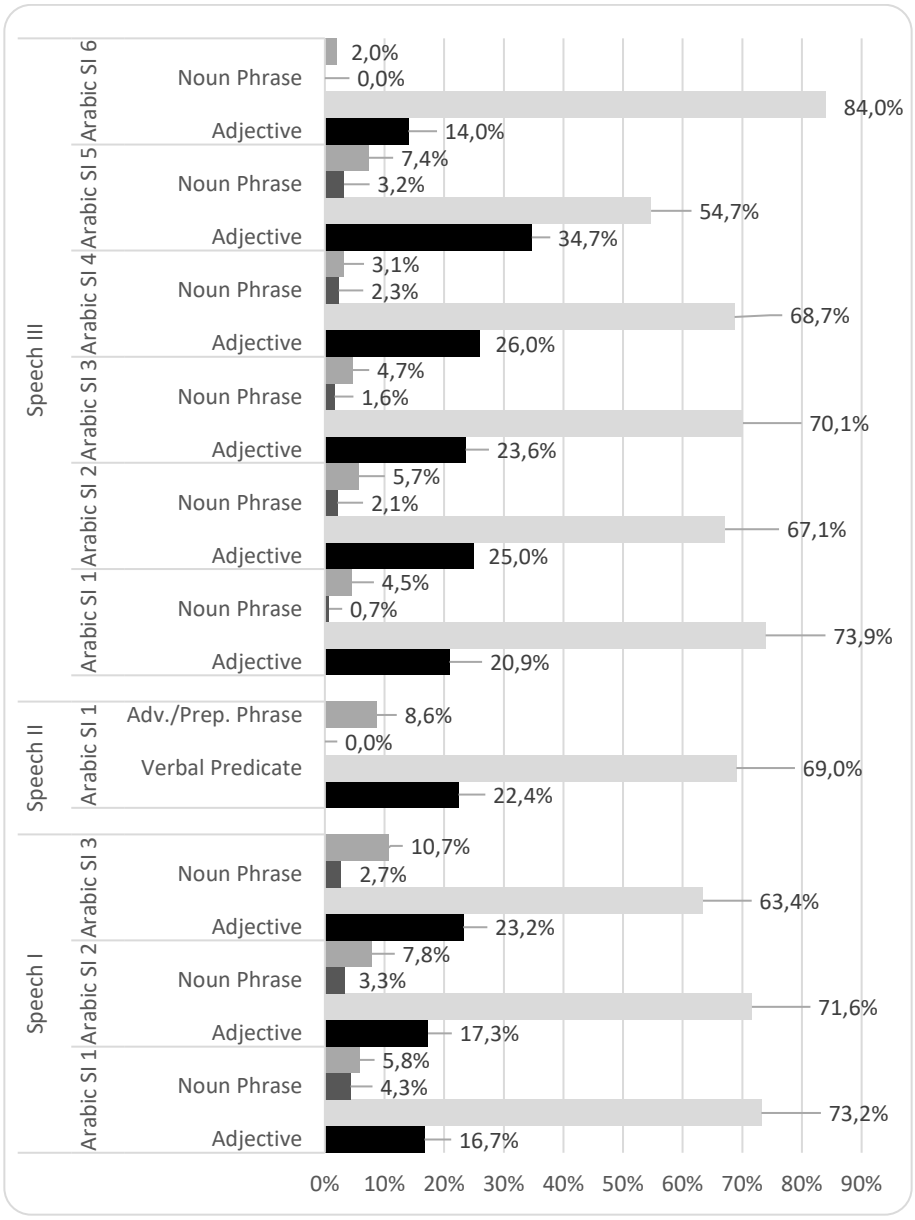

Figure 4: *Khabar* types of S-initial clauses in Arabic SI performances of Speeches I, II and III

CONCLUDING REMARKS

The present paper has discussed the challenge that syntactic asymmetry represents in English>Arabic SI. A two-fold corpus-based analysis has been conducted in a bid to determine the VSO/S-initial ratio and the type of *khabar* predominantly used in nominal clauses in 10 Arabic SI performances of three original English speeches. The findings of the analysis have indicated a tendency on the part of the Arabic simultaneous interpreters to use an SVO structure realized through an S-initial clause with a VPr. as its *khabar*. This finding has motivated us to conclude that the use of the marked SVO structure is a feature of Arabic SI. The findings have also led to the conclusion that the Arabic simultaneous interpreters were engaged in form-based processing by opting for the structure that bears the closest resemblance to English SVO structures as a coping tactic. Our conclusions have thus been found to lend support to other findings that reported a tendency to use restructuring less often when interpreting between languages with similar syntactic structures. The conclusions also provide support for the language-pair specificity hypothesis because the findings can only apply to language pairs with similar and/or flexible structures.

The implications for professional practice and training are obvious: *do not wait for the verb* in English>Arabic SI. Professional development providers and interpreter trainers can readily pass on this advice to professional and student interpreters to apply this coping tactic, especially under such extreme conditions as high SL presentation rate, prolonged time lag, semantic density, syntactic complexity, or a combination thereof. Applying this tactic would potentially help interpreters effectively handle syntactic disparity, thereby avoiding the risk of cognitive overload and the potential for a resulting information loss or failure.

One limitation of this study is that the present analysis and its findings concern the standard variety of Arabic, not any other regional Arabic dialects, since the standard variety is generally regarded as the default Arabic variety in conference interpreting situations. Another limitation to be borne in mind when evaluating the findings of the present analysis, is the absence of a reference point to help relate observations and findings to the SI process. We therefore recommend that further research be carried out to compare the present findings and conclusions with data from other types of corpora, including written translations of the same source speeches and a comparative corpus of original Arabic speeches.

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