

Argument Structure and Word Order in Saudi Sign Language

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Abstract—This study focuses on the description of argument structure and word order in Saudi Sign language (SSL). The nature of the syntactic level of the grammar of SSL is clarified. Since word order is often considered the most important part of grammar, this study details the various options that are available for the major constituents (Subject, Verb, and Object) in SSL independent of any connection to spoken Arabic syntax. In SSL, like in other languages, the nature of the arguments (Subject, Object) and the kind of verb can impact the word order. To investigate word order in SSL, which is based on Chomsky's (1995) Minimalist Program (MP), data were collected through derivation of data from narratives (semi-naturalistic-corpus) and an experiment (picture-description task). This research involved a sample of 10 deaf signing participants who are all fluent in SSL. All the participants have lived in Saudi Arabia for at least 10 years. Results indicate that the SSL is as any natural language and from the spoken language in Saudi Arabia. The most common word order in declaratives and the basic constituent order in SSL is SVO. As in virtually all sign languages, Wh-elements in SSL occur at the end of the clause. According to research on the interaction between word order and grammatical use of facial expressions and head locations (nonmanual marking), nonmanual markings have pragmatic purposes and may have syntactic functions.

Index Terms—argument structure, word order, saudi sign language, minimalist program

I. INTRODUCTION

Despite the fact that sign languages are clearly independent from the surrounding spoken languages (Goldin-Meadow, 2005), they are still linked to the same universal principles as spoken languages. Sign languages are visual languages, they are expressed by using the hands, face, and other parts of the body. They constitute a distinct linguistic type that adds depth to the field of Language Typology and make a significant contribution to research on Universal Grammar conducted across a variety of languages. There is no universally accepted sign language. Most nations that share a common spoken language do not necessarily have a common sign language. For example, American English has American Sign Language (ASL), British English has British Sign Language (BSL), and so on. Arabic does not share one sign language but each of the Arab countries has its own language such as Saudi (SSL), Jordanian, and Egyptian Sign Language. SSL is the sign language of Saudi Arabia, and is used by approximately 750,000 deaf people. This sign language is not the same as the Arabic language spoken in Saudi Arabia. SSL is a stand-alone language and is not a translation of the Arabic. It also has a specific system that distinguishes it from the spoken language, which is a language like other human languages that has grown, developed, and flourished through the Saudi deaf community to become the basic language in all aspects of life, whether in the educational, cultural, or social aspects. We analyzed sentence structure in SSL, including basic word order and a number of factors that allow alternate word orders. One reason for this analysis is that SSL is still not recognized as a language in Saudi Arabia. Therefore, there should be more linguistic studies on SSL.

According to Baker (2016) one of the most significant parts of the grammar of every spoken language is word order. Spoken languages are linear in that words follow one another and cannot be spoken at the same time. Words are always arranged in a sequence owing to restrictions in the speech apparatus, and languages may employ this ordering to communicate grammatical meanings. One way in which sign languages (SL) are distinct from spoken languages is that they do not follow a strict linear structure.

This study (1) investigates the order of the main constituents (subject (S), object (O), and verb (V)) of simple declarative and interrogative clauses in SSL. (2) It presents explanations of the many alternatives that are available for the primary elements (Subject, Verb, and Object) in SSL independent of any link to Arabic syntax. (3) We examine how different word ordering and contexts affect meaning. The main goal of this study is not just to understand these

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details, but to use them as a bridge to understand SSL in general. SSL represents a challenging but fruitful field of research. Under this approach, the investigation of a language used by a small number of signers, such as SSL, contributes to the improvement of the linguistic theory. Therefore, this study adopted a minimalism program as the research framework.

Numerous studies have examined word order in SL, and some investigated sentence structure in a select number of contexts. In a study on the fundamental word order of ASL, Fischer (1975) relied primarily on single elicited signed phrases as the primary data source. Others have investigated the development of signed responses in response to paired photographs of stimuli (Volterra et al., 1984 for Italian SL, LIS; Coerts, 1994 for SL of the Netherlands, among others). In addition, some have conducted a narrative analysis or elicited natural signing in response to interview questions (Bergman & Wallin, 1985). Still others used many of these approaches in the course of their data collection (Liddell, 1980 for ASL; Leeson, 2001 for Irish SL). The current study adopted derivation of data from narratives and an experiment as data collection methods. The most common word order in declaratives and the basic constituent order in SSL is found to be SVO. As in virtually all SLs, Wh-elements in SSL occur at the end of the sentence. According to research into the interaction between word order and grammatical use of facial expressions and head locations (nonmanual marking), nonmanual markings have pragmatic purposes and may have syntactic functions. This research introduces the theoretical assumptions the research builds on, and provides some background on SLs in general, particularly SSL. The elicitation methods used in the study are also described. The argument structure and word order in SSL is discussed. Finally, concluding remarks are provided.

II. LITERATURE REVIEW

A. Word Order in Spoken Languages

According to Greenberg (1963), the word order of a phrase is comprised of the subject, object, and verb of a sentence. Despite the fact that six other orders may be used (SOV, SVO, OSV, OVS, VOS, and VSO in transitive sentences), SOV and SVO are the most prevalent across languages. It has been hypothesized (e.g., Gell-Mann & Ruhlen, 2011) that the most fundamental word order of the oldest language was probably SOV, and that SVO languages tended to evolve from SOV languages over the course of time (e.g., Vennemann, 1977). There is also an instance of SOV order in gesture creations. Goldin-Meadow et al. (2008) asked 10 people who spoke English, 10 who spoke Turkish, 10 who spoke Spanish, and 10 who spoke Chinese (Mandarin) to describe events that were captured on camera without using any language. Regardless of the participants' first languages, the order in which they performed their gestures was found to be comparable to the SOV order used in speech.

Lehmann (1978) established that in terms of fundamental sentences and subordination, the SVO order of words is unmarked in the English language (however, see LaPolla & Poa, 2006). Dryer (2005) analyzed the word order of a total of 1,228 distinct languages. He concluded that 497 languages, including Japanese, follow the SOV order, whereas 435 follow the SVO order (e.g. English). In addition, VSO has been identified in 85 distinct languages, such as Irish, VOS in 26, such as Nias, OVS in nine, such as Hixkaryana, and OSV in four, such as Nadëb. A total of 172 of the 1,228 known languages do not have a word order that is considered to be the norm. Tomlin (1986) indicates that there are functional reasons for the frequency of SOV and SVO orders in contrast to other word orders. These functional reasons may explain why SOV and SVO orders are more common. First, the subject, which denotes the principal thought communicated by a statement, often comes before the object in the conventional order of things. Second, in transitive phrases, the object and the verb are placed relatively close to one another because the connection between them is closer than the connection that exists between the subject and the verb. Third, in intransitive phrases, the subject and the verb are placed further apart than the object and the verb.

According to studies on Standard Arabic (SA), grammarians separated the Standard Arabic sentence into two different types: a nominal phrase and a verbal sentence. A sentence is referred to as nominal if it begins with a noun phrase (NP); if it opens with a verb, it is referred to as verbal. A nominal sentence is distinguished from a verbal statement by the placement of the NP in the first position (Al-Rajehi, 1998). If a sentence uses the SVO word order, then Arabic grammarians consider it to be a nominal sentence. On the other hand, they consider if it uses the VSO word order, it is considered a verbal sentence. Most of Arab grammarians agree with Al-Rahawi's (2007) definition, which states that a sentence is deemed to be a nominal sentence if it does not include a verb.

Examining the SA literature in more depth, this phenomenon exhibits two primary word order alternations, namely SVO and VSO (Mohammed, 1991, 2000; Fassi-Fehri, 1993; Soltan, 2007; Alsager, 2017, 2020; Alsager & Mahzari, 2021; Fakh, 2014b, 2015, 2016, among others). In terms of agreement, these changes form an asymmetry that is referred to as subject-verb agreement asymmetry. This imbalance has developed into an important issue for study and analysis, and has also attracted a considerable amount of attention over the last two decades from linguists in both the Arab and Western worlds (Bahloul & Harbert, 1992; Aoun et al., 1994; Ouhallah, 1994; Olarrea, 1995; Benmamoun, 2000; Fakh, 2015, 2016). According to Steele (1978, p. 610), the term "agreement" most often refers to "any systematic link between a semantic or formal characteristic of one element and a formal feature of another". On the one hand, the form of the inflected verb depends on properties of two of its arguments, that is, we observe a systematic covariance between a formal property of the arguments (referential loci) and a formal property of the verb (path

movement and hand orientation); academics have long been perplexed by verb agreement in SL. This is due to the fact that “we observe a systematic covariance between a formal property. It is feasible to detect full agreement between the subject and the verb in each and every phi-feature when the SVO word order is used (i.e. gender, person and number).” On the other hand, when employing VSO, it is possible to attain merely gender agreement, which is sometimes referred to as partial agreement (Fassi-Fehri, 1993; Mohammed, 2000; Benmamoun, 2000; Soltan, 2007, among others).

B. Word Order in Sign Languages

Previous research (e.g., Fischer, 1975; Kegl et al., 1996; Liddell, 1980) has established that ASL and Japanese SL have an SOV order. Other relevant studies include Fischer (1996), Torigoe (1994), and Senghas et al. (1997). However, BSL (Deuchar, 1983), SL of the Netherlands (Coerts, 1994; Crasborn et al., 2009), and Spanish SL (Morales-Lopez et al., 2012) all permit modifications based on the topic-comment structures that are being used. Given the differences in this aspect that have been established, there has been significant debate over the fundamental (underlying) word order of a particular SL. For instance, BSL may follow an SVO order (see Cormier & Fenlon, 2009), as opposed to the topic-comment structures proposed by Deuchar (1983). Other views have focused on the changes that occur as a result of semantic and pragmatic aspects such as topicalization, which are derived from the fundamental word order. Fischer’s (1975) examination of word order shift in ASL from the nineteenth century (SOV) to the present (SVO) is considered the key work on the topic of word order in ASL. “American Sign Language...uses an SVO word order as its primary word order. Other orderings are permissible provided that (a) anything is topicalized, (b) the subject and object cannot be switched, and/or (c) the signer makes use of space to express grammatical processes....some difficulties such as ‘articulatory factors’, ‘verb classes’, and ‘classifier constructions’ could cause variances in the fundamental word order of any sign language states” (Arik, 2016) (see also Kimmelman, 2011).

Sprenger and Mathur (2012) revealed some interesting findings on word order in SSL. These observations investigate various word ordering in personal tales in SSL through explication sessions held in 2011 with four deaf Saudi Arabian consultants with the intention of shedding light on the syntactic level of SSL grammar. The sessions mostly consisted of the consultants recounting various experiences from their own life to the group. They appended English glosses to the transcribed versions of the accounts. They then discussed the aspects of the narrative that they were unsure about with each consultant and attempted to obtain a better understanding of it. Using Padden’s definition of predicates as a guide, they then categorized each gloss according to its part of speech (Padden, 1988). Single signals that encode the subject and object by making use of directional and spatial information may be both depicting and indicating verbs. These signs can be combined to provide more complex meanings. As a result, a single symbol has the potential to function as a whole phrase by itself. This was a very beneficial strategy to inquire about the narrators’ thoughts on the grammatical categories of the various indications. They were able to determine the boundaries between sentences. They were on the lookout for a made sure that every phrase had a verb. They then determined the arguments that were associated with each verb and used discourse indicators (e.g., nods, body changes, and particular signals) to determine the most likely borders between sentences. The findings reveal multiple occurrences of word order as follows:

- (1) PRO-I GO-TO HOTEL

S V O
 “I went to the hotel.”

- (2) PRO-I UNIVERSITY GRADUATE

S O V
 “I graduated from the university.”

- (3) CAMERA PRO-I open

O S V
 “The camera, I opened it.”

The examination of personal narratives reveals various aspects of SSL argued to be present in ASL. Both ASL and SSL use some similar information structure mechanisms in their respective vocabularies.

C. Argument Structure

The study of argument structure is one of the areas of linguistics that has received the most attention and inquiry. In addition to studies theoretical studies (Borer, 2003; Levin & Rappaport Hovav, 2005; Ramchand, 2013; Malchukov & Comrie, 2015), it has been investigated from descriptive and topological perspectives. Levin (1993) offered the first comprehensive explanation of the verb classes and argument structure alternations in English, making significant step forward in the development of the field of argument structure research. The system of structural connections that exist between heads and the arguments related to them in the roster of syntactic qualities that are specified for each object in the lexicon is referred to as argument structure. This term refers to the syntactic configuration that is projected by a lexical item when it is employed as a noun. A typological effort that was inspired by Levin’s work was recently completed, in which fundamental verb classes and alternations were characterized for 37 languages that are both typologically and geographically diverse (Hartmann et al., 2013; Malchukov & Comrie, 2015).

The relation between verb classes and argument structure is an important topic (even if it is not presented as the primary research question in their respective works) (Rathmann & Mathur, 2011; Geraci & Quer, 2014). According to Gelderen (2017), the number of arguments required to properly define a verb determines whether it is transitive,

intransitive, or ditransitive. For example, transitive verbs have two arguments and intransitive verbs have one. Verbs are traditionally seen to range from zero to three arguments. Rather than use the generic term “argument,” Gruber (1965) and Jackendoff (1972) introduced the term “roles.”

Theme may be further subdivided into Patient, Stimulus, and Response. When theta-roles are initially presented, the verbs in the lexicon are arranged according to their respective theta-roles, and it is necessary to ensure that the number of arguments corresponds to the number of theta-roles found in the syntactic derivation. If it is specified that the action “eat” needs two theta-roles (Agent and Theme), then it will be necessary to provide two arguments, and for each, a theta-role is expected. This idea is one that can be used right now at the semantic interface, and it is known as the Theta-Criterion.

There is one and only one argument that corresponds to each theta-role, and there is one and only one theta-role that corresponds to each argument (Chomsky, 1981, p. 36). Certain syntactic locations correlate to specific thematic functions, and these places may be found in a sentence. For instance, the Agent is almost always considered to be the grammatical subject, the Theme is considered to be the grammatical object, and the Location can be considered an adjunct. Agent > Theme > Location is the preliminary order of the hierarchy. This specific example was formerly believed to be a component of Universal Grammar; however, it is now considered that this is more likely the product of larger cognitive constraints that come from variances in animacy. This particular case was assumed to be a component of Universal Grammar. Verbs that fall into the category of transitive have two arguments, whereas those categorized as intransitive only have one argument. The usual view is that the number of arguments that verbs may have ranges from zero to three.

To date, there has been no systematic investigation of the way arguments are constructed in SLs (see Geraci & Quer, 2014). Research on other SLs has not been carried out in a way that is analogous to this one; hence, Kegl’s (1990) description of verb classes and alternations in ASL is most likely the only one of its kind. Kimmelman (2016) investigated transitivity in Russian Sign Language (RSL) based on corpus data. However, this research only covers a limited number of verbs, and it merely discusses whether these are employed in a transitive or an intransitive manner; it does not analyze verb classes in a systematic manner, nor does it explore any alternations. Several researchers have examined the unique argument structure alternations that are used in a range of SLs. A number of researchers have followed this line of inquiry. Rankin (2013) describes structures that are passive or passive-like. Reflexive (Kimmelman, 2009a) and reciprocal (Pfau & Steinbach, 2003; Zeshan & Panda, 2011) alternations, causal constructs (Tang & Gu, 2007), and the impersonal alternation (Barberà & Quer, 2013) have also been investigated. Kimmelman (2018) analyzed and characterized the key verb classes and argument structure alternations in RSL. This research used data collected from a list of 80 verbal meanings from the Valency Classes in World’s Languages project (Hartmann et al., 2013), in addition to data obtained from the corpus of RSL. The authors provided evidence that RSL has lexical verbs with varying sets of arguments (ranging from zero to three). Furthermore, the argument structure of lexical verbs and alternations that apply to them in RSL are both typologically prevalent in the language. Although classifier predicates in RSL have been used to argue for a syntactic approach to the creation of arguments, a similar argument has been made using predicates in other SLs; nonetheless, RSL classifier predicates do not provide a strong support for this approach. This is due to the fact that these predicates are used in other SLs.

III. METHODOLOGY

A wide variety of research may be used to explore the argument structure and word order in SSL. Some of the most popular types of methodologies include grammaticality evaluation tests, naturalistic-corpus data analysis, and experimental procedures. These different approaches each have their own set of advantages and disadvantages. Some researchers have integrated a variety of research approaches in an effort to avoid the disadvantages.

To analyze word order in SSL based on Chomsky’s (1995) Minimalist Program (MP), data were obtained via two different methods. The first used the derivation of data from narratives (semi-naturalistic-corpus). The second involved conducting an experiment (picture-description task). The objectives of the first method are to (1) evaluate some broad principles of word order in SSL in an environment more representative of real-world use. The purpose of the experiment is to test the results of the first method.

This study used a sample of 10 deaf signing participants who are all fluent in SSL. All have lived in Saudi Arabia for at least 10 years. For the data collection, two tasks were designed: (1) narrative task, and (2) picture-description task. In the first task, participants had to watch a movie twice then had to retell/redescribe it. For the second task, the participants were given 18 pictures and were asked to describe/talk about them. These 18 pictures attempt to cover all the possible structures in any language. ELAN (a multimedia annotation tool) was used for data analysis. The following screen shot (figure 1) shows how we worked on the video tape to annotate those non-verbal sentences.

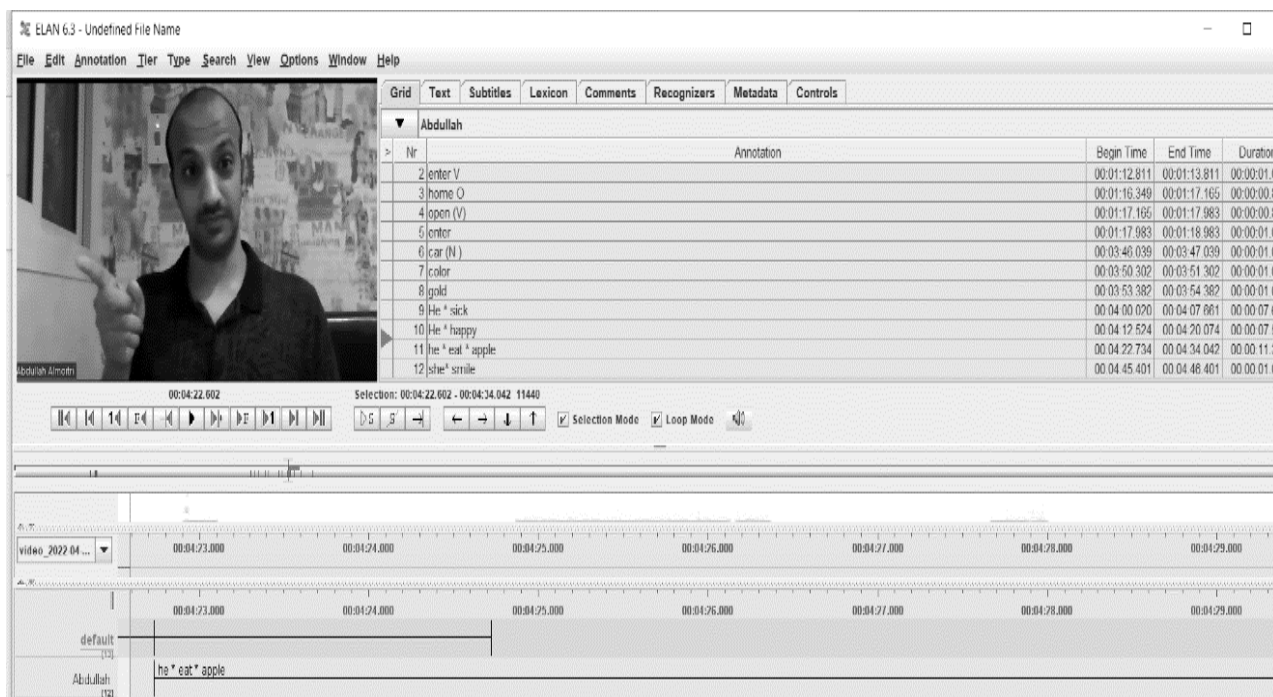


Figure 1

IV. RESULTS AND DISCUSSION

This section presents the main results of this study, starting with declaratives sentences then constituent interrogative sentences in SSL.

A. Declaratives and the Basic Constituent Order

Basic word order means constituent order because nominal arguments are constituents that may consist of multiple words or signs. Thus, at the sentence level, we are interested in the order of the three main constituents, SVO, SOV, and VSO. The criteria that are utilized for the study of SLs are the same as those used for research on spoken languages. That is, for establishing the basic order, pragmatically neutral declarative sentences with a predicate and two nominal arguments are examined. In the following discussion, we make a distinction between transitive and locative sentences. Declaratives are important to determine the basic word order of a language. A basic declarative sentence in ASL, for example, takes the form illustrated in (4).

- (4) John like chocolate
 “John likes chocolate.”

From this example, it can be inferred that the basic word order of ASL is SVO (Fischer, 1975). OSV commands and VOS orders can also be used in certain contexts, which are often expressed using nonmanual identifiers. Fischer (1975) and Liddell (1980) demonstrated that alternative (non-SVO) word order in ASL is distinguished by intonation breaks in a variety of ways. These approaches include brief pauses, raised eyebrows above the fronted element, and head nods. In addition, some word order is feasible even in the absence of these intonational breaks or non-manuals, provided that it is clear which word performs the role of the Agent, and which is the Patient. Thus, SOV (Subject, Object, Verb) word order is possible, for instance, in sentences with nonreversible S and O, in sentences with agreement V where grammatical connections are indicated by the direction or orientation of the V (Fischer, 1975), and in the situation of O shift because of the presence of handling classifier predicates (Chen Pichler, 2001), and aspectual verbs (verbs which can be modified with aspectual morphology) (Matsuoka, 1997; Braze, 2004). The OSV word order is present in sentences in which the Object is fronted, such as in OSV phrases (Fischer, 1975; Liddell, 1980; Aarons, 1994), and it is also present in circumstances in which the Object is shifted. Word order VOS is used in phrases that include a fronted or proposed Verb phrase or a postposed Subject, such as sentences that have VOS word order (Fischer, 1975). Since ASL is a pro-drop language, overt arguments may be phonologically null, resulting in word ordering such as (S)VO, SV(O), or (S)V(O) (Lillo-Martin, 1986).

TABLE 1
 RESULT OF DECLARATIVE AND THE BASIC CONSTITUENT ORDER IN SSL

	SVO	VSO	SOV	OSV	OVS
Total	18	4	3	5	6
%	50%	11%	8%	14%	17%

On the other hand, declaratives sentences in SSL are produced without any additional nonmanual markings, such as the facial expression. In this regard, SSL behaves just like other SLs. As previously noted, (see Table 1), the unmarked word order of OVS (17%) and OSV (14%) occur almost as often as the most common word order SVO (50%). All of these predicates are stative (5). SOV order was also observed, but only rarely 8%. We found OVS order only with locative sentences (6), thus conforming to some of Sprenger and Mathur’s (2012) “Observations on Word Order in SSL.”

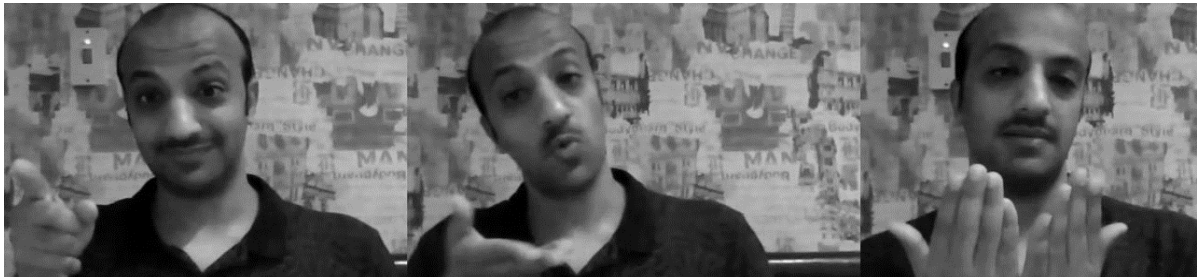
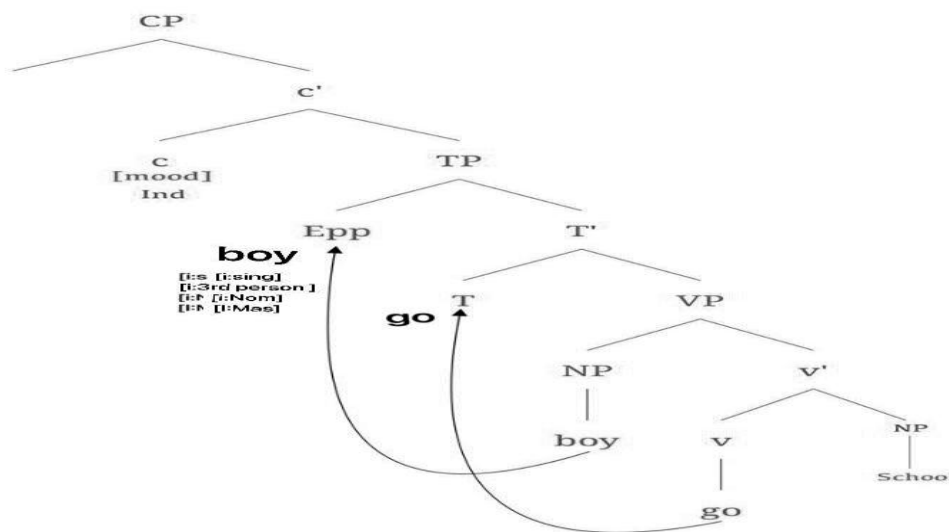


Figure 2

(5) He GO SCHOOL
 “He is going to school”



The phrase marker tree demonstrates that the verb “raises” in the same way as it does in some spoken languages. Movement must be prompted in the MP, as shown by the previous example. For raising patterns like those described above, a frequent assumption is that the nodes that are landing sites and the lexical items that are raised both include syntactic properties. This is because raising patterns are used to raise lexical items. If the nodes have what are known as strong features, then they will not be able to pass the constraints of the PF interface. Therefore, to prepare for S-Structure, they have to be eradicated by raising the lexical item that has the same properties. On the other hand, if the characteristics of the landing site nodes are described as being weak, then there is no need for any movement before the S-Structure (and will take place only at LF).

Additionally, SSL demonstrates Subject-Raising, for which MP suggests robust N-features in T. It is plausible to claim that the overt subject-verb agreement in SSL is an overt expression of strong N-features, which demands NP-raising.

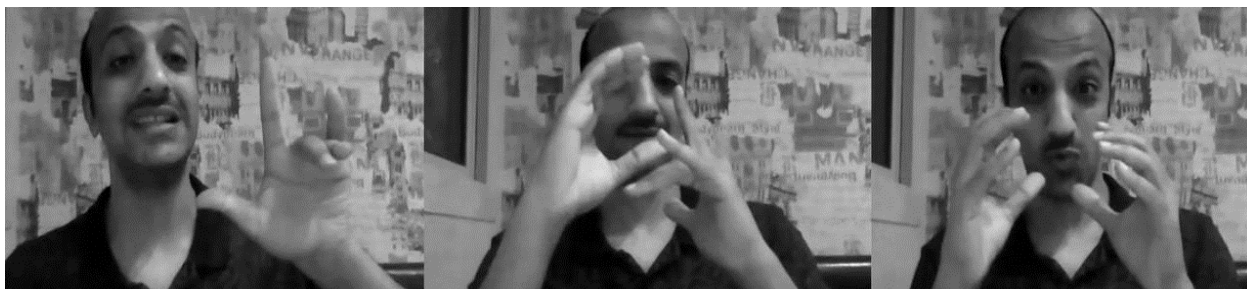


Figure 3

(6) CHAIR ON BALL
 “**The ball is on the chair**”

It is interesting to note that in most SLs studied to date, a different order has been identified in locative sentences. According to Baker et al. (2016) locative sentences are statements that specify the location of two things in respect to one another and are called “locating” sentences. It is a very common practice to begin the process of signing a locative construction by first introducing the larger and less mobile entity (the ground), as a reference point of sorts, before positioning the smaller entity (the figure) in relation to the ground. This is done to avoid confusion. The DGS employs this tactic, which is also known as the figure-ground concept and uses it as a guiding principle. The ground is comprised of the bridge and the table, and the figures are the automobile and the book. The locative connection between the figures and the ground may be defined by either a verb of motion or a locative verb. RSL also conveys a locative connection; however, it does not include a verb in its structure.

On the other hand, many spoken languages have a considerable inventory of function words, which may include adpositions (including pre- and postpositions), articles, conjunctions, and particles. Example (6) is a sentence in English with the function words or functional parts (highlighted using boldface). As can be seen, it has the definite article “the,” and the copula is “is.” Compare the English sentence with its SSL. It is interesting to note that the example only includes content signals, such as nouns and verbs.

B. Constituent Interrogative Sentences in SSL

Yes/no questions are not usually characterized by a systematic change in word order. Such a question is generally only indicated by a nonmanual grammatical marker (raised eyebrows and a forward and/or downward movement of the head/chin) in SSL has two ways:

- 1) Raised eyebrows and a forward head tilt > sentence (7).
- 2) Raised eyebrows and a forward head tilt > sentence > hand sign (yes and no).

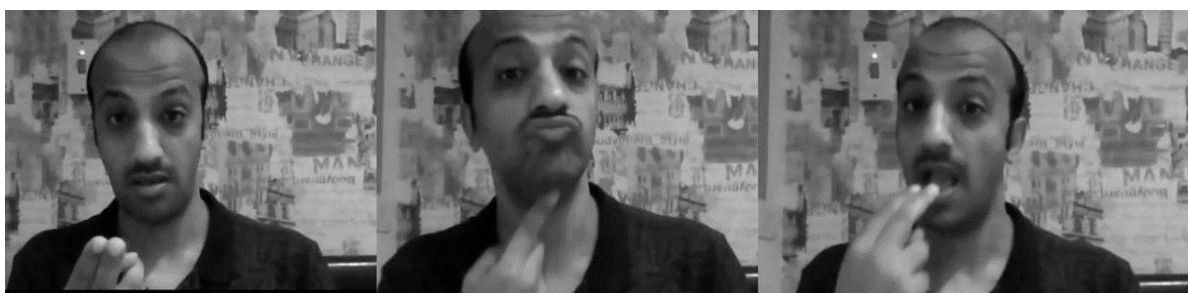


Figure 4

(7) YOU LIKE CANDY
 “Do like candy?”

Wh-questions have been a main topic of SL syntax since the early days of SL linguistics as Wh-elements in virtually all SLs occur at the right edge of the clause. This is surprising as spoken languages usually allow Wh-elements either to stay in-situ or move to the left. An interrogative sentence in SSL (examples (7), (8), (9)) is marked with the question mark “?” The beginning of asking the question is indicated by using the index finger, followed by the sentence, then adding the question mark (how, when... etc.). Facial expressions (raising the eyebrows, opening the mouth, etc.) are very important in formulating the question.

According to Bross (2020), there are three main analyses for the placement of Wh-phrases in SLs. The first claims that Wh-movement in SLs is the same as in spoken languages, namely to the left (7) (e.g., Petronio & Lillo-Martin, 1997) while the second assumes that SL Wh-movement is special in that it occurs to the right (8) (e.g., Aarons et al., 1995; Cecchetto et al., 2009). The problem for both accounts is that they need to explain why the Wh-items appear at the end in most SLs, but not in spoken languages. The third type of analysis assumes not only Wh-movement, but also additional remnant movement steps in the derivation. The data show that Wh-in-situ questions are possible (9).

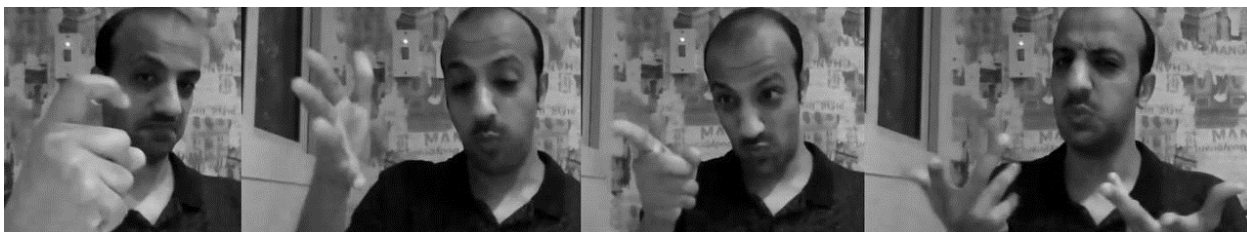
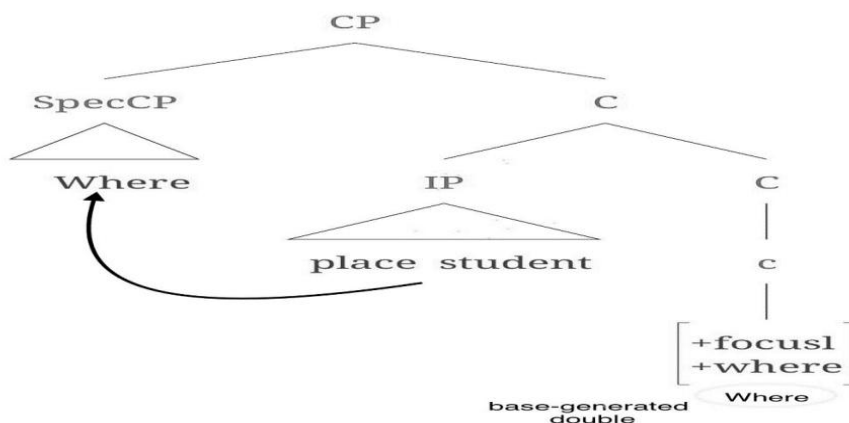


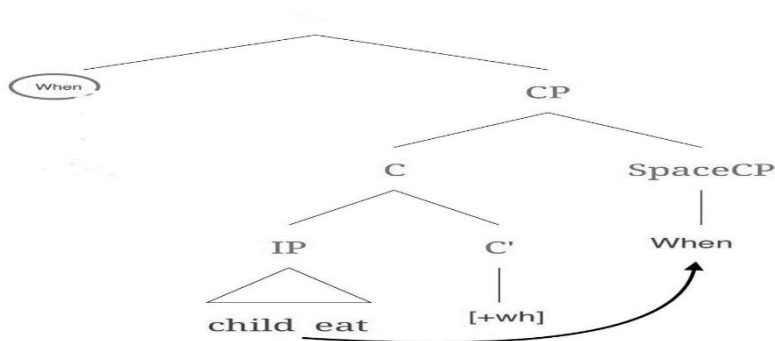
Figure 5

(8) - ? STUDENTS WHERE
 “Where are the students?”



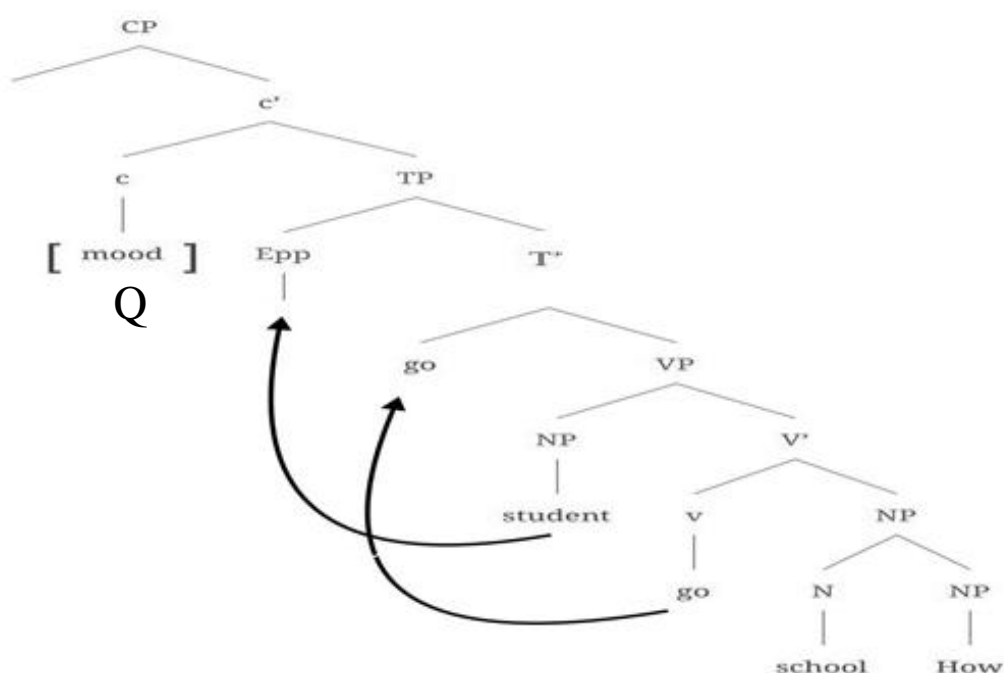
Concerning the leftward-movement analysis, for ASL, it was assumed Wh-phrases move to the left periphery and the Wh-elements occurring clause-finally are complementizers, also known as heads. Additionally, it was assumed that the leftward movement of Wh-phrases in clause-finally occurred in ASL clauses (e.g., Petronio & Lillo-Martin, 1997). According to Petronio and Lillo-Martin’s (1997) theory, which is shown in Figure (5), feature testing of the Wh-phrase takes place between SpecCP and C when the Wh-phrase is transferred to SpecCP. That is, the Wh-word found in position C is some form of emphasis doubling created by the base in this context.

(9) -? CHILD EAT WHEN
 “When does he eat breakfast?”



According to proponents of rightward-movement analyses, SLs are distinct from spoken languages in that SpecCP (or any comparable projection housing Wh-phrases) is right-branching. The earliest versions of this type of analysis (e.g., Aarons et al., 1992; Aarons, 1994; Neidle et al., 1998) assumed that clause-initial Wh-phrases in doubling constructions were base-generated in an unlabeled left-branching topic position. This was because it was thought that this was the most natural place for such phrases to occur.

(10)? STUDENT GO SCHOOL HOW
 “How do students go to school?”



Huang (1982) made the significant suggestion that the Wh-phrase in a language with Wh-in-situ moves at LF, which means that the movement cannot be identified on a phonological level. As Wh-phrases remain in-situ in Japanese and Korean, they are able to exist inside complicated NPs in both languages. As we have demonstrated, in SSL, there is no need for the formation of Wh-questions for there to be a suggested Wh-phrase. That is, Wh-phrases are left in place (see example (9)).

V. CONCLUSION

There are two types of natural human languages: spoken and SL. Studies on SLs are still in their infancy compared to those on spoken languages. The current study targeted word order in SSL. Data were collected via two approaches: from narratives and an experiment. SSL was found to be like any natural language and differs from the spoken language in Saudi Arabia. The most common word order in declaratives and the basic constituent order in SSL is SVO. Wh-elements in SSL as in virtually all SLs occur at the right edge of the clause. Future research on the word order of SSL should examine the position of the negative phrase.

From the data presented herein, SSL has many linguistic features such as the person, number, and gender features as the other SLs that have been investigated. If linguists get data from many SLs, they will be sure that the theory of Universal Grammar include for all of the features of human languages, including both spoken and signed languages. However, more research is needed to further investigate these issues.

In conclusion, in addition to the theoretical importance of examining SSL for linguistic research in general and SL research in particular, linguistic studies are vital in terms of lessening the social and cultural isolation of deaf people. The information offered in this study may be seen as a first step in achieving this shared aim, and it is hoped that it will motivate additional in-depth SSL research in the future. The author also hopes that it will serve as a valuable reference point for the development of teaching and learning tools for both deaf and hearing SSL students.

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