Word Order Variables in Patzun Kaqchikel[∗]

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1. Introduction

1.1 Word orders and variables

This paper[1] presents word order variables in Patzun Kaqchikel. I investigate how word order variables of (in)definiteness and animacy interact with SVO, VOS, and VSO word order in statements and questions in Patzun Kaqchikel spoken in the southern Guatemala. I also examine my data in comparison with the previous analysis of word orders in (Patzicia) Kaqchikel by Broadwell (2000).[2]

In Patzun Kaqchikel, in intransitive clauses, either SV word order or VS word order is possible in statements and questions.

(1) a. ri   n-tz'ih   n-anin[3]
    def   poss.1sg-dog   inc.3sA-run
    "My dog runs." $SV_{+statement}$
    "Does my dog run?" $SV_{+question}$
   b. n-anin   ri   n-tz'ih
    inc.3sA-run   def   poss.1sg-dog
    "Does my dog run?" $VS_{+question}$
    "My dog runs." $VS_{+statement}$

The sentences in (1) show that Kaqchikel has both SV and VS word order either in statements or questions.

Like intransitive clauses as in (1), transitive clauses with two DPs show SVO, VOS, and VSO word order. Consider the following sentences.

(2) a. ri   acin x-u-p'en   ri   c'aket
    def man com-3sE-make def   chair
    "The man made the chair." $SVO_{+statement}$
    "Did the man make the chair?" $SVO_{+question}$
   b. x-u-p'en   ri   c'aket   ri   acin
    com-3sE-make def   chair   def   man

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[2] Broadwell reports on Patzicia Kaqchikel, spoken in the same Department (Chimaltenango) in the southern Guatemala.
[3] I employ a practical orthography, not a traditional one, for Patzun Kaqchikel.

"Did the man make the chair?" $\qquad$ VOS$_{+question}$
*"Did the chair make the man?" $\qquad$ *VSO$_{+question}$
?"The man made the chair." $\qquad$?VOS$_{+statement}$
*"The chair made the man." $\qquad$ *VSO$_{+statement}$

c. x-u-p'en $\qquad$ ri $\quad$ acin $\quad$ ri $\quad$ c'aket
$\quad$ com-3sE-make $\quad$ def $\quad$ man $\quad$ def $\quad$ chair
$\quad$ "Did the man make the chair?" $\qquad$ VSO$_{+question}$
*"Did the chair make the man?" $\qquad$ *VOS$_{+question}$
?*"The man made the chair." $\qquad$?*VSO$_{+statement}$
*"The chair made the man." $\qquad$ *VOS$_{+statement}$

In (2), the possibility of statement and question interpretations depends on SVO, VOS, and VSO word orders. In (2a), both statements and questions are possible in SVO clauses. In the verb-initial clauses as in (2b-c), if two DPs are definite and are at different levels of animacy as in *ri acin* "the man" and *ri c'aket* "the chair", questions are possible both in VOS and VSO clauses. In other words, if a DP is higher in the hierarchy of animacy than the other DP, the DP with higher animacy is always interpreted as the subject of questions such that questions are possible both in VOS and VSO clauses.

With regard to statements in verb-initial clauses, statement interpretations are possible but not natural when the subjects with higher animacy are in the second DP position as in *ri acin* "the man" in (2b), while statement interpretations are marginally possible when the subjects with higher animacy are in the first DP position as in (2c). If DPs are lower in the hierarchy of animacy as in *ri c'aket* "the chair" in (2b-c), DPs with lower animacy cannot be interpreted as the subjects of statements.

Thus, in verb-initial clauses, if two DPs are definite and are at different levels of animacy, DPs of higher animacy, regardless of DP positions, serve as the subjects of statements and questions, while statement interpretations are very marginal in VOS and VSO clauses.

As we have seen in the sentences in (2b-c), in Kaqchikel, the two variables of definiteness and animacy play a key role in the interpretations of statements and questions in verb-initial clauses. That is, with different animacy, questions are possible both in VOS and VSO clauses as in (2).

In contrast, with respect to equal animacy, questions are only possible in VOS clauses while statements are not possible in verb-initial clauses. Consider the following sentences with definiteness and an equal level of animacy.

(3) a. ri $\quad$ tz'ih $\quad$ x-r-qotaj $\qquad$ ri $\quad$ sian
$\quad$ def $\quad$ dog $\quad$ com-3sE-chase $\quad$ def $\quad$ cat
$\quad$ "The dog chased the cat." $\qquad$ SVO$_{+statement}$
$\quad$ "Did the dog chase the cat?" $\qquad$ SVO$_{+question}$

b. x-r-qotaj $\qquad$ ri $\quad$ sian $\quad$ ri $\quad$ tz'ih
$\quad$ com-3sE-chase $\quad$ def $\quad$ cat $\quad$ def $\quad$ dog
$\quad$ "Did the dog chase the cat?" $\qquad$ VOS$_{+question}$
*"Did the cat chase the dog?" $\qquad$ *VSO$_{+question}$
*"The dog chased the cat." $\qquad$ *VOS$_{+statement}$
*"The cat chased the dog." $\qquad$ *VSO$_{+statement}$

c. x-r-qotaj ri tz'ih ri sian
   com-3sE-chase def dog def cat
   "Did the cat chase the dog?" $\text{VOS}_{+\text{question}}$
   *"Did the dog chase the cat?" $*\text{VSO}_{+\text{question}}$
   *"The dog chased the cat." $*\text{VSO}_{+\text{statement}}$
   *"The cat chased the dog." $*\text{VOS}_{+\text{statement}}$

In (3a), statement and question interpretations are possible in SVO clauses. However, when two definite DPs are at an equal level of animacy (e.g. two definite animal DPs) in the verb-initial clauses as in (3b-c), only the second DPs can be interpreted as the subjects of questions (i.e., question interpretations are possible in VOS clauses), while statement interpretations are not possible in verb-initial clauses (i.e., no statement interpretations are possible either in VOS or VSO clauses). That is, when two definite DPs are at an equal animacy in verb-initial clauses, VSO is not possible as a statement or a question.

With regard to indefinite DPs, we will see in the following sections that definite DPs are only interpreted as the subjects of questions in verb-initial clauses, whereas definiteness does not play a role in SVO clauses.

Thus, in Kaqchikel, the variables of (in)definiteness and equal/different animacy constrain word order in statements and questions of verb-initial clauses. Since in SVO clauses, the interpretations of statements and questions are both possible and definiteness and animacy do not play a role in the interpretation of the subject in statements and questions, this SVO question word order helps disambiguate question interpretations of two DPs with definiteness and animacy. With regard to the word order in Kaqchikel, even though SVO, VOS, and VSO clauses seem to be possible for statements and questions, both VOS and VSO clauses have some varying degrees of syntactic constraints with regard to definiteness and animacy.

In this paper, I will explore the possible word orders (i.e., SVO, VOS, and VSO) in statements and questions in Patzun Kaqchikel, in comparison with Patzicia Kaqchikel from Broadwell (2000). I will argue that word orders in verb-initial clauses in Patzun Kaqchikel interact with two variables: (in)definiteness and animacy. I will examine the variables of definiteness and animacy interacting with verb-initial clauses either in statements or questions. I will also point out that since SVO word order is not affected by the variables of definiteness and animacy, Kaqchikel employs SVO word order to disambiguate potentially ambiguous interpretations from definiteness and animacy.

1.2 Organization of the paper

The plan of this paper is as follows. Section 2 will discuss the background on Kaqchikel including verbal morphology of ergative case system in Kaqchikel. Word order variables of definiteness and animacy in Patzun Kaqchikel will be investigated in DP-initial clauses (SVO) in Section 3 and in verb-initial clauses (VOS/VSO) in Section 4, examining possible interpretations in statements and questions. In both Section 3 and 4, Patzun Kaqchikel will be compared with Patzicia Kaqchikel from Broadwell (2000). Section 5 will provide a summary of findings, discussing some theoretical implications for future study.

2. Background on Kaqchikel

Kaqchikel is one of the Mayan languages spoken by at least six million indigenous Maya, primarily in Guatemala, Mexico, and Belize, and Honduras. Kaqchikel is spoken to the east of Lake Atitlan in the southern Guatemala, belonging to the Quichean branch of the eastern division of the Mayan language family (Ethnologue, 2007). Closely related Mayan languages are Tz'utujil, spoken in the southern shore of Lake Atitlan, and K'iche, which is the largest language in Guatemala, spoken over a large area in the north and the west of the Lake Atitlan. The number of Kaqchikel speakers is approximately half a million (450,000) among the four largest Mayan language groups of Guatemala: K'iche', Mam, Kaqchikel, and Q'eqchi' in order of number of speakers (Garzon et al, 1998, p. 3). Among the ten Kaqchikel dialects in Guatemala, Patzun Kaqchikel is a sub-branch of Central Kaqchikel spoken in Chimaltenango Department in the southern Guatemala.

   Kaqchikel possesses an ergative case system with a distinction of completive/incompletive aspect. The template for the verbal agreement in transitive constructions in Kaqchikel is follows.

   (4) Verb Template
       | Aspect-Absolutive-Ergative-Verb(-Status Suffix) |

The incompletive aspect is marked with the prefix *y-* or *n-*, while the completive aspect is marked with the prefix *x-* as shown in (5).

   (5) a. yiin   y-at-in-tz'eet   rat
          I   incom-2sA-1sE-see   you
          "I see you."
       b. rjah   x-ix-u-tz'eet   riix
          s/he   com-2pA-3sE-see   you.all
          "S/he saw you all."

In the verbal morphology of transitive clauses like (5), after completive aspect, the object is indicated with absolutive case while subject is marked as ergative case in (5a-b). Since verb morphology shows the relations of subject and object in Kaqchikel, if the context is provided, pronouns in subject or object in (5) can be dropped. Verbal agreement in ergative case system in Kaqchikel is shown in Table 1.

Persons	Pronouns	Absolutive	Ergative
1st sg	yiin	-in-, -i-	-in-
2nd sg	rat	-at-, -a-	-at-, -a-
3rd sg	r(u)jah	-Ø-	-r-, -u-
1st pl	roj	-oj-	-qja-
2nd pl	riix	-iix-	-iix-,-(h)i-
3rd pl	r(u)jeh	-ee-	-ki-

Table 1: Ergative Case System in Kaqchikel.

In terms of denoting (in)definiteness in Kaqchikel, determiners precede NPs. The definite determiner is generally marked with *ri*, while *la* can be used if the DP is visible.

(6) a. ri   tah   alah   x-r-ajoh   juun   c'op
      def little boy com-3sE-want indef   pineapple
      "The little boy wanted a pineapple."
   b. la   tah   alah   x-r-ajoh   juun   c'op
      def little boy com-3sE-want indef   pineapple
      "The little boy (visible) wanted a pineapple."

In (6b), *la* is used in *la tah alah* "the little boy" if the NP *tah alah* "little boy" is specifically interpreted as the boy present. *ri* is used before NP as in *ri tah alah* "the little boy" in (6a) if the NP denotes definiteness in general.

    The determiner *juun* is used for indefiniteness. *Juun* is also the numeral "1" as well as an indefinite marker. There is no syntactic ordering constraint of placing the indefinite DPs preverbally or postverbally in SVO clauses as shown in (7).

(7) a. ri sian   x-r-oqotaj   juun   tz'ih
      def cat   com-3sE-chase indef dog
      "The cat chased a dog."
   b. juun tz'ih   x-r-oqotaj   ri   sian
      indef dog   com-3sE-chase def   cat
      "A dog chased the cat."
   c. juun tz'ih   x-r-oqotaj   juun   sian
      indef dog   com-3sE-chase indef cat
      "A dog chased a cat."

    In the following section, I will investigate how statements and questions in SVO can be used to disambiguate potential ambiguity in VOS and VSO clauses. I will also discuss that SVO is the unmarked word order of statements in Patzun Kaqchikel, in comparison with Patzicia Kaqchikel from Broadwell (2000).

3. DP-initial clauses: SVO

3.1 Statements and questions

Both statements and questions can be represented in SVO clauses in Patzun Kaqchikel.

(8) a. rjah   x-u-p'ax-ij   ri   leeq
      s/he com-3sE-break-tran def   plate
      "S/he broke the plate."   SVO$_{+statement}$
      "Did s/he break the plate?"   SVO$_{+question}$
   b. ri-xta Maria   x-u-niim   ri   r-ci   jay
      def-cl Maria   com-3sErg-push def 3sE-mouth house
      "Maria pushed the door."   SVO$_{+statement}$
      "Did Maria push the door?"   SVO$_{+question}$

The DPs, *rjah* "s/he" and *rixta Maria* in (8a) and (8b) respectively, are the subjects of the statement and the question in SVO clauses. As we saw in Section1, questions are basically represented in VOS or VSO clauses, while questions in SVO clauses generally represent "a surprise question" with rising intonation.

3.2 No word order variables

3.2.1 Animacy and definiteness

In DP-initial clauses, both equal and different animacy with definite DPs do not have any syntactic ordering constraint either in statements or in questions. Consider the following sentences.

(9) a. ri   ixooq   x-r-oqotaj   ri   acin
      def woman com-3sE-chase def man
      "The woman chased the man." $SVO_{+statement}$
      "Did the woman chase the man?" $SVO_{+question}$
     *"The man chased the woman."   *$VOS_{+statement}$
     *"Did the man chase the woman?"   *$VOS_{+question}$

   b. ri   tz'ih x-u-tej   ri   ker
      def dog   com-3sE-eat def fish
      "The dog ate the fish." $SVO_{+statement}$
      "Did the dog eat the fish?" $SVO_{+question}$
     *"The fish ate the dog."   *$VOS_{+statement}$
     *"Did the fish eat the dog?"   *$VOS_{+question}$

   c. ri   tz'ih x-u-jaq'-ij   ri   acin
      def dog   com-3sE-bite-tran def man
      "The dog bit the man." $SVO_{+statement}$
      "Did the dog bite the man?" $SVO_{+question}$
     *"The man bit the dog."   *$VOS_{+statement}$
     *"Did the man bite the dog?"   *$VOS_{+question}$

The sentences in (9a-b), where the two DPs are definite and at an equal level of animacy, as well as the sentence in (9c), where the two DPs are definite and at different levels of animacy, show that the first DP is the subject of the sentences. Thus, regardless of equal or different animacy of two definite DPs, if DP_1 is placed preverbally and DP_2 postverbally, DP_1 is always interpreted as the subject of the sentence both in statements and questions.

   Consider the following verb-initial constructions that we saw in Section 1. If two definite DPs are at an equal level of animacy, DP_2 is always interpreted as the subject of questions in verb-initial clauses.

(10) a. x-r-qotaj   ri   sian   ri   tz'ih   (=3b)
        com-3sE-chase def cat   def   dog
        "Did the dog chase the cat?" $VOS_{+question}$
       *"Did the cat chase the dog?"   *$VSO_{+question}$
       *"The dog chased the cat."   *$VOS_{+statement}$

      *"The cat chased the dog."   *VOS$_{+statement}$

  b. x-r-qotaj   ri   tz'ih   ri   sian   (=3c)
     com-3sE-chase def dog   def   cat

    "Did the cat chase the dog?"   VOS$_{+question}$

    *"Did the dog chase the cat?"   *VSO$_{+question}$

    *"The dog chased the cat."   *VSO$_{+statement}$

    *"The cat chased the dog."   *VOS$_{+statement}$

In the verb-initial clauses as in (10a) and (10b) where two definite DPs are at an equal level of animacy (e.g. two definite animal DPs, *ri tz'ih* "the dog" and *ri sian* "the cat"), statement interpretations are not possible regardless of the positions of the two definite DPs. However, question interpretations are possible, and only the second DP can be interpreted as the subject of verb-initial clauses, yielding VOS clauses. This demonstrates that if two DPs are definite and at an equal level of animacy in verb-initial clauses, definiteness and animacy in questions constrain the position of subject which is in DP$_2$ position. In other words, DP$_1$ cannot be the subject of questions in verb-initial clauses.

    Let us consider verb-initial clauses with two definite DPs at different levels of animacy. If two definite DPs are at different levels of animacy, the DP of higher animacy is always interpreted as the subject of questions in verb-initial clauses.

  (11) a. x-u-p'en   ri c'aket ri   acin   (=2b)
      com-3sE-make def chair   def man

    "Did the man make the chair?"   VOS$_{+question}$

    *"Did the chair make the man?"   *VSO$_{+question}$

    ?"The man made the chair."   ?VOS$_{+statement}$

    *"The chair made the man."   *VSO$_{+statement}$

  b. x-u-p'en   ri   acin   ri   c'aket   (=2c)
     com-3sE-make   def man   def chair

    "Did the man make the chair?"   VSO$_{+question}$

    *"Did the chair make the man?"   *VSO$_{+question}$

    ?*"The man made the chair."   ?*VSO$_{+statement}$

    *"The chair made the man."   *VOS$_{+statement}$

In (11) where the two definite DPs are at different levels of animacy (e.g., *ri acin* "the man" and *ri c'aket* "the chair"), DPs of higher animacy can only be interpreted as the subjects of both statements and questions. Statements show varying degrees of ordering restrictions between (11a-b). That is, statement interpretations are possible but not natural when the subject is in DP$_2$ position as in (11a), whereas statement interpretations are marginal or almost ungrammatical when the subject is in DP$_1$ position as in (11b). DPs of lower animacy cannot serve as the subjects of statements in verb-initial clauses.

    With regard to question interpretations in verb-initial clauses, unlike the fact that DPs of equal animacy can only be interpreted as the subjects of questions when DPs are in DP$_2$ positions, DPs of higher animacy are always interpreted as the subjects in VOS and VSO clauses, regardless of DP positions.

    Thus, as we have briefly seen, the two variables of definiteness and animacy play a key role in the interpretations of statements and questions in both VOS and VSO clauses. However, those

word order variables in verb-initial clauses do not constrain the DP positions either in statements or questions in SVO clauses in Patzun Kaqchikel.

3.2.2 Indefinite DPs

In SVO clauses, like animacy, (in)definiteness does not play a role in interpreting DPs as the subjects of statements or questions. Regardless of definiteness of DPs, the first DP serves as the subject while the second DP as the object of statements and questions in SVO clauses in Kaqchikel.
    Consider the following sentences.

(12) a. juun   tz'ih   x-r-oqotaj   ri   sian
          indef   dog   com-3sE-chase   def   cat
          "A dog chased the cat."   SVO$_{+statement}$
          "Did a dog chase the cat?"   SVO$_{+question}$
     b. ri   sian   x-r-oqotaj   juun   tz'ih
          def   cat   com-3sE-chase   indef   dog
          "The cat chased a dog."   SVO$_{+statement}$
          "Did the cat chase a dog?"   SVO$_{+question}$

Indefinite DPs can be placed either in preverbal or postverbal position as in (12a-b). The sentences in (12) show that there is no syntactic ordering restriction of indefinite DPs in SVO clauses. DP_1 can be either indefinite or definite as well as DP_2 can be either definite or indefinite. In other words, DP_1 is the subject whereas DP_2 is the object for both the statement and the question as in the sentences in (12).
    Also notice that both DPs can be indefinite in SVO clauses in Kaqchikel.

(13) juun   tz'ih   x-r-oqotaj   juun   sian
        indef   dog   com-3sE-chase   indef   cat
        "A dog chased a cat."   SVO$_{+statement}$
        "Did a dog chase a cat?"   SVO$_{+question}$

The sentence in (13) shows that in SVO clauses, two indefinite DPs can be both subject and object of the sentence, demonstrating that there is no syntactic ordering constraint on two indefinite DPs in SVO clauses.
    Thus, with respect to word order variables whether animacy and definiteness play a role in SVO clauses, animacy and definiteness do not constrain any syntactic ordering in DP-initial clauses, unlike the fact that animacy and definiteness play an important role in syntactic constraints on DP positions in verb-initial clauses in Patzun Kaqchikel.

3.3 Comparisons between Patzun and Patzicia Kaqchikel in DP-initial clauses (SVO)

Broadwell (2000) claims that the unmarked word order for statements in Patzicia Kaqchikel is verb-initial (i.e., [V DP_1 DP_2]), pointing out that if a verb is followed by two DPs with equal definiteness, the sentence is ambiguous such that both VSO and VOS clauses are possible in statements in Patzicia Kaqchikel. However, Broadwell suggests that SVO word order is

obligatory when the subject DP is indefinite. In other words, indefinite subjects of transitive clauses cannot be postverbal. (Broadwell, 2000, p. 4)

       Patzicia Kaqchikel

(14) a. x-u-b'a   jun   tz'i'   ri   a   Juan   (Broadwell 2000, (9))
         com-3sErg-bite   a   dog   the cl   Juan
       *"A dog bit Juan."   *VSO$_{+statement}$
       "Juan bit a dog."   VOS$_{+statement}$
    b. jun   tz'i'   x-b'a'-o   ri   a   Juan   (Broadwell 2000, (10))
       a   dog   com-bite-AF   the cl   Juan
       "A dog bit Juan."   SVO$_{+statement}$
    c. *? jun   tz'i'   x-u-b'a'   ri   a   Juan   (Broadwell 2000, (11))
       a   dog   com-3sErg-bite   the   cl   Juan   *?SVO$_{+statement}$

Since definiteness plays a crucial role in interpreting the subject of the sentence in verb-initial clauses in Kaqchikel, the indefinite DP *jun tz'i'* "a dog" cannot be interpreted as the subject in (14a)[4]. Broadwell, thus, argues that indefinite subjects must appear in the preverbal position as in (14b). Following Aissen (1999)'s term "agent focus"[5], Broadwell suggests that indefinite subjects also must trigger "agent focus" morphology on the verb when an indefinite DP shifts to the preverbal position, claiming that SVO is a marked word order in Kaqchikel (Broadwell, p. 13).

   "Agent focus" is also referred to as "agentive antipassive" in an ergative case system. Antipassive morphology (i.e., absolutive) is used when sentences are semantically transitive but morpho-syntactically intransitive. Agent focus morphology is specially used when the subject (i.e., agent) is extracted from the sentence resulting in the focus construction (Aissen, p. 455). Notice that in (14a), the sentence is transitive with ergative morpheme, *-u* on the verb while in (14b), the verb possesses absolutive case morphology which is Ø and agent focus, *-o* since the agent *jun   tz'i'*"a dog" is extracted to the preverbal position. The sentence in (14b) is ungrammatical since the indefinite DP is in the preverbal position of the transitive clause and actor focus morphology is not used on the verb.

   On the contrary, in Patzun Kaqchikel as we saw in (12a), indefinite DP *juun tz'ih* "a dog" is placed in the preverbal position of the transitive clause without "agent focus" morphology on the verb. With regard to agent focus, the agent focus marker-*o* occurs in *wh*-questions as in (15) and focus structure as in (16) in Patzun Kaqchikel.

(15) a. ri   a   Luis   x-u-sah   ri   q'utun
       def cl Luis   com-3sE-grill def food
       "Luis grilled the meat."
    b. ackea   x-∅-sah-o   ri   q'utun
       who   com-3sE-grill-AF def   food
       "Who grilled the meat?"
(16) a. ri   ixooq   x-ee-u-c'aj   ri   leeq
       def woman com-3pA-3sE   def   dishes

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[4] Broadwell (2000) claims that if one of the DPs is definite and the other is indefinite, the definite DP must follow the indefinite DP in the verb-initial constructions (p. 2). I will explore this phenomenon in the VOS section.
[5] Broadwell (2000) uses Aisssen (1999)'s term, "agent focus" as "actor focus".

"The woman washed the dishes."
 b. ja ri ixooq x-ee-∅-c'aj-o   ri leeq
   foc def woman com-3pA-3sE-wash-AF def dishes
   "It was the woman who washed the dishes?"

   Based on these observations, the properties of SVO clauses in Patzun Kaqchikel are as follows. First, statements are generally represented in SVO clauses in Patzun Kaqchikel. Even though verb-initial clauses in Patzun can have statement interpretations, it is limited to only definite DP subjects with different levels of animacy. Furthermore, statement interpretations are not naturally accepted either in VOS or VSO clauses. Thus, for statement interpretations, Patzun Kaqchikel generally employs SVO word order.

   Second, since question interpretations are possible and definiteness does not affect the interpretation of the subjects of questions in SVO in Patzun Kaqchikel, SVO clauses can be alternatively used as questions[6]. As we will see in the following sections of verb-initial clauses, since indefinite DPs or DPs of lower animacy cannot be interpreted as the subjects of verb-initial clauses, indefinite DPs or DPs of lower animacy can be interpreted as the subjects of questions in SVO clauses. However, notice that questions in SVO clauses represent surprise questions.

   Third, unlike VOS or VSO clauses, since word order variables such as animacy and definiteness do not play any role in SVO clauses, there is no need to employ obligatory SVO word order for statements. Furthermore, unlike Patzicia Kaqchikel as in (14b), there is no need to employ additional "actor focus" morphology for shifting from verb-initial clauses to SVO clauses in Patzun Kaqchikel.

   Thus, since SVO word order is not affected by the variables of definiteness and animacy, Kaqchikel employs SVO word order to disambiguate potentially ambiguous interpretations from definiteness and animacy. In the following sections, I will examine how animacy and definiteness interact in the verb-initial constructions in Patzun Kaqchikel.

4. Verb-initial clauses: VOS & VSO

4.1 Statements and questions

In Patzun Kaqchikel, yes/no questions are generally represented in verb-initial clauses, while statements are possible but unnatural in VOS clauses and statements are very marginal in VSO clauses, if two definite DPs are at different levels of animacy.

 (17) a. x-u-tej   ri q'utun ri tz'ih
    com-3sE-eat def food   def dog
    "Did the dog eat the food?"   VOS$_{+question}$
     *"Did the food eat the dog?"   *VSO$_{+question}$
   ??"The dog ate the food."   ??VOS$_{+statement}$
    *"The food ate the dog."   *VSO$_{+statement}$

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[6] Notice that Broadwell (2000) claims that SVO is obligatory or marked when the subject DP is indefinite. However, in an obligatory SVO word order, an indefinite DP represents the subject of statements in Patzicia Kaqchikel, whereas in Patzun Kaqchikel an indefinite DP represents the subject of questions.

b. x-u-tej   ri   tz'ih   ri   q'utun
   com-3sE-eat   def   dog   def   food

"Did the dog eat the food?"	VSO$_{+question}$
*"Did the food eat the dog?"	*VOS$_{+question}$
?*"The dog ate the food."	?*VSO$_{+statement}$
*"The food ate the dog."	*VOS$_{+statement}$

The DP, *ri tz'ih* "the dog in (17a-b) is the subject of the question, regardless of DP positions, since the DP, *ri tz'ih* "the dog are at higher level of animacy than the DP, *ri q'utun,* "the food" in (17a-b). With regard to statement interpretations, only DPs of higher animacy, i.e., the second DP, *ri tz'ih* "the dog" in (17a) and the first DP, *ri tz'ih* "the dog in (17b) can unnaturally or very marginally serve the subject of the statements, when two definite DPs are at different levels of animacy in verb-initial clauses.

     Now, consider the following sentences.

(18) a. x-r-qotaj   ri-a   Juan   ri-xta   Maria
     com-3sE-chase   def-cl   Juan   def-cl   Maria

"Did Maria chase Juan?"	VOS$_{+question}$
*"Did Juan chase Maria?"	*VSO$_{+question}$
*"Maria chased Juan."	*VOS$_{+statement}$
*"Juan chased Maria."	*VSO$_{+statement}$

    b. x-r-qotaj   ri-xta   Maria   ri-a   Juan
     com-3sE-chase   def-cl   Maria   def-cl   Juan

"Did Juan chase Maria?"	VOS$_{+question}$
*"Did Maria chase Juan?"	*VSO$_{+question}$
*"Maria chased Juan."	*VSO$_{+statement}$
*"Juan chased Maria."	*VOS$_{+statement}$

Unlike the case of DPs with different animacy as in (17), in the case of DPs with an equal animacy as in (18), the first DP, *ria Juan* in (18a) and *rixta Maria* in (18b) cannot serve as the subjects of the questions, while the second DP, *ria Juan* can only serve as the subject of the question. Statements do not exist in verb-initial clauses, when two DPs are at an equal level of animacy as in (18a-b).

     Thus, question interpretations in verb-initial clauses depend on whether DPs are at different levels of animacy or DPs are at an equal level of animacy. Statements are only unnaturally or marginally possible, when two definite DPs are at different levels of animacy, while statements are impossible, when two definite DPs are at an equal level of animacy in verb-initial clauses in Patzun Kaqchikel.

4.2 Animacy and definiteness

4.2.1 DPs of equal animacy

As we saw above, if two DPs are definite and at an equal level of animacy, only DP$_2$ is the subject of the question (i.e., VOS). Statement interpretations are not possible either in VOS or in VSO clauses.

     Consider the following sentences.

(19) a. x-r-oqotaj   ri   acin   ri   ixooq
       com-3sE-chase   def   man   def   woman
       "Did the woman chase the man?" $VOS_{+question}$
     *"Did the man chase the woman?" $*VSO_{+question}$
     *"The woman chased the man." $*VOS_{+statement}$
     *"The man chased the woman." $*VSO_{+statement}$

     b. x-r-oqotaj   ri   ixooq   ri   acin
       com-3sE-chase   def   woman   def   man
       "Did the man chase the woman?" $VOS_{+question}$
     *"Did the woman chase the man?" $*VSO_{+question}$
     *"The woman chased the man." $*VSO_{+statement}$
    * "The man chased the woman." $*VOS_{+statement}$

The sentences in (19), where the DP, *ri acin* "the man" and the DP, *ri ixooq* "the woman" in (19a-b) are definite and are at an equal level of animacy, show that only the second DPs are the subjects of the questions, while statement interpretations are not obtained either in VOS or VSO clauses.

     Consider the following sentences.

(20) a. x-u-p'ah   ri   tz'ih   ri   sian
       com-3sE-bite   def   dog   def   cat
       "Did the cat bite the dog?" $VOS_{+question}$
     *"Did the dog bite the cat?" $*VSO_{+question}$
     *"The dog bit the cat." $*VSO_{+statement}$
     *"The cat bit the dog." $*VOS_{+statement}$

     b. x-u-p'ah   ri   sian   ri   tz'ih
       com-3sE-bite   def   cat   def   dog
       "Did the dog bite the cat?" $VOS_{+question}$
     *"Did the cat bite the dog?" $*VSO_{+question}$
     *"The cat bit the dog." $*VSO_{+statement}$
     *"The dog bit the cat." $*VOS_{+statement}$

The sentences in (20) also show that if the two DPs (i.e., *ri tz'ih* "the dog" and *ri sian* "the cat" in (20a-b) are definite and are at an equal level of animacy, only the second DPs are the subjects of the questions, while statement interpretations are not possible in verb-initial clauses.

     Notice that equal animacy in VOS or VSO clauses constrains the syntactic ordering such that DP_2 has to be the subject of questions. In other words, in verb-initial clauses, DP_1 must be the object in questions in equal animacy in verb-initial clauses. Furthermore, unlike statement interpretations from different animacy as in (17a-b), equal animacy makes it impossible to obtain statement interpretations either in VOS or VSO clauses.

     Thus, in the verb-initial construction in Kaqchikel, if two DPs are definite and at are an equal animacy, only DP_2 is interpreted as the subject of questions and statement interpretations cannot be obtained.

4.2.2 DPs of different animacy

If two definite DPs are at different levels of animacy, DPs of higher animacy are always interpreted as the subjects of question. Statement interpretations are possible but DPs of higher animacy can marginally serve as the subjects of statement in the verb-initial constructions.

(21) a. x-u-jaq'-ij   ri   tz'ih   ri   acin
      com-3sE-bite-tran   def   dog   def   man
      "Did the man bite the dog?" $VOS_{+question}$
     *"Did the dog bite the man?" $*VSO_{+question}$
     ?"The man bit the dog." $?VOS_{+statement}$
     *"The dog bit the man." $*VSO_{+statement}$
    b. x-u-jaq'-ij   ri   acin   ri   tz'ih
      com-3sE-bite-tran   def   man   def   dog
      "Did the man bite the dog?" $VSO_{+question}$
     *"Did the dog bite the man?" $*VOS_{+question}$
     *"The dog bit the man." $*VOS_{+statement}$
   ?*"The man bit the dog." $?*VSO_{+statement}$

The sentences in (21), where the two definite DPs are at different levels of animacy (i.e., *ri tz'ih* "the dog" and *ri acin* "the man"), show that question interpretations are possible in both types of verb-initial clauses. This is unlike clauses where the DPs are equal in animacy, and DP_2 must be the subject of questions. If a DP is higher in the hierarchy of animacy than the other DP, the DP with higher animacy is always interpreted as the subject of questions, regardless of DP positions in verb-initial clauses as in (21a-b).

     With regard to statements, statement interpretations are possible but not natural as in (21a) or very marginal as in (21b) when the subjects with higher animacy are in DP_2 position as in *ri acin* "the man" in (21a-b). Statement interpretations are not possible when the subjects in the lower animacy are in DP_1 position as in *ri tz'ih* "the dog" in (21a).

     Notice that, like the questions above, DPs with higher animacy are always interpreted as the subjects of statements, regardless of DP positions in verb-initial clauses as in (21a-b). In connection with statements in VOS and VSO clauses, statement interpretations are very marginal at best if DPs with higher animacy are in DP_1 position as in *ri acin* "the man" in (21b). Thus, even if DPs with higher animacy can serve as the subject of statements either in VOS or VSO clauses, VOS clauses are strongly preferred over VSO clauses in statements.

     Consider another VOS/VSO clause with two definite DPs at different levels of animacy.

(22) a. x-u-c'ey   ri   umul   ri   acin
      com-3sE-hit   def   rabbit   def   man
      "Did the man hit the rabbit?" $VOS_{+question}$
     *"Did the rabbit hit the man?" $*VSO_{+question}$
     *"The rabbit hit the man." $*VSO_{+statement}$
     *"The man hit the rabbit." $*VOS_{+statement}$
    b. x-u-c'ey   ri   acin   ri   umul
      com-3sE-hit   def   man   def   rabbit
      "Did the man hit the rabbit?" $VSO_{+question}$

   *"Did the rabbit hit the man?"   *VOS$_{+question}$
   *"The man hit the rabbit."   *VSO$_{+statement}$
   *"The rabbit hit the man."   *VOS$_{+statement}$

The sentences in (22) with the two definite DPs of different levels of animacy (i.e., *ri umul* "the rabbit" and *ri acin* "the man") show that question interpretations are possible both in the VOS clause as in (32a) and the VSO clause as in (22b). As shown in (21), DPs with higher animacy are interpreted as the subjects of questions, regardless of DP positions in verb-initial clauses as in (22a-b).

 Notice that with regard to statement interpretations, unlike the verb-initial clauses as in (21a-b), in which DP$_2$ with higher animacy can be unnaturally interpreted as the subject of statements as in (21a), while DP$_1$ with higher animacy can be marginally interpreted as the subject of statements as in (21b), neither DP$_1$ nor DP$_2$ in (22a-b) can be interpreted as the subject of the statements according to the elicitations from the linguistic consultant.

 Based on the observations of statement interpretations in verb-initial clauses, if two DPs are definite and are at different levels of animacy, there seem to be varying degrees of acceptability in statement interpretations. That is, as we saw above, if statement interpretations are marginally possible, VOS clauses are strongly preferred over VSO clauses with definite DPs of different animacy. However, as in (22a-b), statements often tend to be impossible when two DPs are definite and are at different levels of animacy in verb-initial clauses. My Kaqchikel consultant fairly consistently responds with SVO clauses to statement elicitations, pointing out that VOS or VSO clauses are not acceptable for statement interpretations. Thus, for statement interpretations, Kaqchikel generally employs SVO clauses, rather than verb-initial clauses.

 As we have seen, equal/different animacy plays a crucial role in the interpretations of the questions in both VOS and VSO clauses. In verb-initial clauses, DP$_2$ must be the subject of a question if DPs are at the equal level of animacy (i.e., VOS). On the other hand, DPs with higher animacy are interpreted as the subjects of questions, regardless of DP positions (i.e., VOS or VSO). In other words, animacy restricts DP$_2$ to the subject of questions when two definite DPs in verb-initial clauses are at an equal level of animacy. However, in verb-initial clauses when two definite DPs are at different levels of animacy, animacy does not restrict DP$_2$ to the subject of questions in Patzun Kaqchikel.

4.3 Indefinite DPs

4.3.1 Indefinite/definite DPs

With regard to the variable of indefinite DPs, if one of two DPs is indefinite and the other DP is definite, the definite DP is always interpreted as the subject of questions in verb-initial clauses (i.e., VOS or VSO).

 Consider the following sentences in an equal animacy.

(23) a. x-r-oqotaj   juun tz'ih ri sian
   com-3sE-chase indef dog def cat
   "Did the cat chase a dog?"   VOS$_{+question}$
  *"Did a dog chase the cat?"   *VSO$_{+question}$
  *"The cat chased a dog."   *VOS$_{+statement}$

*"A dog chased the cat."	*VSO₊statement

   b. x-r-oqotaj   ri sian juun   tz'ih
     com-3sE-chase   def cat   indef   dog

"Did the cat chase a dog?"	VSO₊question
*"Did a dog chase the cat?"	*VOS₊question
*"A dog chased the cat."	*VOS₊statement
*"The cat chased a dog."	*VSO₊statement

The sentences in (23) show that the indefinite DPs cannot be interpreted as the subject of the questions such that the question interpretation is neither possible in VSO clauses as in (23a) nor in VOS clauses as in (23b). The definite DP, *ri sian* "the cat" in (23a-b) is interpreted as the subject of the questions regardless of the DP position, whereas the indefinite DP *juun tz'ih* "a dog" is the object of the question in verb-initial clauses. Thus, when one DP is definite and the other DP is indefinite, the definite DP must be the subject of questions in verb-initial clauses (i.e., VOS or VSO).

Statement interpretations are not possible when one DP is definite and the other DP is indefinite in verb-initial clauses. Neither definite DPs nor indefinite DPs can serve as the subjects of statements in verb-initial clauses. Statements of indefinite subjects can only be represented in SVO clauses in Patzun Kaqchikel.

In relation to definiteness and different levels of animacy, definiteness constraints prevail over animacy.

   (24) a. x-u-c'ey   ri   umul   juun tih-alah
        com-3sE-hit   def rabbit   indef little-boy

"Did the rabbit hit a boy?"	VSO₊question
*"Did a boy hit the rabbit?"	*VOS₊question
*"The rabbit hit a boy."	*VSO₊statement
*"A boy hit the rabbit."	*VOS₊statement

    b. x-u-tej   juun   tih-alah   ri   umul
      com-3sE-hit indef little-boy   def   rabbit

"Did the rabbit hit a boy?"	VOS₊question
*"Did a boy hit the rabbit?"	*VSO₊question
*"A boy hit the rabbit."	*VSO₊statement
*"The rabbit hit a boy."	*VOS₊statement

In (24), definiteness determines which DPs are interpreted as the subjects of the questions in verb-initial clauses. That is, even if a definite DP is lower in the hierarchy of animacy than an indefinite DP as in *ri umul* "the rabbit" and *juun tihalah* "a boy" in (24a-b) and the plausible pragmatics is likely to be the situation that "a boy hit the rabbit", the definite DP, *ri umul* "the rabbit" always serves as the subject of the question. Since definiteness is the sole factor in determining the subject of questions when one DP is definite and the other DP is indefinite, definite DPs are always the subjects of questions. Indefinite DPs have no syntactic ordering constraints in verb-initial clauses. Whether indefinite DPs occur either in DP₁ or DP₂ position, definite DPs are always interpreted as the subjects of questions in verb-initial clauses.

Statement interpretations are not possible when indefinite DPs and definite DPs are at different levels of animacy as in (23-24). In relation to definiteness and different animacy, definiteness constraints prevail over animacy in verb-initial clauses.

Thus, with respect to word order variables whether animacy and indefiniteness play a role in verb-initial clauses, regardless of equal/different animacy, definiteness constrains DP interpretations in questions. That is, in terms of verb-initial clauses with definite/indefinite DPs, definite DPs must be subjects of questions, regardless of equal/different animacy. Thus, we have hierarchy of DPs in verb-initial clauses in Patzun Kaqchikel as in (25).

(25) Hierarchy of DPs in Verb-initial Clauses in Patzun Kaqchikel
    Definite DPs > Higher Animacy > Lower Animacy > Indefinite DPs

4.3.2 Two indefinite DPs

When both DPs are indefinite in verb-initial clauses, only DP_2 can be interpreted as the subject of questions, regardless of equal/different animacy. Statement interpretations in verb-initial clauses are not possible when both DPs are indefinite in verb-initial clauses as in (26-27).

Consider the following sentences with two indefinite DPs of equal animacy.

(26) a. x-r-oqotaj   juun   tz'ih   juun   sian
        com-3sE-chase   indef   dog   indef   cat
        "Did a cat chase a dog?" $VOS_{+question}$
        *"Did a dog chase a cat?" $*VSO_{+question}$
        *"A cat chased a dog." $*VOS_{+statement}$
        *"A dog chased a cat." $*VSO_{+statement}$
    b. x-r-oqotaj   juun   sian   juun   tz'ih
        com-3sE-chase   indef   cat   indef   dog
        "Did a dog chase a cat?" $VOS_{+question}$
        *"Did a cat chase a dog?" $*VSO_{+question}$
        *"A dog chased a cat." $*VOS_{+statement}$
        *"A cat chased a dog." $*VSO_{+statement}$

The sentences in (26a-b) show that in verb-initial clauses, like the cases of definite DPs, when two DPs are both indefinite and are at an equal level of animacy, only DP_2 can serve as the subject of questions, while statement interpretations are not obtained.
In other words, with two indefinite DPs, there are only VOS clauses in verb-initial clauses in Patzun Kaqchikel.

Now, consider the following sentences with two indefinite DPs of different levels of animacy.

(27) a. x-u-jaq'-ij   juun   acin   juun   tz'ih
        com-3sE-bite-tran   indef   man   indef   dog
        "Did a dog bite a man?" $VOS_{+question}$
        *"Did a man bite a dog?" $*VSO_{+question}$
        *"A dog bit a man." $*VOS_{+statement}$
        *"A man bit a dog." $*VSO_{+statement}$

b. x-u-jaq'-ij   juun   tz'ih   juun   acin
   com-3sE-bite-tran   indef   dog   indef   man

   "Did a man bite a dog?" $VOS_{+question}$
   *"Did a dog bite a man?" $*VSO_{+question}$
   *"A man bit a dog." $*VOS_{+statement}$
   *"A dog bit a man." $*VSO_{+statement}$

The sentences in (27a-b) also show that in verb-initial clauses, unlike the cases of two definite DPs when the higher DPs are the subjects of questions, only DP_2 can serve as the subject of questions if two DPs are both indefinite and are at different levels of animacy. Statement interpretations are not obtained, like the cases of two indefinite DPs of equal animacy.

Thus, in connection with two indefinite DPs, regardless of equal/different animacy, DP_2 is always interpreted as the subject of questions. On the other hand, statement interpretations are not possible in the verb-initial constructions in Patzun Kaqchikel.

We have seen, so far, four aspects of VOS/VSO clauses with regard to syntactic constraints on the subject of questions. First, when DPs are definite and at an equal level of animacy, DP_2 must be the subject of questions as in (19-20), Since DP_2 is the subject of questions, only VOS clauses exist as questions as in (19-20). Question interpretations are not possible in VSO clauses as in (19-20). Second, when DPs are definite and are at different levels of animacy, since animacy determines the subject of questions, question interpretations can be obtained either in VOS or VSO clauses as in (21-22). Third, when one DP is definite and the other DP is indefinite, since definiteness determines the subject of questions, questions can be represented either in VOS or VSO clauses as in (23-24). Finally, when both DPs are indefinite, since DP_2 must be the subject of questions, only VOS clauses exist as questions as in (26-27). Question interpretations are not possible in VSO clauses as in (26-27) in Patzun Kaqchikel. Question interpretations of verb-initial clauses in Patzun Kaqchikel are shown in Table 2.

Variables		VOS	VSO
Definiteness	Equal Animacy	✓	*
	Different animacy	✓ $DP_{animacy}$	✓ $DP_{animacy}$
Indefiniteness	Indefinite DP /Definite DP	✓ DP_{def}	✓ DP_{def}
	Indefinite DPs	✓	*

Table 2: Question Interpretations of Verb-initial Clauses in Patzun Kaqchikel.

With regard to statement interpretations, statement interpretations are generally impossible in verb-initial clauses except for VOS clauses with definite DPs of different animacy. That is, DPs of higher animacy can be interpreted as the subjects of statements in verb-initial clauses as in (21a-b). However, as shown in (21a-b), there are varying degrees of acceptability as statements in verb-initial clauses. That is, in VOS clauses with definite DPs of different animacy, if DP_2 is higher in the hierarchy of animacy, DP_2 can be unnaturally interpreted as the subject of statements in VOS clauses as in (21a). On the other hand, in VSO clauses with definite DPs of different animacy, if DP_1 is higher in the hierarchy of animacy, DP_1 can be marginally interpreted as the subject of statements in VSO clauses as in (21b). However, generally speaking,

in verb-initial clauses with definite DPs of different animacy in Patzun Kaqchikel, statement interpretations tend not to be obtained as we saw in (22a-b). Statement interpretations of verb-initial clauses in Patzun Kaqchikel are shown in Table 3.

Variables		VOS	VSO
Definiteness	Equal Animacy	*	*
	Different animacy	?	?*
Indefiniteness	Indefinite DP /Definite DP	*	*
	Indefinite DPs	*	*

Table 3: Statement Interpretations of Verb-initial Clauses in Patzun Kaqchikel.

To sum up, in the verb-initial constructions, animacy and (in)definiteness play a key role in interpreting the subject of questions in Patzun Kaqchikel. The interaction between animacy and definiteness constrain DP$_2$ as subject when two DPs are definite and are at an equal animacy or when two DPs are indefinite regardless of animacy. DPs are also determined as subjects of questions in the following conditions. DPs with higher animacy are always the subjects of questions, when DPs are definite and are at different animacy. However, regardless of animacy, a definite DP is always the subject of the question, when one DP is definite and the other DP is indefinite.

4.4. Comparisons between Patzun and Patzicia Kaqchikel in verb-initial clauses: Ambiguity and syntactic constraints in VOS and VSO clauses

Broadwell (2000) claims that the unmarked word order for the statements in Patzicia Kaqchikel is verb-initial (i.e., [V DP$_1$ DP$_2$]), pointing out that if a verb is followed by two DPs with equal degree of definiteness, the sentence is ambiguous such that both VSO and VOS clauses are possible in statements in Patzicia Kaqchikel.

  Patzicia Kaqchikel
(28) a. x-r-oqotaj   ri tz'i' ri me's   (Broadwell 2000, (3))
  com-3sErg-chase the dog the cat
  "The dog chased the cat."   VSO
  "The cat chased the dog."   VOS
  b. x-r-oqotaj   ri me's ri tz'i'   (Broadwell 2000, (4))
  com-3sErg-chase the cat the dog
  "The dog chased the cat."   VOS
  "The cat chased the dog."   VSO

However, as we saw previously, in Patzun Kaqchikel, if two DPs are definite and are at the equal level of animacy, the sentence is ungrammatical as a statement, while the sentence is grammatical as a question only if DP$_2$ is interpreted as the subject of a question.

    <u>Patzun Kaqchikel</u>
(29) a. x-r-qotaj   ri   tz'ih   ri   sian   (=3c)
       com-3sE-chase def   dog   def   cat
        "Did the cat chase the dog?"   VOS$_{+question}$
     *"Did the dog chase the cat?"   *VSO$_{+question}$
     *"The dog chased the cat."   *VSO$_{+statement}$
     *"The cat chased the dog."   *VOS$_{+statement}$
    b. x-r-qotaj   ri   sian   ri   tz'ih   (=3b)
       com-3sE-chase def   cat   def   dog
        "Did the dog chase the cat?"   VOS$_{+question}$
     *"Did the cat chase the dog?"   *VSO$_{+question}$
     *"The dog chased the cat."   *VOS$_{+statement}$
     *"The cat chased the dog."   *VSO$_{+statement}$

If two definite DPs are at different levels of animacy, DP$_2$ can be marginally interpreted as the subject of statements, while a definite DP of the higher animacy is interpreted as the subject of questions either in VOS or VSO clauses.

    With regard to animacy, Broadwell observes that if two DPs are definite, inanimate DPs and DPs of lower animacy can be interpreted as the subjects of statements as well as DPs of higher animacy can be interpreted as the subjects of statements.

      <u>Patzicia Kaqchikel</u>
(30) a. x-u-k'achojrisaj   ri   aq'on   ri   a   Juan   (Broadwell 2000, (53))
        com-3sE-make.well   the   medicine the cl Juan
         "Juan fixed the medicine."   VOS
         "The medicine cured Juan."   VSO
    b. x-u-yawa'risaj   ri   kär   ri   w-ixjayil   (Broadwell 2000, (51))
        com-3sE-make.sick   the fish   the   1sE-wife
         "My wife made the fish sick."   VOS
         "The fish made my wife sick."   VSO

The sentences in (30a-b) show that the sentences are ambiguous since the inanimate DP, *ri aq'on* "the medicine" as in (30a) and the DP of lower animacy, *ri kär* "the fish" as in (30b) can be interpreted as the subject of the sentence, respectively. Unlike Patzun Kaqchikel, in which animacy plays a crucial role in the interpretation of subjects of the sentences, animacy does not seem to play a strong role in syntactic ordering in Patzicia Kaqchikel.

    In terms of syntactic ordering constraints, Broadwell (2000) argues that a definite DP must follow an indefinite DP as in (31a) such that definite DPs are interpreted as the subjects of statements in Patzicia Kaqchikel.

      <u>Patzicia Kaqchikel</u>
(31) a. x-r-oqotaj   jun   me's ri   tz'i'   (Broadwell 2000, (5))
        com-3sErg-chase   a   cat   the   dog
        "The dog chased a cat."   VOS
     *"A cat chased the dog."   *VSO

      b. ?*x-r-oqotaj   ri   tz'i'   jun   me's   (Broadwell 2000, (6))
          com-3sErg-chase   the   dog   a   cat

However, in Patzun Kaqchikel, as we saw in (23-24), there is no linear ordering constraint on definite and indefinite DPs, while definite DPs are always interpreted as the subjects of questions.
     Consider again the following sentences in Patzun Kaqchikel.

       Patzun Kaqchikel
(32) a. x-r-oqotaj   juun   tz'ih   ri   sian   (=23a)
         com-3sE-chase   indef   dog   def   cat
         "Did the cat chase a dog?"   VOS$_{+question}$
       *"Did a dog chase the cat?"   *VSO$_{+question}$
       *"The cat chased a dog."   *VOS$_{+statement}$
       *"A dog chased the cat."   *VSO$_{+statement}$
       b. x-r-oqotaj   ri   sian   juun   tz'ih   (=23b)
         com-3sE-chase   def   cat   indef   dog
         "Did the cat chase a dog?"   VSO$_{+question}$
       *"Did a dog chase the cat?"   *VOS$_{+question}$
       *"A dog chased the cat."   *VOS$_{+statement}$
       *"The cat chased a dog."   *VSO$_{+statement}$

Unlike the very marginal sentence in (31b) in Patzicia Kaqchikel, where the definite DP *ri tz'i'* "the dog" is followed by the indefinite DP *jun me's* "a cat", the sentences in (32a-b) in Patzun Kaqchikel show that the definite DP *ri sian* "the cat" can either follow or precede the indefinite DP *juun tz'ih* "a dog". Thus, in terms of linear ordering of two DPs in verb-initial clauses, indefiniteness does not constrain the ordering of DPs in Patzun Kaqchikel, whereas indefiniteness plays a strong role in how definite and indefinite DPs are linearly ordered in Patzicia Kaqchikel.
     Broadwell also points out that if one of two DPs is a proper noun and the other DP is a common noun, the proper noun tends to follow the common noun as in (33) in Patzicia Kaqchikel.

       Patzicia Kaqchikel
(33) a. x-u-loq'   ri   wä'y   Maria   (Broadwell 2000, (7))
         com-3sErg-buy   the   tortilla   Maria
         "Maria bought the tortillas."   VOS
       b. ?x-u-loq'   Maria   ri   wä'y
         com-3sErg-buy   Maria   the   tortilla   ?VSO

Thus, DP$_2$ is interpreted as the subject of the sentence, while DP$_1$ in (33b) is marginally interpreted as the subject of the statement. Patzun Kaqchikel shows a similar but less strict constraint on the syntactic ordering of proper nouns in questions as in (34).

       Patzun Kaqchikel
(34) a. x-u-niim   ri   r-ci   jay   ri-xta   Maria
         com-3sErg-push   def   3Erg-mouth   house   def-cl   Maria

"Did Maria push the door?"	VOS
?"Maria pushed the door."	?VOS

b. x-u-niim   ri-xta   Maria   ri   r-ci   jay
    com-3sErg-push   def-cl   Maria   def   3Erg-mouth   house

"Did Maria push the door?"	VSO
*"Maria pushed the door."	*VSO

However, as in (34a), the statement interpretation is only marginally possible when the proper noun *Maria* is placed in DP$_2$ position, while the statement interpretation is not possible when the proper noun *Maria* is in DP$_1$ position as in (34b). Notice that if the proper noun precedes the common noun in the question as in (34b), the sentence implies the pragmatic information that the speaker expects the proper noun to do the action.

     To sum up, comparisons of word order variables between Patzicia and Patzun Kaqchikel are summarized in Table 4.

	Patzicia Kaqchikel	Patzun Kaqchikel
Two Definite DPs (Equal Animacy)	Subj: either DP$_1$ or DP$_2$ (VOS, VSO)	Subj: only DP$_2$ (VOS)
Animacy	Subj: either DPs of higher or lower animacy (inanimate)	Subj: only DPs of higher animacy
Syntactic Ordering of DPs	Common DP + Proper DP	No Constraint
	Indefinite DP + definite DP Subj: only definite DP	No Constraint Subj: only definite DP

Table 4: Comparisons of Word Order Variables between Patzicia and Patzun Kaqchikel.

5. Theoretical implications and conclusion

5.1 Theoretical implications: Do VOS clauses come from VP movement?

Verb-initiality of Kaqchikel questions seems to be similar to that of English questions in that V or "dummy" auxiliary raises to XP over TP. The difference between Kaqchikel and English is that Kaqchikel allows alternative VOS clauses which may be accounted for by VP raising to XP over TP. Verb-initiality of Kaqchikel statements in VOS clauses posits significant issues as to whether VP (or predicate) can raise to the front of the sentence, unlike the cases in which V (i.e., head) raises to the Spec of TP as in VSO clauses.

     With regard to VP movement in underlying (i.e., statement) VOS clauses, Rackowski and Travis (2000) claim that VP-first language like Malagasy would be predicate-fronting language, while subject-initial languages would be argument-fronting languages (p, 130). Coon (to appear) also argues that VOS in Chol (Mayan) is the phenomenon of predicate fronting (i.e., *v*P raise) to the Spec of TP.

     Consider the following underlying VOS clause in Malagasy.

Malagasy
(35) Manasa   lamba   tsara   Rakoto
       PRES.AT.wash clothes well   Rakoko
       "Rakoto washes clothes well."
   (Rackowski and Travis, 2000, p. 120)

In (35), the VP *Manasa lamba tsara* "washes clothes well" raises to the front of the sentence. Discussing the VP fronting structure of Niuean, the Polynesian language, from Massam (2000) cited in Rackowski and Travis (2000), Massam (2000) argues that the [+PRED] feature in T checks EPP in the Spec of TP, just as the [+D] feature in T checks EPP in the Spec of TP as in English. Thus, the structure of the sentence would be as follows.

(36) [$_{TP}$ *Manasa lamba tsara*$_i$ [$_{T'}$ [$_T$ [+PRED] [$_{XP}$ [$_X$ *Rakoto* t$_i$]

Now, consider the following VOS statement in Chol, Mayan.

Chol
(37) a. Tyi   i-kuch-u   si`   aj-Maria.   VOS
      PRFV   A3-carry-TV   wood   DET-Maria
      "Maria carried wood."
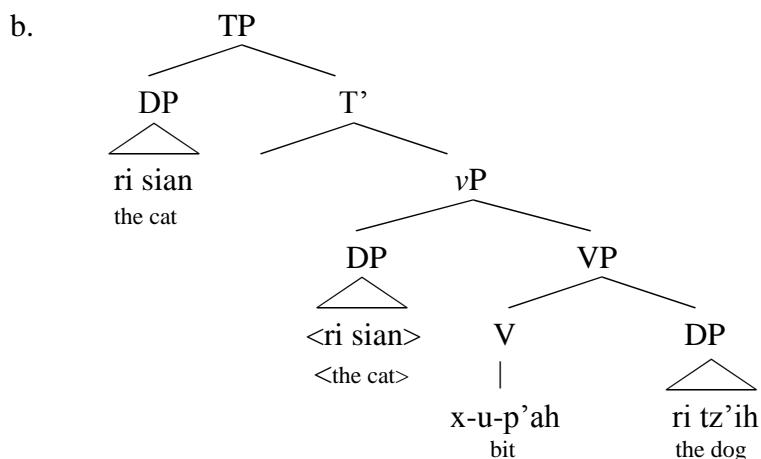   (Coon, to appear, (1))

   b. Chol VOS
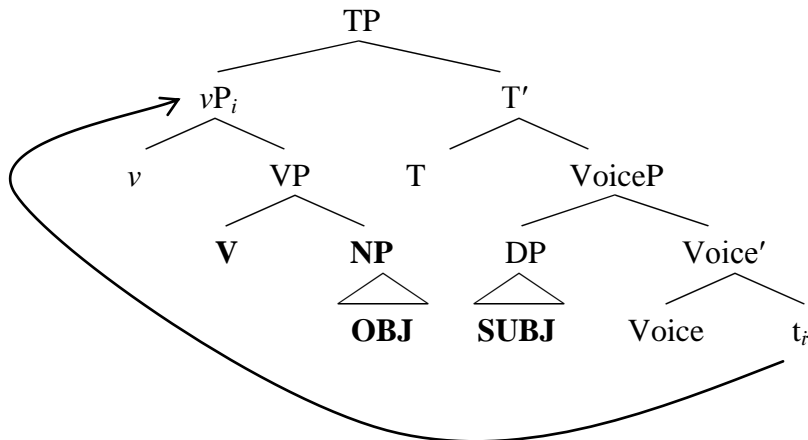
(Coon, 2010, p. 356)

Coon (2010) argues that the whole *v*P, which is the complement to the Voice head, raises to the specifier of TP in Chol as in (37b).

    With regard to verb-initiality of yes/no questions from underlying statements, let us consider the following underlying syntactic structures of SVO clauses as a statement and derived VOS clauses as a yes/no question in Patzun Kaqchikel. Statements can be represented as follows.
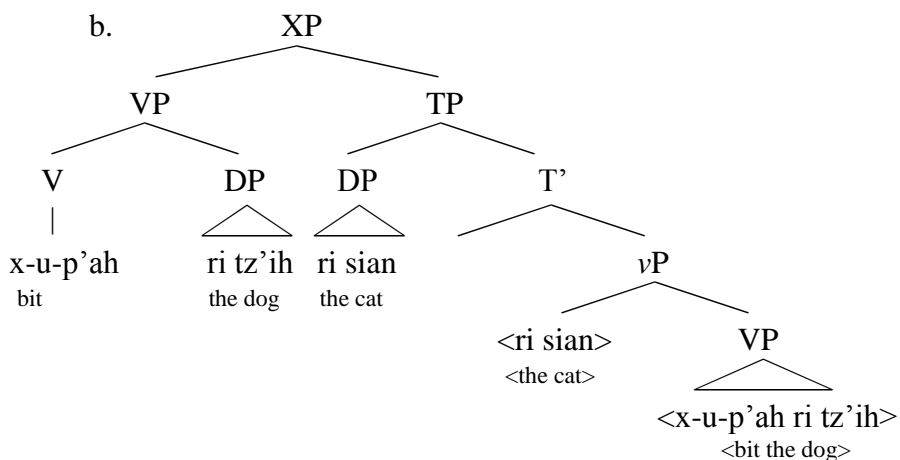
(38) a. ri   sian   x-u-p'ah   ri   tz'ih
       def cat   com-3sE-bite def dog
       "The cat bit the dog."

b.

```
                        TP
                      /    \
                   DP        T'
                  /\        /    \
               ri sian            vP
               the cat          /    \
                             DP        VP
                            /\        /    \
                      <ri sian>    V        DP
                      <the cat>    |       /\
                                x-u-p'ah  ri tz'ih
                                  bit      the dog
```

In the tree diagram in (38b), the subject DP, *ri sian* "the cat" is raised from the VP to the Spec of *v*P, then raises to the Spec of TP such that SVO clauses are represented in Patzun Kaqchikel.

Next, consider the following potential syntactic structure of yes/no questions in VOS clauses in Patzun Kaqchikel.

(39) a. x-u-p'ah   ri   tz'ih   ri   sian   (=20a)
      com-3sE-bite def dog   def cat
      "Did the cat bite the dog?"

b.

```
                          XP
                      /        \
                  VP              TP
                /    \          /    \
              V       DP    DP       T'
              |      /\    /\       /    \
          x-u-p'ah ri tz'ih ri sian        vP
            bit    the dog the cat       /    \
                                  <ri sian>    VP
                                  <the cat>   /\
                                        <x-u-p'ah ri tz'ih>
                                          <bit the dog>
```

Since VOS clauses (i.e., yes/no questions) are derived from SVO underlying clauses (i.e., statements) in Patzun Kaqchikel, based on the syntactic structure in SVO clauses as in (38b), the main verb with a complement, VP, *x-u-p'ah ri tz'ih* "bit the dog" raises to the front of the sentence (i.e., Spec of XP) such that VOS derived clauses are represented in Patzun Kaqchikel.

Furthermore, as in (40), if modal auxiliaries involve in sentences, the whole verbal component (i.e., [Aux and VP]) raises to XP above TP in yes/no questions as in (40b) in Patzun Kaqchikel. That is, questions as in (40c) become unnatural if only [Aux and Verb] raises to XP above TP in Patzun Kaqchikel.

(40) a. rjah ntker n-u-k'owaj   c'ic'
      s/he can   incom-3sE-drive car

      "S/he can drive a car."
  b. ntker   n-u-k'owaj   c'ic'   rjah
     can   incom-3sE-drive   car   s/he
     "Can s/he drive a car?"
  c. ?ntker   n-u-k'owaj   rjah   c'ic'
      can   incom-3sE-drive   s/he   car
      "Can s/he drive a car?"

Thus, as we saw, with regard to VOS questions in Patzun Kaqchikel, a whole VP raises to the front above TP. However, in terms of verb-initiality, the head V raising is also possible in VSO questions in Patzun Kaqchikel. This head movement in VSO questions shows a similar pattern with English. That is, like English, Aux raises to XP above TP in VSO questions as in (41) in Patzun Kaqchikel.

(41) ntker   rjah   n-u-k'owaj   c'ic'
     can   s/he   incom-3sE-drive   car
     "Can s/he drive a car?"

In other words, as we saw in (40c), if a component of [Aux and Verb] raises to XP above TP, VSO questions also become unnatural in Patzun Kaqchikel.

5.2 Conclusion

Even though Patzun Kaqchikel employs flexible word orders in intransitive clauses (i.e., SV or VS), with respect to transitive clauses, in contrast with Broadwell's (2000) analysis of Patzicia Kaqchikel, in which statements are unmarkedly represented in verb-initial clauses, I have argued that in Patzun Kaqchikel statements are represented in DP-initial clauses (i.e., SVO), since statement interpretations in verb-initial clauses are only marginally possible when DPs are definite and at different levels of animacy. In this case, the acceptability of verb-initial clauses as statements varies from unnatural acceptability to ungrammaticality. If statement interpretations are possible, VOS clauses are strongly preferred over VSO clauses in Patzun Kaqchikel.

I have also discussed that Kaqchikel employs SVO word order to disambiguate potentially ambiguous question interpretations from definiteness and animacy. Since (in)definiteness and animacy do not play a role in SVO clauses, unlike Patzicia Kaqchikel, there is no need to employ obligatory SVO word order or additional "actor focus" morphology for shifting from verb-initial clauses to SVO clauses in Patzun Kaqchikel.

In terms of yes/no questions, yes/no questions can be generally represented in verb-initial clauses in Patzun Kaqchikel. As we have seen, (in)definiteness and animacy play a key role in question interpretations in verb-initial clauses, constraining subject either in VOS or VSO clauses.

I have examined how equal/different animacy and definite DP/indefinite DPs interact with each other in verb-initial clauses in Patzun Kaqchikel. I have argued that VOS clauses must occur, when DPs are definite and are at an equal level of animacy, or when both DPs are indefinite. Otherwise VOS and VSO clauses are selectively possible depending on which DP is represented with higher animacy or which DP is definite between two DPs in verb-initial clauses in Patzun Kaqchikel. That is, VOS clauses are also possible if DP$_2$ is higher in the hierarchy of

animacy, when two definite DPs are at different levels of animacy, or if DP_2 is definite and DP_1 is indefinite. On the other hand, VSO clauses are only possible if DP_1 is higher in the hierarchy of animacy, when two definite DPs are at different levels of animacy, or if DP_1 is definite and DP_2 is indefinite.

To sum up, the properties of word order variables statements and questions in Patzun Kaqchikel are shown in Table 5.

	Variables		SVO	VOS	VSO
Statements	Definiteness	Equal Animacy	✓	*	*
		Different animacy	✓	?	?*
	Indefiniteness	Indefinite DP /Definite DP	✓	*	*
		Indefinite DPs	✓	*	*
Questions	Definiteness	Equal Animacy	✓	✓	*
		Different animacy	✓	✓ $DP_{animacy}$	✓ $DP_{animacy}$
	Indefiniteness	Indefinite DP /Definite DP	✓	✓ DP_{def}	✓ DP_{def}
		Indefinite DPs	✓	✓	*

Table 5: Properties of Word Order Variables in Patzun Kaqchikel.

Finally I have briefly explored the syntactic structures of underlying VOS clauses in VP (or predicate) Movement, in comparison with Malagasy and Chol. I have also discussed the verb-initiality of questions in Kaqchikel in comparison with questions in English.

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