AUXILIARY INITIAL ALTERNATION IN TOHONO O'ODHAM:
A SYNTACTIC ANALYSIS OF A FOCUS DRIVEN PHENOMENON

By

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Abstract:

Tohono O’odham is one of many non-configurational languages that do not seem to fit nicely into the generally accepted pattern of Chomskyan Generative Syntax. O’odham has an extremely free word order that makes it difficult to analyze as hierarchical or syntax driven. However, this paper analyzes Tohono O’odham as a Pronominal Argument language that actually has rigid order among its arguments and proposes that these arguments behave according to accepted syntactic principles. Specifically, the verb second/verb initial alternation in O’odham reveals deeper syntactic relationships within the sentence. Usually, the auxiliary verb of O’odham must be the second constituent in any sentence, but there are exceptions where it may come in the initial position. These exceptions involve a class of verbal particles that interact with the auxiliary and the main verb. This paper will go on to describe the CP, TP, and VP structure of O’odham and how the auxiliary, verbal particles, main verb, and the Focus function combine to create the verb initial construction.
Tohono O’odham, formerly known as Papago, is a non-configurational language of the Southern branch of the Uto-Aztecan language family. It is mutually intelligible with sister dialect Akimel O’odham and more distantly related to Hiaki, another language spoken in Arizona. O’odham has a very free word order, and yet it lacks many inflectional markers, making it very typologically unusual. However, there is one very important word order rule that O’odham adheres to: the main verbal particle, labeled as the auxiliary in Ophelia Zepeda’s grammar (Zepeda, 1983), must be the second constituent in the sentence.

1) a) Hegai cēoj ‘ō koːs
DET.3.sg boy Aux.3 sleeping

b) Koːs ‘ō heɡai cēoj
Sleeping Aux.3 DET.3.sg boy
“Those boys are running.” (Zepeda, pg. 129)

In sentence (1) both the entire subject DP heɡai cēoj (a) and the main verb koːs (b) can take initial position as long as the third person auxiliary ‘ō remains in the second position. Unlike in Breton and other Germanic languages with this construction, verb second, or V2, is the default order in O’odham. Also, there is no difference between the main clause word order and subordinate clause word order, as observed in Germanic. Besides the V2 rule, word order seems to be entirely left to the choice of the speaker, driven by what the speaker wants to focus at the beginning of the sentence. There are, however, a few other word order constraints on constituents. Elements within postpositional and possessive constructions cannot move outside the phrase, although the order within the phrase is relatively free:

2) a) Mali:ya ‘ō ‘am ki: baːso keːk
Mary Aux.3.sg SPECIFIER house in.front.of standing
“Mary is standing in front of the house.”
In (2a and 2b), as long as the entire post-positional phrase remains behind its head, the specifier 'am, the sentence remains grammatical no matter what order the other elements are in. It is only in (2c) where the DP ki: moves in front of the specifier and outside of the locative phrase that the sentence is unacceptable. The easiest explanation would be that O’odham is a completely non-configurational language and that its V2 rule is just that: an arbitrary ordering rule that requires the auxiliary or some other verbal particle to come second in the spoken linear order of the sentence. This kind of rule is not syntactically motivated, and therefore uninteresting, and not to mention very unlikely. Indeed O’odham does have hierarchical relationships within constituents and the ordering of the sentence is considerably more complex than just V2, even though it may appear to be completely without reason to new learners of the language. There are certain special cases where the rigid V2 rule may be broken. This paper will argue that O’odham is a pronominal argument language with a complex hierarchical syntax that interacts with requirements of tense and the speaker’s intended focus to determine the word order of the sentence and specifically the position of the auxiliary. The presence of O’odham’s verbal particles causes the movement of the main verb into the TP, preventing it from being moved into Focus in these contexts. This restriction leads to the V1 ordering in which the auxiliary is moved to Focus in place of the verb.
1. THE V1 ALTERNATION

A normal yes/no question is formed with the question marker N-, which combines with the immediately following auxiliary.

3) N-ap a:pi soak? Q-Aux.2.sg you crying “Are you crying?” (Zepeda pg. 21)

In the sentence (3), the auxiliary 'ap has combined with the question marker and become nap. If we treat the question marker as a constituent, this poses no problem to our V2 rule. However, wh-questions seem to break the V2 rule at first glance. There are two ways to form wh-questions in O’odham, the first merely puts the wh-question words sentence initially in C, followed normally by an auxiliary (4).

4) a) Do: 'o soak? Who Aux.3 crying “Who is crying?”
   b) Ba: ‘o cipkan g ceoj? Where Aux.3 playing DET boy “Where is the boy playing?”
   c) Ša: p e-wua a:pi? What Aux.2.s reflx-doing you “What are you doing?”
   d) Ša: ŋi ŋi -wua aŋi? What Aux.1.s reflx.1.s-doing 1 “What am/was I doing?” (Zepeda pg. 54)

The second construction puts the auxiliary first and follows it by a special form of one of the wh-question words (5).

5) a) K hedai soak? Aux.3 who crying “Who is crying?”
b) K hebai cipkan g ceoj?
Aux.3 where playing DET boy
"Where is the boy playing?"

c) P has e-wua?
Aux.2.sg what reflx-doing
“What are you doing?”

d) N has n-wua?
Aux.1.sg what reflx1.s-doing
“What am/was I doing?”

(Zepeda. Pg. 55)

Here the contracted forms of the auxiliary, “k”, “p”, “n” appear sentence initially. However, this can be analyzed as not a true V1 example, but rather as a case of a deleted morpheme. The more formal, older way to form these questions is with special K/Ku- aux forms. The K is actually the initial question particle, dropped in casual speech (6)

6) a) Ku-p has e-wua?
Q.Aux.2.sg doing reflx-doing
MISSING TRANSLATION

b) Ku-n has n-wua?
Q.Aux.1.sg doing reflx1.s-doing
MISSING TRANSLATION

(Zepeda, pg. 55)

So then, upon closer inspection neither of the question constructions violates the V2 rule.

In the future tense, however, the heretofore iron-clad auxiliary second rule is broken and V1 construction becomes common (7):

7) At o cipk g Huan
Aux.3.s future work DET John
“John will work”

(Zepeda, pg. 135)

It is not very accurate to say that the particle is pushing the auxiliary to the front or that it is forced into initial position when nothing else can go there. The auxiliary can take second position even when these particles are present and can take first even if there are other constituents that could be sentence initial.
8) a) Haun 'at o cipk
John Aux.PRF.3 FUT work
"John will work."

b) At o cipk g Haun
Aux.PRF.3 future work DET John
"John will work."

(Zepeda, pg 135)

The constituent “Huan” normally goes in first position, even if the future marker is present as seen in (8a). On the other hand, even if there is a constituent that can take first position and uphold the V2 rule, the auxiliary can still take first position if the future marker is present as seen in the second sentence (8b).

9) a) Hegai ceoj 'o ko:$
DET.3.sg boy Aux.3 sleeping

(Zepeda, pg. 127)

b) *'O ko:$ g ceoj
Aux.3 crying DET boy

Again we see that without a particle the auxiliary cannot take first position (9b).

10) a) Cicwi ‘o
Playing Aux.3
"(He) is playing."

(Zepeda pg. 19)

b) *'O soak

Even if there truly are no other constituents available besides the verb, the auxiliary still cannot become initial as in (10b).

However, there is a whole class of verbal particles that can trigger the V1 construction. These particles follow the auxiliary and modify the verb. If one or more of these are present in the sentence, then the auxiliary may take first position in the sentence.

11) a) ‘O si ša’i me:õ!
Aux.3sg really actually running
"(He) is really truly running!"

(Zepeda, pc)
Sentence (11) is in normal present tense, but the auxiliary can come first because of the two particles *si* and *$a'i*. In the next section, I claim that V2/V1 alteration can be explained by the interaction of these particles and the Focus and Tense requirements of the functional structure of the clause.

2. **Grammatical Structure**

In order to clearly understand the interaction of the auxiliary and verbal particles with the verb and focus, it is necessary to outline O’odham’s basic grammatical structure. Eloise Jelinek briefly mentions O’odham in her paper *Empty Categories, Case, and Configurationality* as a language that fits into her description of a Pronominal Argument (PA) language (Jelinek, 1984). Her famous paper of 1984, which presented the PA hypothesis, was a breakthrough in the study of non-configurational languages and has been adopted and expanded upon in the linguistic community. She argued that these languages’ only grammatical arguments are the pronouns. DPs and other phrases merely give extra information and do not contribute to the core meaning and structure of the sentence. For this reason only the ordering of the pronouns matters and DPs etc. can have completely free word order as adjuncts. This analysis works particularly well for O’odham, a language whose word order apparently could not get any freer.

The core sentence in O’odham includes the aux, the object and subject clitics, and the main verb. O’odham only has non-null clitics for plural objects and indirect objects. I am positing a class of null subject clitics. O’odham’s sister language Hiaki has a rich inflectional system with a nearly full set of subject and objects clitics (Harley and Trueman, 2010). O’odham has scarce traces of such a system, but it is possible that it was once much more phonologically rich, which would be consistent with its free word order. Even now the *$k/ku-* question marker is
disappearing among the younger generation of speakers, following, we may assume, O’odham’s other inflectional markers. As in other PA languages, the clitics are the important parts of the sentence and all other phrases are only adjuncts. The subject clitic is generated in the specifier of the auxiliary phrase and the object clitic is generated under the VP. The subject clitic moves to TP specifier to get nominative case and the object clitic moves to the VP specifier to get accusative. The clitics are co-indexed with their corresponding phrases- the subject clitic with the subject DP, the object clitic with the object DP, and the verbal clitic (AUX) with the main verb. This relationship would explain why the main verb stem must agree with the auxiliary in perfect/imperfect aspect and with the number of the subject. The auxiliary itself must agree with the subject clitic in Tense and is marked for perfect or imperfect aspect. Therefore the main verb must also agree with the subject and the aspect through the AGREE function. The tree in example (12) shows the subject DP a:pi co-indexed with the null subject clitic, the object DP wipsilo coindexed with the object clitic ha- and the auxiliary ‘apt coindexed with the verb cepos. The object clitic moves to the specifier of the VP and prefixes to the verb. The subject clitic moves to the specifier of the TP, while the auxiliary moves into T head and agrees with the subject, taking on the second singular perfect form. Lastly, the verb also agrees with the singular number of the subject and is in its perfect form like the auxiliary. Dative case may or may not be a lexical case in O’odham. It can either take the place of the direct object clitic prefixed to the verb or be prefixed to the function word wehejed. The reflexive clitics have a similar distribution, able to prefix to the verb or other words. However, the fact that O’odham does not allow the object clitics to stack may suggest that the dative clitics are also a grammatical case and receive case in the same position as accusative.
"You will brand the calves."

(Zepeda, pc)
3. CP, TP, AND VP

An O'odham sentence is broken into the three major structures of the CP, TP, and VP, with the possibility of adjunction in between.

(CP) Focused Adjunct (TP) Adjuncts (VP) Other Adjuncts

This leads to the structure of the CP and the nature of the Focus function as well as question formation. Rizzi splits the CP or ForceP into the functional heads of Force, Topic, Focus, and Finite, but this paper will consider only Force and Focus relevant to O'odham structure. The initial constituent in O'odham sentences is clearly not indicative of the subject, but can be any particle or phrase that is receiving the emphasis of the speaker. The arbitrariness of the category of the constituent allowed in this position is similar to the V2 construction in Breton. O'odham has two question constructions. The first employs wh-words and wh-movement. The wh-words in O'odham include do:, sa:, sa:cu, and ba:. These raise to the specifier of the Force phrase through wh-movement and trigger T to C movement so that the auxiliary moves to the Force head. The focus operation occurs before T to C movement and so something can be focused and thus appear between Q-aux and any particles.

The second question construction employs a question marker K(u)- in the Force head and a special question word in the Focus head. These include hedai, has, hascu, and hebai. Again, T raises to C and the auxiliary attaches to the question marker. Nothing can be focused around the particles in this construction because of the question word. In the example tree (13) the special question word hebai is in the specifier of the Focus phrase, blocking any further movement into Focus. The main reason to use one or another of these constructions may be to allow the speaker to choose to give focus to the question word in the second construction, or another phrase in the first construction.
13) Ku-p hebai ki:?
Q-Aux.2.sg where live

"Where do you live?"  

(Zepeda, pg. 56)
4. **FOCUS AND THE AUXILIARY**

Again, the focus function in O’odham can apply to almost any constituent in the sentence, however there are important exceptions. First, the main verb cannot be focused if any verbal particles are present since they must precede the verb. As was pointed out before, nothing can be moved out from the inside of a postpositional, locative, or possessive phrase, and so these elements may not be focused by themselves. The whole phrase must be focused as a constituent. Also the subject and object clitics may not be focused. The object clitic is prefixed to the verb and must move with it, and likewise the subject clitic is prefixed to the auxiliary and must move with it. Lastly, there appear to be some verbal particles that can be focused and some that cannot. Si, ᵐᵃᵢ, may, but ki, pⁱ, and o may not. This seems to suggest that there are two different sets of verbal particles. The first set, si, ᵐᵃᵢ, and aș, I will call the pre-verbal particles and the second set, ki, pⁱ and o I will call the pre-auxiliary particles. The verbal particles have an uninterpretable V feature that attracts the main verb, moving it around the adjunct position. This means that the particles will always immediately precede the verb without an intervening adjunct. The auxiliary itself has an interpretable V feature, and so does not pull the verb up. The pre-auxiliary particles have functional heads before aux, and so when the auxiliary undergoes v to T movement, it also head moves to these functional head positions on the way. This movement can be seen in the tree in (14) as the auxiliary ‘at moves up through the evidential head ki, but does not move through the heads below it which I have labeled Epistemic (Epi) and Intensifier (Intense). This means that the pre-auxiliary particles are bound to the auxiliary and cannot move out of the construction to be focused. The pre-verbal particles are not bound to the auxiliary in this way, and so can be focused.
14) ‘At ki ša’i si mumku

Aux.3.PRF seems.like actually very sick

"Seems like (he) was actually very sick."  (Zepeda, pc)
I am going to argue that the auxiliary itself may be focused, and that this is the cause of V2/V1 alternation. This construction is only licensed when one or more verbal particles are present. If there are particles present and the speaker wants to focus the verb, this is not possible because of its movement into the TP. Therefore, the auxiliary itself may be focused in place of the main verb in this situation, since the verbal clitic and main verb are co-indexed. Curiously, this does not occur with the negative marker pi. The verb is similarly restricted from being focused around the negative marker, but the negative marker by itself is not able to license the V1 construction. This leads me to believe that focusing the auxiliary may require another “verb-like” particle that is able to move into Tense in order to be focused. The negative marker itself is not part of the TP chain and so cannot fulfill this role. If this is the case, one may actually look at V1 constructions as simply another type of V2 construction, only with a different verbal particle fulfilling the second position and role in the sentence. In the tree in example (14), the verb mumku is pulled up by the verbal particle si. Mumku has the focus feature, but cannot move farther up the tree into the Focus head. Therefore the auxiliary ‘at moves out of Tense and into Focus in place of the verb, leaving the particle ki behind to fulfill the role of the auxiliary in Tense. This idea is supported by the sentence (15) where the auxiliary itself has been entirely dropped and the particle sa’i is in the second position.

15) Pi sa’i ko’ok
   NEG actually spicy
   “(It’s) not really spicy” (Zepeda, pg.113)

It would be interesting to find more such examples where the aux can be dropped in casual speech if there are particles to take its place. The traditional analysis of the verb second construction as seen in the Germanic languages differs slightly from what I have presented here. Pesetsky and Torrego as well as other authors rely on T to C movement in order to create the
verb second construction. The initial constituent is moved into the C specifier followed by the verb in C. Since these two constituents fill the top of the tree, nothing else can come before them or intervene between the C head and its specifier. However in O’odham the auxiliary does not normally move to C. Because questions in O’odham can still have focused elements, this requires that the CP be split into the functional heads, ForceP and FocusP. Ordinarily the auxiliary remains in T and the initial constituent rests in the Focus specifier. If the auxiliary moved to Focus head it would block other elements from being focused and we have already established that the auxiliary requires other verbal particles to be focused. Above the FocusP the ForceP normally remains open. When a wh-element moves into the ForceP specifier or a question marker is present in the Force head, the auxiliary is pulled up to join the Force head. This extra move caused by the question construction preserves V2 order. Through this analysis, it is apparent that O’odham does not have an arbitrary “V2” constraint but rather several different syntactic requirements combine to create a structure where the auxiliary is the second constituent.

5. **The Verbal Particles and Their Functional Heads**

In his book *Adverbs and Functional Heads*, Guglielmo Cinque conducted extensive cross-linguistic research on many language families, attempting to build a universal template for the structure of the TP. Similar to Luigi Rizzi’s work in breaking down the CP into various functional heads, Cinque lists the functional heads found to exist in the TP and orders them. Since the verbal particles of O’odham are obviously part of a similar structure, I tried to match my data with Cinque’s categories. My available data did not include reliable judgements for the precise meanings and functions of most of these particles, and nor do these particles comprehend
an exhaustive list of the O'odham verbal particles, so the following is mainly guesswork. Interestingly, the pre-auxiliary particles, pi “perhaps”, aš “unexpectedly”, ki “seems like”, o, the future marker fit relatively well with Cinque’s ordering, going in the functional heads Irrealis, Evaluative, Evidential and Future Tense respectively. The auxiliary itself is marked for perfect or imperfect aspect, and so could fit into Cinque’s category Completive (Cinque, 1999). However, the pre-verbal particles which follow the auxiliary, si “intensely”, şa’i “actually”, şa“kind of”, and ha “partially” do not seem to fit cleanly into the categories or their ordering. Combining my speaker data with Cinque’s template, the tentative ordering would be:

16) pi (irrealis), aš (evaluative), ki(evidential), o(future), AUX(completive), şa’i, si, şa, ha-, V

This ordering agrees with my earlier conclusion that there are two separate sets of particles that relate to auxiliary and verb in different ways. The fact that the higher set of particles fit into Cinque’s ordering and the lower ones did not raises some interesting questions about the nature of O’odham’s TP structure.

6. COMPARISON TO OTHER APPROACHES

O’odham had been researched by several distinguished linguists including Ofelia Zepeda and Ken Hale, but is not widely studied compared to some other native languages. Zepeda’s A Tohono O’odham Grammar is the most complete instructional grammar book available in the language. She and Jane H. Hill have also written several papers together investigating O’odham plurals and the formation of derived words. Ken Hale’s most recent work regarding O’odham, a short 2013 paper on the position of the O’odham auxiliary, he analyses the aux second
phenomenon as an entirely local and phonologically driven phenomenon. He rightly observes that “there is no syntactic commonality among the elements that support AUX as a result of the application of AUX-second. What they share is phonological constituency.” any kind of constituent can be placed sentence initial and fulfill the aux second rule. There does not appear to be any syntactic requirement for the element that precedes aux, merely that it be phonologically non-null to support the aux. This analysis completely fails to take into account the exception of V1 order that this paper has attempted to account for. Also, as I have already pointed out, certain elements are restricted from being moved to the front, namely the pre-auxiliary particles and the main verb in sentences with one or more verbal particles. Hale gives no phonological or syntactic reason for this restriction. He also proposes that the aux will cliticize only to the closest constituent in the hierarchy C-SUBJ-AUX-OBJ-NEG-LOC-INCEP-V so that it is not speaker choice that determines the initial element, but merely the element’s proximity to the auxiliary in the tree. If this were true then a sentence such as,

17) Pi ap gegosid g ‘ali
NEG 2.sg feeding DET baby
“You didn’t feed the baby.”

Would not be grammatical, as there is an object DP present but the negative particle was moved to the front instead. This is clearly not the case. In fact, if O’odham is analyzed as a PA language, subject DP, object DP, and locative phrases should not be included in the syntactic hierarchy of the sentence. Colleen Fitzgerald’s 1994 analysis of the prosody and word order of O’odham has similar weaknesses. She proposes that O’odham prefers the left edge of the sentence to start with a trochee, which would explain why determiners are dropped sentence initially. Fitzgerald also suggests that this rule is why the auxiliary must occur second. She does not note the V1 order anomaly in future constructions and explains it as the interaction between the
phonological requirements of the auxiliary and the future particle being in conflict with each other. The presence of the particle “forces” the auxiliary to the front, because it is, as Fitzgerald puts it, “the only grammatical possibility for such a sentence.” The sentence she uses to illustrate her point is “‘At o cipkanad.”

18) ‘At o cipkanad
    3.PRF  FUT  be.working
    “(He) will be working.”

In this sentence there is indeed no other constituent that could grammatically appear before the aux. She concludes “why the syntax should prefer the auxiliary in either first or second position… is apparently arbitrary.” Instead she proposes that O’odham allows two unstressed syllables when a trochee is not possible. Fitzgerald points out that “meter feet may contain stressed or unstressed material in the strong position, while the weak position only allows unstressed material…” This is an elegant metrical analysis, but I believe that it does not fully account for the structures we see in O’odham. As I have already noted, the sentence below:

13) ‘At o cipkanad  g Husi
    3.PRF  FUT  be.working  DET  Husi
    “Husi will be working.”

is perfectly possible even when the auxiliary initial order is not “forced”. Why the less preferred metrical unit would remain initial when the preferred option is available is inexplicable. Also I wonder what Fitzgerald would make of a sentence like “‘At o pi koi,” which has three unstressed particles at the beginning. My analysis has the advantage of taking both discourse claims and syntactic motivations seriously and attempting to incorporate them both into my explanation of the V2 phenomenon. By analyzing O’odham as a Pronominal Argument language, defining the structure of the functional heads in both the CP and the TP, and describing
how the Focus function creates V2 and V1 structure, this paper presents a view of discourse-driven syntax that still fits into the generative paradigm of a universal grammar.
REFERENCES


