ON THE POSITION OF THE AUXILIARY
IN O'ODHAM

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Rudolf de Rijk's extensive work on Basque includes detailed coverage of the auxiliary in that language. The present paper deals with one aspect of an element which has been traditionally termed the *auxiliary* in the Native American language Tohono O'odham (also known as Papago and referred to henceforth simply as O'odham). This language belongs to the Tepiman branch of the Uto-Aztecan family of western North America, extending south into Mesoamerica. O'odham itself is spoken in southern Arizona and Northern Sonora. Although the examples are drawn from Tohono (Desert) O'odham, most of what is said here about them applies also to their counterparts in Akimel (River) O'odham (also called Pima, directly to the north in the area of the Gila and Salt Rivers near Phoenix, Arizona). Hence the use of the simpler designation O'odham.

O'odham is at considerable typological remove from Basque, being a language whose grammar is organized in accordance with the nominative-accusative pattern. The problem which this essay will treat is a rather narrow one having to do with the position of the auxiliary within the fully inflected clause. I am pleased to dedicate this brief work to Rudolf de Rijk and I wish only that it were in my power to write something more worthy of him.

The basic observation concerning the position of the auxiliary (henceforth AUX) in O'odham is that it conforms to Wackernagel's Law, or the principle of Second Position Placement of certain elements. This simple fact is illustrated by the following alternation (the translation being essentially the same for both alternants):

(1) (a) 'Ali 'o pi s*oak.　　　　(b) Pi' o s*oak g 'ali.
　　　 child AUX NEG cry　　　　　　NEG AUX cry ART child
　　　 'The child is not crying.'

The position of arguments and many adjuncts is free in O'odham, being governed by principles of discourse. By contrast, the position of AUX is rather rigidly fixed, in keeping with the requirement that it appear in second position. In general, it follows the first non-auxiliary constituent in the clause. In (1a) the subject *g 'ali* 'the child, a child' is the first non-auxiliary constituent (the article, *g* glossed ART, neutral as regards definiteness) is regularly deleted in sentence initial position in the Tohono O'odham

dialect). In (1b) the subject is postposed, bringing the negative parlicle *pi* (NEG, always preverbal) into first non-auxiliary position. As observed, in both cases, AUX conforms to the second position principle. The same principle accounts for the position of AUX in the following alternation, in which the negative particle is absent:

> (2) (a) 'Ali 'o s*oak.   (b) S*oak 'o   g 'ali.
>   child AUX cry   cry   AUX ART child
>   'The child is crying.'

Here, when the subject is postposed, it is the verb which occupies first non-auxiliary position. I will use the expression «AUX-Second» to refer to the process according to which the auxiliary comes to occupy second position within the O'odham clause of the type represented by these examples. In transitive clauses, the object may be separated from the verb, as can be seen from its position relative to the negative particle in (3a) and its position relative to the subject in (3b):

> (3) (a) 'A:ñi 'añ g 'ali   pi   ñeid. (b) Pi   'añ   ñeid 'a:ñi g 'ali.
>   I   AUX ART child NEG see   NEG AUX see I   ART child
>   'I don't see the child

If, as we must assume, the verb and its object form a constituent at some level of syntactic representation, at the time AUX-Second applies, evidently, this is not the case. The process never groups the verb together with its object. Thus, the object alone precedes AUX in (4a), and the verb alone precedes AUX in (4b). Sentence (4c) shows that the relevant notion of constituent is not equivalent to the word, given that the entire DP, not just D (the demonstrative determiner alone), functions as first non-auxiliary constituent:

> (4) (a) 'Ali 'añ ñeid ('a:ñi).   (c) Hegai 'ali 'añ   ñeid ('a:ñi).
>   child AUX see (I)   that child AUX see (I).
>   'I see the child.'   'I see that child.'
>
> (b) Ñeid 'añ ('a:ñi) g 'ali.
>   see   AUX (I) ART child

The parentheses indicate the option of pro-drop, always a possibility, modulo AUX-Second, which is surface true. An empty category never counts as a first non-auxiliary constituent for the purpose of AUX-Second.

The upshot of the observations embodied in (1-4) seems to be this. There are processes and principles in O'odham which account for the (sometimes variable) ordering of overt elements. For any such ordering, there will be a first (lefmost) non-auxiliary constituent. It is in relation to this constituent that second position is defined. At the surface representations of clauses, AUX will immediately follow this constituent. In effect, second position is defined *in advance* of the actual positioning of AUX. Thus, the syntax clearly feeds AUX-Second. There is no evidence that AUX-Second itself defines second position. That is to say, there is no evidence that a constituent can be moved from some *arbitrary* rightward position into initial position, thereby defining second position as the position immediately following the moved constiuent. Thus, for example, the verb cannot be moved leftward across NEG, which occupies a fixed relative position in the clause. In short, there is no evidence for a configuration of the type

represented in (5), in which Y is some overt string and [ec] is a trace corresponding to the starting point of a single-step movement placing X in its surface pre-AUX position:
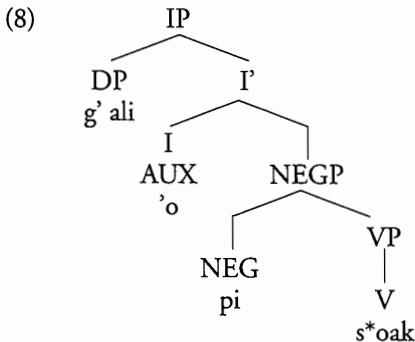
(5)   X AUX Y [ec].

Instead, AUX-Second could be an entirely *local* operation which simply defines the relative ordering of X and AUX, two adjacent elements. The argument for this assertion is actually incomplete. To complete it, it is sufficient to observe what happens in a clause initiated by a complementizer, such as the polar interrogative *n-* illustrated in (6) and (7), the yes-no questions corresponding to (1) and (2):
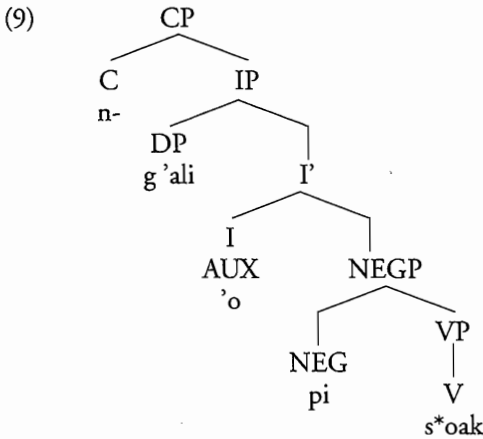
(6) (a) N-o   g 'ali   pi   s*oak?   (b) N-o   pi   s*oak g 'ali?
        Q-AUX ART child NEG cry   Q-AUX NEG cry   ART child
        'Is the child not crying?'

(7) (a) N-o   g 'ali   s•oak?   (b) N-o   s*oak g 'ali?
        Q-AUX ART child cry   Q-AUX cry   ART child
        'Is the child crying?'

O'odham complementizers are prefixed to AUX, and the combination COMP-AUX evidently satisfies the AUX-Second requirement. The pattern illustrated by (6-7) generalizes to the rest of (1-4) and beyond. The point is that for each case of X AUX, with X a constituent in pre-AUX position, there is a corresponding case in which X immediately follows AUX, i.e., is adjacent to AUX and to its right. Thus, AUX-Second could be an entirely local operation, and this is what I will assume.

Following tradition, I propose that AUX is to be identified with I(nfl) and that it is the head of IP. At the point which is relevant to AUX-Second, the subject is in Spec of IP, as shown in the proposed structure for (1a):

(8)

```
                    IP
                  /    \
                DP      I'
              g' ali   /  \
                     I      \
                   /  \      \
                 AUX  NEGP
                  'o   /  \
                    NEG    VP
                    pi     |
                           V
                         s*oak
```
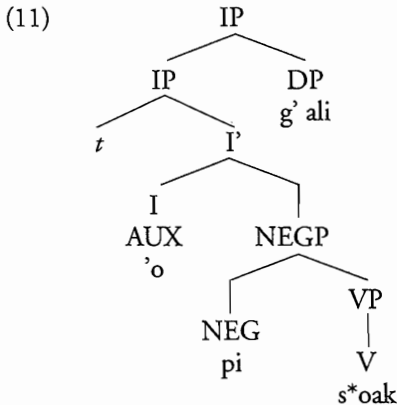
In this structure, the second position principle is obeyed, simply by virtue of the syntactic organization of elements. However, I assume a minor local adjustment is made to reflect the phonological dependency of AUX on what precedes it. In effect, AUX is a clitic attached to DP and phonologically dependent upon the final constituent within it. Since its basic attachment site corresponds to a phrase, it is a *peripheral* clitic in the sense of Marantz (1988). When the clause is introduced by a complementizer, C, as in (9), the underlying structure corresponding to (4a), AUX is attracted to C to satisfy the requirement that the latter be prefixed to AUX. Presumably, this is a property of C itself:

(9)

```
            CP
          /    \
        C       IP
        n-    /    \
           DP        I'
          g'ali    /    \
                  I      NEGP
                 AUX    /    \
                  'o  NEG    VP
                      pi     |
                             V
                           s*oak
```

To summarize, when a subject is present, or when C is present, the second position requirement is fulfilled *incidentally*, as it were, by virtue of independent factors inherent in the structure — e.g., the position of the subject (Spec of IP) and the special property of C (that it attracts AUX and prefixes to it). In all other cases, however, AUX-Second applies. The process is phonologically motivated, reflecting the dependent character of AUX — the latter must cliticize to the constituent which immediately follows it:

(10)   AUX X → X+AUX, in which X is the left branch of the overt category that (a) immediately follows AUX in its base position, and (b) is c-commanded by AUX.
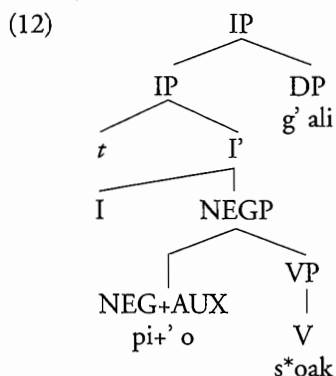
Consider first the case of extraposition in (1b):

(11)

```
              IP
            /    \
          IP       DP
        /    \    g' ali
       t      I'
            /    \
           I      NEGP
          AUX    /    \
           'o  NEG    VP
               pi     |
                      V
                    s*oak
```

Extraposed phrases belong to the essentially unstructured Right Field of O'odham clauses and are assumed to be adjuncts (cf. Hale and Selkirk 1987). In any event, AUX fails to conform to the second position principle here, since it is not preceded by overt material. It must therefore cliticize to the left branch of the overt category following it.
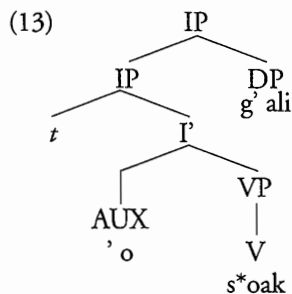
A category is overt for the purposes of AUX-Second if its left branch is overt. And an overt category OC immediately follows AUX if no other overt category occurs

between AUX and OC. In (11), NEGP qualifies as overt, and NEG is an overt left branch in NEGP. NEG is therefore the only relevant constituent for interaction with AUX in relation to (10). The verb, V, does not qualify, being separated from AUX by overt material. This locality requirement accounts for the appearance of an «accessibility hierarchy» in defining X in (10), ruling out the derived string V+AUX NEG. in this case. Locality together with the structure defined by the syntax ensure the correct output.
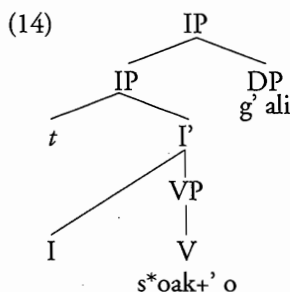
I assume that AUX is phonologically dependent, a clitic. And since it can attach to a phrase, it belongs to the class of peripheral clitics in the sense of Marantz (1988). AUX-Second is clearly motivated by this phonological dependency — AUX must be supported by phonologically overt material, and there is no syntactic principle which unifies the material qualifying as X. The effect of AUX-Second on (11) is as follows, leaving open the question of whether this phonological operation leaves a trace in the original position of AUX (hence the unlabeled branch). The symbol + represents clisis:

(12)

```
                    IP
              ╱          ╲
          IP               DP
        ╱    ╲             g' ali
       t       I'
            ╱──────┐
           I      NEGP
                 ╱    ╲
                       VP
     NEG+AUX            |
      pi+' o            V
                      s*oak
```

Now consider the derivation of (2b), again with extraposed subject, but lacking NEGP. The form presented by the syntax is presumably the following:

(13)

```
                IP
            ╱       ╲
        IP            DP
      ╱    ╲          g' ali
     t       I'
           ╱    ╲
                 VP
      AUX         |
       ' o        V
                s*oak
```

This structure, like (11) above, fails to conform to the second position principle — AUX is unsupported by overt phonological material on its left and must therefore undergo AUX-Second. The verb, a single branch within its category, and therefore leftmost there, must qualify as the left branch required by (10). AUX-Second applies, giving (14):

(14)

```
              IP
           ╱      ╲
        IP          DP
      ╱    ╲        g' ali
     t       I'
           ╱
          VP
          |
     I    V
   s*oak+' o
```

As suggested, the idea that AUX-Second is phonologically motivated, as opposed to syntactically motivated, comes from the fact 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. With some exceptions, any constituent that satifies the definition of X in (10) may come to precede AUX as a result of AUX-Second. The exceptions are the small number of vowel-initial particles.

The items that are subject to AUX-Second belong to the Left-Field (preverbal) in O'odham clauses. I assume that the Left-Field is hierarchically structured, with elements on the left c-commanding elements to the right, as depicted in the following partial diagram:

(15)

```
        C
          SUBJ
            AUX
              OBJ
                NEG
                  LOC
                    INCEP      V
```
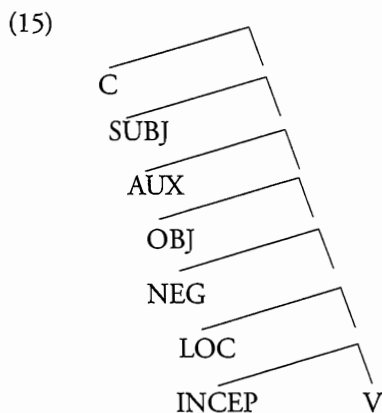
In accordance with (10), AUX will cliticize to an inmediately following element that is overt in this structure. Thus, if both OBJ and NEG are present, an initial AUX will cliticize to the object, not to NEG or any element further to the right. The same principle applies throughout. If both NEG and LOC are present, AUX will cliticize to NEG, not LOC. AUX will cliticize to LOC (locative preverbal particle) only if both OBJ and NEG are absent, as in (16b), to be compared with (16a) in which the presence of a subject blocks AUX-second because the second position principle is already satisfied there:

(16) (a) 'A:ñi 'añ 'am cikpan.   (b) 'Am 'añ cikpan ('a:ñi).
         I AUX LOC work   LOC AUX work (I)
         'I work there.'

Similarly, an initial AUX will cliticize to the inceptive particle only if none of OBJ, NEG, or LOC intervenes. It will also fail to cliticize if the subject precedes, of course. Consider the following pair:

(17) (a) 'Ali 'at 'i gei.   (b) 'I 'at gei g 'ali.
         child AUX INCEP fel   INCEP AUX fell ART child
         'The child fell.'

Evidently, then, AUX is phonologically dependent and must be preceded by phonologically overt material, independent of syntactic category.

References

Hale, K. & E. Selkirk, 1987, "Government and tonal phrasing in Papago". In C. Ewen and J. Anderson, eds., *Phonology Yearbook* 4, 151-183. Cambridge: Cambridge U.P.
Marantz, A., 1988, "Clitics, Morphological Merger, and Mapping to Phonological Structure". In M. Hammond and M. Noonan, eds., *Theoretical Morphology*, 253-270. San Diego: Academic Press.