DIRECTIONALS AS COMPLEX PREDICATES IN CHOCTAW

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1   Introduction

The notion 'predicate' is important in any theory of syntax, and in the prototypical case a predicate is a single word. However, it has been clear for some time that there are cases where two words are syntactically distinct from each other, yet show the properties of a single predicate. Such cases have recently become known as complex predication (Alsina, Bresnan, and Sells 1997).

Causatives and permissives are perhaps the best-known cases of complex predication. As many authors have noticed, there are important similarities between syntactic causatives of the sort seen in Romance languages and the morphological causatives seen in languages like Japanese, Turkish, and Chicheŵa.

In this paper, I will suggest that languages also vary between syntactic and morphological expressions of directionality. In many languages, directionality is indicated morphologically through affixation. Consider the following forms from the Iroquoian language Oneida (Abbot 1981):

1)   T-a-ha-hkwé:nvht-e?   'He came down.'
      cis-fac-3smA-descend-pft

2)   Y-a-ha-hkwé:nvht-e?   'He went down.'
      trans-fac-3smA-descend-pft

In other languages, like Choctaw, a Muskogean language spoken in Mississippi and Oklahoma, directionals are a small class of preverbal particles that nevertheless show signs of functioning together with a following verb to form a single complex predicate.

1.1   Preliminary data

Consider the directionals seen in the following Choctaw sentences:

3)   Chokka' i̱la-h   **pit** kanalli-tok**.**
      house   other-tns **away** move-pt

      'They moved to a different house.'

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4)   Boswell bilika' yakni' habiina-t chokka' o-talaali-t áyyaasha-tok-oo-sh,
        Boswell near   land   receive-ss house   on-lay-ss   be:located-pt-part-ss

        at   pihlichi-t   i-chokka' isht iya-ttook.
        come& lead-ss   III-house instr go-dpast

        '… they had been alotted land near Boswell, where they had built a house, so
        they came and led them to the house.'

5)   Oklah Amazing Grace **ot**   taloow-aachi-h.
        plur   Amazing Grace **go&**   sing-irr-tns

        'They're gonna go sing Amazing Grace.'   11:10

In this paper I will look at the syntax and semantics of these particles and explore how the two
are to be connected to each other.

1.2   The meaning of the directionals, first attempt

        The Choctaw directionals fall into two groups, which I will call single-event and dual-
event directionals. Single event-directionals are used with verbs of motion to tell us about the
orientation of that motion.

6)   Single-event directionals:

        pit   'motion away from (a reference point)'
        iit   'motion towards (a reference point)'
        [awiit 'motion towards (a reference point)']¹

There are interesting questions about how this reference point is established, but for current
purposes, we can say that the point of view is generally that of either the speaker or the
subject of the sentence.²
        Dual-event directionals tell us about the direction of movement prior to the start of
another verb. They are quite close to English 'come and' and 'go and'.

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¹ *Awiit* is a somewhat archaic variant of *iit,* and modern speakers consider it essentially
synonymous. It occurs extensively in the Choctaw translation of the Bible.

² See Broadwell (1990) for discussion of an analogous problem of point of view in the
interpretation of evidential particles.

7) Dual-event directionals
   <u>ot</u>   'motion away from (a reference point)'
   <u>at</u>   'motion towards (a reference point)'

These directional particles are never used alone, but always before some other verb.

Diachronically the directional come from reduced verbs. The final /t/ found in all of them is the same-subject switch-reference marker /-t/. The most likely origins are the following:

8)   onah   'to arrive (there)' + /-t/ 'same-subject' > <u>ot</u>
      alah   'to arrive (here)' + /-t/ 'same-subject' > <u>at</u>
      pilah 'to throw/send'   + /-t/ 'same-subject' > pit
      ??   + /-t/ 'same-subject' > iit

However, the particles are probably synchronically monomorphemic for modern speakers.

2   The syntax of the directionals

2.1   Directionals are syntactically independent words

Choctaw is an SOV language. A directional particle always follows any overt object and precedes the verb:

9)   Hattak-at t<u>a</u>chi' <u>at</u>   apa-tok.
      man-nm corn   come& eat-pt

      'The men came and ate the corn.'

      *Hattak-at <u>at</u> t<u>a</u>chi' apa-tok.

Only one directional may used in a clause, even when the combination of a single-event and dual-event directionals might seem coherent, as we can see from the following example:

10)   Chokka' <u>i</u>la-h   **(*<u>ot</u>)   pit** kanalli-tok**.**
      house   other-tns **(go&) away** move-pt

      'They (*went and) moved to a different house.'

There is some disagreement about whether the directionals are actually separate words

or whether they are prefixes.[3] Ulrich (1986) shows that the directionals share phonological properties with other morphemes that he labels clitics.

Despite their phonological relationship with the following verb, they should be treated as having the syntactic status of independent words. We can see this through their interaction with the word *oklah*.

2.2   The position of *oklah*

Oklah is both a noun meaning 'people'and an element that indicates the plurality of a animate subject. In texts, the most natural position for *oklah* is after a direct object and immediately before the verb.

11)   Hitokoosh chokfi'   oklah falaama-tok.
        and:then rabbit   plur meet-pt

        'And then they met a rabbit.' (T3:3)

Oklah may also appear before the direct object:

12)   Oklah Amazing Grace ot taloow-aachi̲-h.
        plur   Amazing Grace go& sing-irr-tns

        'They're gonna go sing Amazing Grace.' 11:10

13)   Hattak-at oklah t̲achi' apa-tok.
        man-nm plur corn eat-pt

        'The men ate all the corn.'

However, it may not appear before the subject:

14)   *Oklah hattak-at   t̲achi' apa-tok.
        plur   man-nm corn   eat-pt

        (The men ate the corn.)

Oklah may also appear between the directional particle and the verb. All three of the following sentences are acceptable.

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15) Hattak-at t<u>a</u>chi' <u>at</u>   oklah apa-tok.
    man-nm   corn come& plur   eat-pt

    'The men came and ate corn.' 10:202

    ✓Hattak-at oklah t<u>a</u>chi' <u>at</u> apa-tok.
    ✓Hattak-at t<u>a</u>chi' oklah <u>at</u> apa-tok.

Given the mobility of *oklah*, we should treat it as a syntactically separable word. But since *oklah* may follow the directional, the directional must also be a separate word.

2.3   A proposal

We can account for this distribution if we assume the following syntactic structure:

```
                        IP
                   /          \
                 NP            I'
              Hattak-at      /    \
                          VP       Infl
                        /    \      -tok
                      NP      V
                   tanchi'   /  \
                           Part   V
                            ant   apa
```
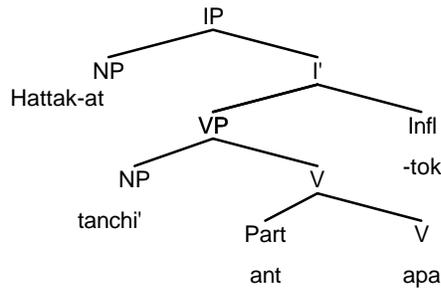
Figure 1 Structure of a Choctaw clause
with a directional particle

and the following distributional statement for *oklah*:

16)   Distribution of *oklah*

Oklah must be adjoined to some projection of the verb.

3   The meaning of the directionals, considered more carefully

3.1   What constitutes motion?

The single-event directionals *pit, iit,* and *awiit* are used when the following verb includes a motion component. But what, exactly, is a motion component?

Speaking more formally, the single-event directionals are appropriate with verbs that contain the predicate GO in their lexical decomposition. These fall into several semantic classes.

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a.) verbs of simple physical motion
b.) verbs of transfer
c.) verbs of perception
d.) verbs of "directed emotion"
e.) verbs of speech and thought
f.) verbs of comparison

The verbs thus include cases where there is real motion in the world and cases where the movement is abstract or metaphorical. For reasons of space, this paper will only discuss the use of directionals with a few of these classes. See Broadwell (1996) for a fuller discussion of directionals and abstract motion.

3.2   Verbs of simple physical motion

The following verbs describe physical motion in the real world, and all are appropriate with the single-event directionals.

kachih   'to send; to sell'
atohnoh   'to send, order'
tilhiilih   'to send (pl. obj.)'
oyyah   'to go up, climb'
tanablih   'to cross over'
ilhkolih   'to go (pl.)'
kanallih   'to move'
iyyakayyah   'to follow'
pilah   'to throw, send'
itokaahah   'to throw in the fire'
kochchah   'to go out'
ashaachih   'to gather'
okaachih   'to throw in the water'
lhayah   'to throw away'
abachakaalih   'to lift the head'

17)   Chokka' ila-h   pit kanalli-tok.
       house   other-tns away move-pt

       'They moved to a different house.'

18)   Iit   pila-h.
       toward throw/send-tns

       'He threw it (toward me).'

19)   Pit   pila-h.
       away   throw/send-tns

       'He threw it (away from himself/me).'

3.3   Formalization

I assume the framework and notational conventions of Conceptual Semantics (Jackendoff 1983, 1990). I believe this is most compatible with a view of syntax like that of Lexical-Functional Grammar (Bresnan et al. 1982), but it is probably possible to implement the semantic suggestions here in other syntactic frameworks as well.

3.3.1   Lexical entries

Let us assume the following sorts of lexical entries for the items under discussion:

$$\begin{bmatrix} \text{pilah 'throw, send'} \\ \text{V} \\ \_\_ \text{ NP}_j \text{ (NP}_k) \\ \begin{bmatrix} \text{CAUSE ([a]}_i, [_{\text{EVENT}} \text{ GO ([}_{\text{THING}}]_j, [_{\text{PATH}} \text{ TO [ ]}_k])]) \\ \text{AFF (a ,)} \end{bmatrix} \end{bmatrix}_E$$

Figure 2 Lexical entry for Choctaw *pilah*

$$\begin{Bmatrix} \text{pit 'away (from a reference point)'} \\ \text{Part} \\ [_{\text{EVENT}} \text{ GO ([}_{\text{THING}}], [_{\text{PATH}} \text{ TO [THERE]]} \end{Bmatrix}_{E_T}$$

Figure 3 Lexical entry for Choctaw *pit*

$$\left\{\begin{array}{l} \text{iit 'toward (a reference point)'} \\ \text{Part} \\ [_{\text{EVENT}} \ \text{GO} \ ([_{\text{THING}} \ \ ], [_{\text{PATH}} \ \text{TO} \ [\text{HERE}] \ ] \end{array}\right\}_{E_T}$$

Figure 4 Lexical entry for Choctaw *iit*

3.3.2 Unification and single-event directionals

E_T shows a 'transparent event', using the terminology of Butt, Isoda, and Sells (1990), Butt (1993, 1997), and Alsina (1993). The idea is that directionals like *pit* and *iit* are light verbs which are unable to denote events on their own, but combine their lexical information with that of a following verb to form a complex predicate. The unification of the lexical entries for *pit* and *pilah* will yield the following result:[4]

$$\left[\begin{array}{l} \text{pit pilah 'throw (away), send (away)'} \\ \text{V} \\ \_\_ \ \text{NP}_j \ (\text{NP}_k) \\ [\text{CAUSE} \ ([\ ]_i, \ [_{\text{EVENT}} \ \text{GO} \ ([_{\text{THING}} \ ]_j, \ [_{\text{PATH}} \ \text{TO} \ [_{\text{PLACE}} \ \begin{array}{c} [\ ]_k \\ \text{THERE} \end{array}] \ ])])] \end{array}\right]_E$$

Figure 5 Lexical entry for the complex predicate *pit pilah*

We can state the rule for the unification of the single-event directionals as follows:

20) Event Fusion—Directionals

Unify the lexical conceptual structure of a single-event directional with the $[_{\text{EVENT}} \ \text{GO}..]$ substructure of another event.

After unification, THERE functions as a selectional restriction on the goal of the complex predicate. Consider the following example:

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[4] Actually, in order to perform unification in the technical sense, we need to recast these lexical-conceptual representations as attribute-value matrices of the sort used in HPSG and LFG. This is a relatively trivial point of notation.

21)   John-at aaípa’-m<u>a</u>   towa’ pit   pila-tok.
       John-nm table-d:ac ball   away   throw-pt

       ‘John threw the ball under the table.’

The presence of *pit* in this sentence requires that the table be located far from John. The unified LCS for *pit pilah* shows this by indicating that whatever the goal of the sentence is, it is THERE.

3.3.3 Dual-event directionals

I’ll assume the following sort of lexical entries for <u>ot</u> and <u>at</u>:

$$\left[\begin{array}{l} \underline{\text{ot}} \quad \text{'go (to a reference point) and'} \\ \text{Part} \\ \left\{ [_{\text{EVENT}_x}\; GO\; ([_{\text{THING}}a\;]_i, [_{\text{PATH}}\; TO\; [\text{THERE}]\;] \right. \\ \left. \text{TEMP: } E_x \; < \; \begin{bmatrix} \dots \\ [\text{AFF}\,(a\,,\,)] \end{bmatrix}_{E_y} \right\} \end{array}\right]_{E_T}$$

Figure 6 Lexical entry for Choctaw <u>ot</u>

$$\left[\begin{array}{l} \underline{\text{at}} \quad \text{'come (to a reference point) and'} \\ \text{Part} \\ \left\{ [_{\text{EVENT}_x}\; GO\; ([_{\text{THING}}a\;]_i, [_{\text{PATH}}\; TO\; [\text{HERE}]\;] \right. \\ \left. \text{TEMP: } E_x \; < \; \begin{bmatrix} \dots \\ [\text{AFF}\,(a\,,\,)] \end{bmatrix}_{E_y} \right\} \end{array}\right]_{E_T}$$

Figure 7 Lexical entry for Choctaw <u>at</u>

Unpacking the formalism, these lexical entries say that:

a.) the event described (E_x) is incomplete and must occur with a second event (E_y), and
b.) the time of E_x precedes that of E_y, and
c.) the Theme of E_x is the Actor of E_y.

The LCS for this entry is combined with that of another verb via a different rule, Argument Fusion (Jackendoff 1990), which inserts the LCS for the second event into the available argument slot. For a sentence like (22), Argument Fusion yields a LCS like the following:

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22)   John-at   towa' o̱t   pila-h.
        John-nm ball   go& throw-tns

        'John went (there) and threw the ball.'

$$
\begin{bmatrix}
\text{o̱t pilah 'go and throw, send'} \\
\text{V} \\
\_\_ \text{ NP}_j \text{ (NP}_k) \\
[_{\text{EVENT}_x}\ \text{GO} ([_{\text{THING}} a\ ]_i,\ [_{\text{PATH}}\ \text{TO} [_{\text{PLACE}}\ \text{THERE}]])]\quad < \\
\begin{bmatrix}
\text{CAUSE} ([a\ ]_i,\ [_{\text{EVENT}_{y/z}}\ \text{GO} ([_{\text{THING}}\ b]_j,\ [_{\text{PATH}}\ \text{TO} [\ ]_k\ ])]) \\
\text{EVENT}_y
\end{bmatrix} \\
\text{AFF} (a,\ b)
\end{bmatrix}_E
$$
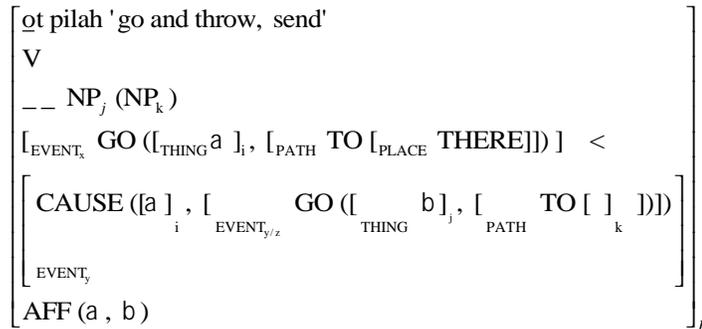
Figure 8 Lexical entry for Choctaw *o̱t pilah*

4   Other verb classes

4.1   Verbs of transfer

The following verbs of transfer also appear with single-event directionals, and thus must contain a motion component.

imah   'to give'
ipiitah   'to give (to several), to distribute'

Consider the following examples.

23)   Iit am-a-h!
        toward 1sIII-give-tns

        'Give it to me!'

24)   John-at   Mary pit   im-a-tok.
        John-nm Mary away III-give-pt

        'John gave it to Mary.'

I assume that the verb 'give' contains a motion component in its lexical semantics, along the following lines.

$$\begin{bmatrix} \text{imah} \\ \text{V} \\ \_\_ \text{NP}_j \text{ NP}_i \\ [\text{CAUSE } ([\ ]_i, \ [_{\text{EVENT}} \text{ GO } ([\ ]_k, \ [_{\text{PATH}} \text{ FROM } [\ ]_i, \text{ TO } [\ ]_j])])] \end{bmatrix}$$

Figure 9 Lexical entry for *imah* 'give'

Given this representation, the previously formulated rules give us the right semantics.

4.2   Perception

All verbs of perception in Choctaw are compatible with the single-event directionals.[5] From the perspective of English, it is surprising that hearing and smelling are using with the 'away' directional *pit.* This appears to reflect a rather different folk theory of perception than that shown in English sentences like *The sound/odor came to me from across the room.*
Consider the following examples:

25)   Leslie-at Sandy   pit   pisa-tok.
Leslie-nm Sandy away see-pt

'Leslie saw Sandy.'

26)   Mary-at   ofi' pit   ha̲klo-tok.
Mary-nm dog away hear-pt

'Mary heard the dog.'

27)   Pit   chi-ashshowa-l-aana-h.
away 2sII-smell-1sI-pot-tns

'I can smell you.'

Let us assume that these have lexical entries like the following:

_____

[5] It is, of course, perfectly possible to use these verbs without a preceding directional. For many speakers, a directional with a verb of perception emphasizes the distance of the perceived object. However, other speakers report no semantic differences of this sort.

$$\begin{bmatrix} \text{see, p\underline{i}sah} \\ \text{V} \\ \_\_ \ (\text{NP}_j) \\ [_{\text{EVENT}}\text{GO ([GAZE], } [_{\text{PATH}}\text{FROM [ ]}_i, \text{ TO [ ]}_j \ ])] \end{bmatrix}$$

Figure 10 Lexical entry for English 'see' and Choctaw
p\underline{i}sah

$$\begin{bmatrix} \text{hear} \\ \text{V} \\ \_\_ \ (\text{NP}_j) \\ [_{\text{EVENT}}\text{GO ([SOUND], } [_{\text{PATH}}\text{FROM [ ]}_j, \text{ TO [ ]}_i \ ])] \end{bmatrix}$$

Figure 11 Lexical entry for English 'hear'

$$\begin{bmatrix} \text{h\underline{a}kloh} \\ \text{V} \\ \_\_ \ (\text{NP}_j) \\ [_{\text{EVENT}}\text{GO ([??], } [_{\text{PATH}}\text{FROM [ ]}_i, \text{ TO [ ]}_j \ ])] \end{bmatrix}$$

Figure 12 Lexical entry for Choctaw *h\underline{a}kloh* 'to hear'

$$\begin{bmatrix} \text{ashshowah 'to smell'} \\ \text{V} \\ \_\_ \ (\text{NP}_j) \\ [_{\text{EVENT}}\text{GO ([??], } [_{\text{PATH}}\text{FROM [ ]}_i, \text{ TO [ ]}_j \ ])] \end{bmatrix}$$

Figure 13 Lexical entry for Choctaw *ashshowah*

The moving objects for *h\underline{a}kloh* and *ashshowah* seem to be auditory and olfactory equivalents
of the gaze. See Broadwell (1996) for some discussion of the linguistic encoding of perception
and Whorfian considerations raised by these lexical entries.

4.3   Emotions

Emotions fall into two classes that we can call "directed" and "non-directed" emotions. Directed emotions seem to be based on a cultural metaphor that envisions certain kinds of thoughts as travelling through abstract space to reach their objects.

Some directed emotions

i̱noktalhah 'to be jealous'
i̱holloh 'to love'
i̱nokha̱kloh 'to be sad about, to grieve over'
ayokpa̱chih 'to like'

Some non-directed emotions

noklhaka̱chah 'to be startled'
i̱nokshoōpah 'to be afraid of'
i̱nokoowah 'to be angry at'

I will not attempt to formalize the lexical entries for the directed emotions, but I assume that [$_{EVENT}$ GO …] constitutes some subportion of them, and that [$_{EVENT}$ GO …] is lacking in the non-directed emotions.

4.4   Non-motion predicates

Many other classes of verbs are incompatible with directionals, including all statives and many activities:

28)   *Ofi-yat pit homma-h.
         dog-nm away red-tns

        (The dog is red.)

29)   *?John-at   pit   taloowa-h.
          John-nm away sing-tns

         (John sang.)

These verbs presumably have no [$_{EVENT}$ GO …] constituent in their lexical decomposition. They will fail to unify with the single-event directionals. However, so long as a verb has an Actor, it is compatible with a dual-event directional.

5   Putting it all together

Recent developments in LFG (Butt 1993, Alsina 1993) allow clauses with discontinuous heads. This approach has been successfully applied to serial verbs, Romance causatives, and Urdu light verb constructions. (This is approximately the class of verbs that have been treated as involving abstract incorporation or "restructuring" in Principles and Parameters approaches.)

The c(onstituent)-structure for a sentence with a directional will be as follows, this time with the relevant functional annotations:
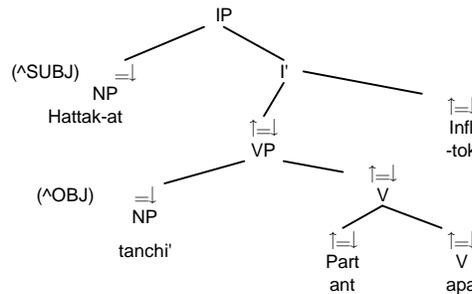
Figure 14 Annotated c-structure

In this c-structure, both the verb and the particle serve as co-heads of the clause.

This c-structure is related to a f(unctional)-structure like the following:

$$
\begin{bmatrix}
\text{SUBJ} & \begin{bmatrix} \text{PRED 'man'} \\ \text{DEF} \quad + \\ \text{NUM} \quad \text{PL} \end{bmatrix} \\
\text{OBJ} & \begin{bmatrix} \text{PRED 'corn'} \\ \text{DEF} \quad + \end{bmatrix} \\
\text{PRED 'go and eat } <\_,\_>\text{'} \\
\text{TNS PAST}
\end{bmatrix}
$$

This has the effect of making the directionals part of the sentence predicate along with the verb.

Finally, both these syntactic representations are in correspondence with the conceptual structure of the sentence. Following Butt (1993), argument structure can be viewed as a subpart of conceptual structure.

6   Conclusion

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The approach to directionals suggested here puts most of the work of accounting for their distribution in the lexical entries of the items involved and in two independently needed rules of semantic composition – Argument Fusion and Event Fusion. The constituent structures posited are relatively simple. This is a result of shifting the explanatory burden from syntax proper to its connection to semantics, and the result is a less syntacto-centric approach to explanation.

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Abbreviations and orthography

The following abbreviations are used: 3msA= third person singular masculine agent, ac= accusative, cis= cislocative, comp= complementizer, con= constrastive, dpast= distant past, ds= different subject, fac= factual mode, foc= focus, hn= hn-grade (iterative aspect), irr= irrealis, l= l-grade (a stem form that appears before some suffixes), loc= locative, n= n-grade (durative aspect), m= nominative, part= participle, pft= perfective, pl= plural, prev= previous mention, pt= past,   super= superessive, ss= same subject, tns= tense, trans= translocative. There are three sets of Choctaw person-number agreement markers, labelled I (approximately 'Actor'), II (approximately 'Patient'), and III (approximately 'Goal/source'). Person markers

are glossed as follows 1sI = 1st person singular, I agreement class; 2pI = 2nd person plural, II agreement class, etc.