STRUCTURE AND RULES IN AKHA MORPHOLOGY

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Morphology in the languages of Southeast Asia is not nearly so extensively dealt with as are problems of phonology and syntax. This is largely attributable to the propensity for monosyllabism of these languages, which consequently diminishes the probabilities of morphological development. Significant also is the lack of inflectional systems in these same languages. There are some scholars who would even suggest that morphology as such is not extant, reducing all structural principles to the level of syntactic rules. While in a generative sense this may be the way all morphologies will pass, in a structural sense there is probably a morphological level in most of the languages of the area - at least in the Tibeto-Burman ones - a distinguishable level between that of individual morphemes and syntactic constructions.

Initially, we might designate as morphology all constructions containing one or more bound morphemes. This will exclude noun and verb compounding and will also insure that we are at least discussing constructions of some nature. But this is overly broad because there are syntactic, bound morphemes - particles - which function only in syntactic rules. Particles are non-derivational for several reasons: 1) they are optional in any construction in which they occur; 2) their occurrence never changes the basic meaning of the expressions in which they occur; 3) the semantic contribution they make to any construction is consistent and always predictable; 4) they function as constituents only at the level of noun and verb phrases, and whole sentences.

The area of consideration can be narrowed by defining as a word in Akha all free morphemes and combinations of a free morpheme plus one or more bound, non-particle morphemes. The obligatory presence of the bound morpheme in a particular word is shown by the fact that to omit them would change the basic significance of the word. These bound morphemes

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are further distinguishable from particles in that they are not consti-
tuents in phrases as the latter are. For instance, a noun phrase might
consist of a noun such as /nyɦ/ *'house'* plus a modifier like /yɔmɨ/
'good': /nyɦ yɔmɨ/ *'good house'*. Noun phrases might have noun particles,
e.g. /nyɦ yɔmɨ tæ̀ʔǽ/ *'only a good house'*. But morphological construc-
tion such as /ʃbɖ/ *'water container'* (/ʃ-/ *'water'* + /-bɖ/ *'container'*)
cannot be syntactically expanded in a comparable fashion, i.e. the /ʃ-/
being a bound derivational morpheme cannot be modified as in **/ʃ yɔmɨ
bɖ/ *'container for good water'*.

There are two kinds of morphological processes, which I will call re-
duplication and derivation. Reduplication is the repetition of a syl-
lable, or part of a syllable, to create a different word, usually
semantically related to the original one but belonging to a different
grammatical category. Derivation is the addition of semantically and
phonologically unrelated morphemes for the same purpose of word forma-
tion. Almost one hundred per cent of all derivation occurs in noun forma-
tion, while the preponderance of reduplication results in verb construc-
tions.

The most ubiquitous derivational morpheme is /a/ which occurs re-
peatedly as the initial syllable of words.

1)	/àchő/	*breast, milk*
2)	/àjæ̀/	*what*
3)	/àkhɨ/	*leg*
4)	/àkhɨ/	*dog*
5)	/abyè?/	*sprout*
6)	/ǽca?/	*rope*
7)	/ǽnɨ?/	*seed*
8)	/ǽbɖ?bɖ?/	*to embroider*

This sound has its counterpart in the atonic initial /a/ in Burmese; /a/
and /ɔ/ in Lahu; etc. If it is ever the case that /a/ can be identified
as a morpheme in Akha, then it is probably identifiable as several, but
it is very difficult in any case to pin-point a function or meaning for
it. The most suggestive case is in the interrogatives:

9)	/àjæ̀/	*what*
10)	/àgǽ/	*where*
11)	/àsúγà/	*who*
12)	/ǽmyɔ̧/	*when*
13)	/àjo?/	*how*
14)	/ǽmya?/	*how much*

The /a/ might be considered to be the interrogative morpheme (note the
tone change).

There are numerous compounds formed by combination of full morphemes with some tonal variation on the theme of /a/, such as the following:

15) /áca?/   *rope*
16) /àchő/   *breast*
17) /án‡?/   *seed*

For compounds of this sort, their classifier for counting purposes is usually the last syllable, e.g. /áca? thǐ ca?/ *'one (rope of) rope'*. To this extent, all the syllables of such compounds can be considered as free morphemes; but to the extent that the second syllables (the full morphemes) are restricted to this one usage, they actually are bound in some real sense. /chő/ occurs nowhere else in the data; by contrast, /ca?/ and /n‡?/ both occur extensively as classifiers, /ca?/ for rope-like objects - ropes, chains; and /n‡?/ for seed-like objects - seeds, eyes, etc. But this classifier function appears to be the totality of their existence outside of morphological constructions, save in only a few instances. For morphemes like /chő/, then, the rules for classifiers would have to account for them as some kind of reduplication or recopy-ing of final syllables. With these facts in mind, it is hard to de-termine the precise relation or relations of /a/ to these other syl-lables. For some it seems to convert a classifier to a noun; for others like /àchő/, there is no synchronic interpretation available. One might suspect /-chő/ is the reflex of some earlier free morpheme.

One can surmise /a/ was once a structurally active element (perhaps still is) and part of a widespread morphological process; it is ex-tremely frequent among the nouns, quite rare in the verbs.

There are quite a number of other bound morphemes that are isolable. I would like to provide some data, first, on just a few of them and then some discussion relevant to the data. For example:

a) /-bạ̀/   *container*
  18) /íbạ̀/   *water container (/í-/ water)*
  19) /sà?bạ̀/   *rice steamer (/sà?/ to steam)*
  20) /kh‡bạ̀/   *woman's legging (/kh‡-/ leg)*

b) /phǽ-/   *cloth*
  21) /phǽxạ̀/   *shirt (/xạ̀/ chest)*
  22) /phǽthạ̀/   *shoulder bag (/thạ̀/ ?)*
  23) /phǽyέ/   *gunny sack (/yέ/ ?)*

c) /-xạ̀/   *area*
  24) /dæxạ̀/   *courting area in village (/dæ/ sexual)*
  25) /míxạ̀/   *country (/mí-/ ground)*

d) /-ma/ large, important

26) /gáma/ path (/gá/ place)

27) /là?ma/ thumb (/là?-/ arm part)

28) /yà?ma/ floor joist (/yà?/ pole)

e) /ʃ-/ water

29) /ʃcù?/ water (/cù?-/ ?)

30) /ʃphu/ water gourd (/-phu/ ?)

31) /ʃdìdì/ to swim (/dì/ to strike)

f) /-ma/ instrument

32) /yæ̀ma/ saw (/yæ̀/ to saw)

33) /tshæ̀ma/ hoe (/tshæ̀/ to hoe)

g) /-ma/ female

34) /mahɨ̀/ first wife (/hɨ̀/ big)

35) /ö̀ma/ granddaughter (/ö̀/ second descending
     generation)

36) /æ̀ma/ mother

37) /yacì?ma/ hen (/yacì?/ chicken)

h) /mʃ-/ land

38) /mʃkhæ̀/ boundary (/khæ̀/ to separate)

39) /mʃtshæ̀/ ground (/-tshæ̀/ ?)

40) /mʃxǫ̀/ country (/xǫ̀/ area)

i) /khɟ-/ leg

41) /æ̀khɟ/ leg

42) /khɟbǫ̀/ legging (/-bǫ̀/ container)

43) /khɟdu/ lower leg (/-du/ ?)

44) /khɟphu/ foot (/-phu/ ?)

45) /khɟnő/ toe (/-nő/ toe, finger)

46) /khɟgǫ̀gǫ̀/ to sit cross-legged (/-gǫ̀/ ?)

j) /-tsɨ?/ joint

47) /khɟtsɨ?/ ankle (/khɟ-/ leg)

48) /là?tsɨ?/ elbow (/là?-/ upper extremity)

49) /khɔ̀tsɨ?/ Adam's apple (/khɔ̀/ neck)

50) /atsɨ?/ bamboo joint

k) /-nő/ finger, toe

51) /là?nő/ finger (/là?-/ upper extremity)

52) /khɟnő/ toe (/khɟ-/ lower extremity)

53) /chæ̀nő/ ring finger (/chæ̀-/ ?)

l) /-chæ̀/ little

54) /cháchæ̀/ little finger (/chá-/ ?)

	55)	/khɨchà/	little toe (/khɨ-/ leg)
m)		/-bæ?/	?
	56)	/khɨdubæ?/	calf (/khɨdu/ lower part of leg)
	57)	/šàphyàbæ?/	thigh (/šàphyà-/ ?)
n)		/bù-/	worm
	58)	/bùjö/	earthworm (/jö/ to crawl)
	59)	/bùde/	intestinal parasite (/-de/ ?)
	60)	/bùthe/	mosquito (/-the/ ?)
o)		/khà/	far, to separate
	61)	/lɔkhà/	interior partition (/lɔ/ room)
	62)	/ákhàphí/	to separate (/-phí/ to carry)
	63)	/yɔkhà/	far
	64)	/míkhà/	border of a country (/mí-/ land)
	65)	/yákhà/	field boundary (/yá/ field)
p)		/-thà/	to close
	66)	/pya?thà/	trap (/pya?/ to come apart)
	67)	/màthà/	tweezers (/mà-/ flat surface)
	68)	/thà/	to cut with scissors

In some cases, the other morphemes that these bound morphemes combine with can be identified, too, as can be seen above. In other cases, the other forms are obscure, as in 22), 23), 29), 30), 39), 43), etc. Many times these morphemes without identity apparently have a sole environment, such as /-cù?/ in /ícù?/ 'water'; /-phu/ in /íphu/ 'water gourd'; /-de/ in /bùde/ 'intestinal parasite'; /chá-/ in /cháchà/ 'little finger'. In such cases, synchronically they seem to say nothing more than 'this kind of X, not the other', e.g. a /bùde/ is this kind of /bù-/, not a /bùthe/ or a /bùjö/. In other instances, they recur, perhaps two, three or more times in the language, but still not with easily identifiable properties. /-bæ?/ might be assigned such semantic features as 'rounded, muscular areas of the lower extremities' in 56) and 57), but /-bæ?/ apparently occurs nowhere else in the language and its precise semantic content remains quite abstract.

As would be expected in a language with a large percentage of monosyllabic morphemes, homonomy is extensive, cf. 1) /-ma/ 'instrument'; /-ma/ 'female'; /-ma/ 'large, important'; 2) /mí-/ 'land'; /mí-/ 'fire' (not given in the data). And between this one extreme, homonomy, of the semantic continuum, and the other end, identity of morphemes, there are numerous examples of phonologically identical, or virtually identical, syllables with from closely to distantly related semantic relationships, e.g. /-khà/ in /yɔkhà/ 'far' and /yákhà/ 'field boundary'; /-thà/ in

/mæ̀thæ̀/ 'tweezers' and /thæ̀/ 'cut with scissors'; or, at more of an extreme, /-phu/ in /ʃphu/ 'water gourd' and /khɬphu/ 'foot'.

A study of the underlying relations of morphological constructions can begin by noting briefly some of the relations and structural patterns exhibited in the data above. The most prevalent structural pattern is modifier-head, but this pattern has three variations. The first variation, modifier verb-noun head, can be exemplified by the following words:

69) /sà?/   + /-bɑ̀/   → /sà?bɑ̀/
    to steam   *container*   *(rice) steamer*

70) /yæ̀/   + /-ma/   → /yæ̀ma/
    to saw   *instrument*   *saw*

The relations expressed in these constructions are something on the order of purpose, cf. 69) *container for steaming*; 70) *instrument for sawing*.

A second variation is modifier noun-head noun, as in:

71) /ìà?-/   + /-tsɬ?/   → /ìà?tsɬ?/
    upper   *joint*   *elbow*
    extremity

72) /khɬ-/   + /-nő/   → /khɬnő/
    lower   *toe,finger*   *toe*
    extremity

73) /ö̀-/   + /-ma/   → /ö̀ma/
    descending   *female*   *granddaughter*
    generation

The examples here seem to all express a relationship of subset membership, e.g. 71) *a joint of the upper extremity*; 72) *an appendage of the lower extremity*; 73) *a female of a descending generation from ego*.

The third variation is /a/ + head noun. For instance:

74) /a/ + /-tsɬ?/ → /atsɬ?/
    joint   *bamboo joint*

75) /a/ + /khɬ-/ → /àkhɬ/
    leg   *leg*

76) /a/ + /-ma/ → /àma/
    female   *mother*

True to the normal pattern of the derivational process, the end product is unpredictable from the input morphemes. In 76), we might have predicted *'woman'*; instead, the product was *'mother'*. In 74), any general kind of joint or hinge might have been the expected product, but the result was a very specific *'bamboo joint'*. The other patterns show the

same derivational syndrome, cf. 73) where any number of specific kin-
ship relationships could have been denoted; the specific denotation was
'granddaughter'.

The reverse constructional pattern, head-modifier, also occurs on a
widespread basis, again with several variations. The least common is
noun-noun, which is exhibited by 21) and 37) above. Number 21) seems to
be purposive in intent, i.e. *a cloth for the chest*; 37) expresses subset
membership - a *chicken* female, rather than a cow, mare, etc. The other
variations are of noun-verb patterns, but at least three different sorts
of relationships are exhibited. In d) above, and in 34), there is an
attributive relation, for example: 28) *large pole*; 34) *important female*.
In 58) and 67) there appears to be a subtle expression of a subject-pre-
dicate relationship, viz. 58) *a worm which crawls*; 67) *flat surfaces
that close*. And in 61), 64) and 65), the relationship that suggests it-
self is verb-object, e.g. 61) *separate the room*; 64) *separate countries*;
65) *separate fields*.

All of the foregoing discussion relates to patterns of noun deriva-
tion. But there is also a very small amount of verb derivation, cf.
31), 46), 62). Number 31) is expressive of a verb-object relationship,
'to strike the water'. Nos. 46) and 62) are especially interesting, be-
cause the morphemes /gǫ̱/ and /phí/ in those two words respectively are
bound and restricted to these exact occurrences. Historically, /gǫ̱/
might relate to /γ d̠/ *'bent'*, giving *'bent legs'*; /phí/ perhaps is a
historical relative of /phi/ *'to carry'*, which would suggest an earlier
interpretation of *'to carry apart'*.

Having provided this discussion of the derivational processes exem-
plified within the data of this article, I am moved to protest it
mightily. It is quite difficult to justify, I think, abstracting from a
word like /mah ɨ́/ *'first (major) wife'* an underlying meaning *'important
female'*. The abstraction is based, of course, on the generalisation
from all the occurrences of /-ma/ a unifying semantic content of female;
and for /h ɨ́/, something like *'important'*. But how to arrive from *'im-
portant female'* to *'major wife'*?

Or again, with /ídìdì/, how does one make the semantic leap from *'to
strike the water'* to *'to swim'*? And yet a structural analysis of mor-
phology, with its attendant labeling of modifier-head and head-modifier
patterns, depends on a tacit assumption that such relationships exist.
And in some sense I believe that they do exist. What one must also as-
sume is that there are rules in language, hopefully highly regularised,
that provide the bridge from one level to the other.

As in noun morphology, verb morphology seems also to have found some
use for /a/, though it is not certain that this is so. Consider these

two examples:

77) /ábà?bà?/ 'to embroider'
78) /áchàchà/ 'to sneeze'

/ábà?/ means 'embroidery', so /a/ probably is a constituent of /ábà?/, not of the verb. But there is no */áchà/ in the data, i.e. no noun, such as /ábà?/, to be reduplicated to form a verb (see 79) below and discussion). Either the historical form of */áchà/ has been lost, or else /a/ must also operate (or, have operated) in verb morphology per se. There are several verbs similar to /áchàchà/ in having /a/ which, also like /áchàchà/, appear to be onomatopoetic, e.g. /áà/ 'to belch'; /áhàhə/ 'to yawn', and for which we cannot posit a basic noun form.

The last structural pattern of verb morphology I will discuss is reduplication. Typically in languages of the area, reduplication is used for such things as intensification and emphasis. In verb morphology, it apparently operates sometimes purely to create verbs. At other times, no particular extra semantic effect is apparent, in my data.

Sometimes reduplication creates a verb from a noun; to reduplicate means to do a (very specific) thing concerning what is reduplicated.

79) /ábà?bà?/   <   /ábà?/   + redup.
         to embroider   embroidery

(There is a verb /bà?/ 'to embroider'. Whether the verb was abstracted later from the verbalised, reduplicated noun, or the verb was nominalised by /a/ to create the noun is not clear, but the evidence suggests the former.)

80) /bɔ́tshɑtshɑ/ <   /bɔ́tshɑ/ + redup.
         to hunt   jungle

81) /chèchè/   <   /chè/ + redup.
         to defecate   faeces

82) /àmí byà?byà?/   <   /àmí/ + /byà?/   + redup.
         performance of a   cat   striped
           certain ceremony

Or, emphasis may be implied in some reduplication.

83) /ca?thm̀thm̀/   <   /-ca?/ + /thm̀/   + redup.
         to tie a knot   rope   to tie up (apparently,
                                       only in compounds)

84) /ídìdì/ < /í-/ + /dì/   + redup.
         to swim   water to strike

Then there are the many interesting reduplications, where the exact underlying source is not clear.

85) /áchə̀chə̀/ < ? + redup.
    to sneeze

86) /γὸtshétshé/   < /γὸ/ + /tshé/ + redup.
    to be genuine   <u>*nine ten*</u>
                             ninety

87) /ʃsüsü/   < /ʃ-/ + /sü/ + redup.
    to urinate   *water ?*

It would be good at this point to be able to talk about compounding.
There is a great deal of similarity between the nouns created by com-
pounding in Akha and those in English. And though the underlying sen-
tence constructions from which Akha nouns derive are quite different from
those of English, the relationships expressed are similar. There are
verbal compounds in Akha whose closest counterparts in English would have
to be idioms. The number of these verbal compounds that occur in the
language suggests they have a very interesting place of their own in the
grammar. Unfortunately, the information I have is very tentative, and I
would like to offer the following discussion as suggestive rather than
definitive.

In noun compounding, the first structural pattern to be discussed will
be that of modifying-noun + noun head, which is by far the most common.
Within this pattern there are several types of relationships.

1) Time relationship

87) /yǽγǫ́/ 'rainy season' < /yǽ/ 'rain' + /γǫ́/ 'season'

The comparable expanded construction from which we might derive such
compounds is:

88) /ὺyǽyǽ ə/   + /γǫ́/   → *season when (that) it rains*
    It is raining.   season

This construction represents the usual mode of embedding a clause (*"It
is raining."*) as modifier of a noun head. Since the meanings of the com-
pound and the phrase have an obvious semantic relationship, and the
forms of the two are so close, it is reasonable to suggest the compound
is a transform (in R.B. Lees' sense) of the embedded phrase.

2) Possessive

89) /ə̀khɟ phæ̀yə̀/ 'sole' < /ə̀khɟ/ 'leg' + /phæ̀yə̀/ 'footprint'

The common possessive constructional pattern is:

90) /ə̀khɟ ə/ + /phæ̀yə̀/   → *leg's footprint*
    leg's   footprint

Such possessive constructions commonly delete the possessive /ə/, which would yield a form identical with our compound. Though the /ə/ deletion in the possessive, and the compounding process, probably must be relegated to different transformations, the derivations are so similar the former strongly suggests the latter.

There is a very similar compound which expresses what I have called above 'subset membership'.

91) /àkhɬ sà/ < /àkhɬ ə/ + /sàjʃ/
     dog meat   *dog's*   *meat*

The distinction between this compound and the preceding one can be expressed in English as the difference between "meat from a dog" and "meat belonging to the dog", respectively. The two expressions given in 91) are perfect paraphrases of each other, as given in my data. How the differences between compounds of possessive and subset relations become interpreted by the language I can't say at the moment.

In the compound /àchő sì/ *'nipple'*, there seems to be two possibilities. One would be to establish a new category of relationship:

3) *Location*

92) /àchő sì/ *'nipple'* < /àchő/ *'breast'* + /sì/ *'small, round object (or seed)'*

If this is the relation implied here, then it is again possible to turn to an embedded clause as a possible source for the locative expression.

93) /àchő ʠ jő ə/   + /sì/ → *seed that is on the breast (a seed on the breast)*
     It is on the breast. *seed*

A transformation deletes the locative particle /ʠ/ and the verb phrase /jő ə/ *'to be there'*. The other possibility would be to use a possessive explanation, as in 89)-90).

94) /àchő ə/ + /sì/ → *breast's seed*
     breast's   *seed*

A second structural pattern for consideration is identified structurally as noun head + modifying-noun. Again, there are several different relationships expressed in noun compounds of this pattern.

1) *"having" (accompaniment)*

95) /chǽ khm̋/ *'unhusked rice'* < /chǽ/ *'rice'* + /khm̋/ *'enclosure (such as a fence)'*

It is possible to hypothesise as underlying this an embedding of the following sort.

96) /chǽ khm̀ ja? ə/   + /chǽ/ → *rice that has an en-*
                                                   closure

      The rice has an enclosure.   *rice*

The modifying-noun is derived from an embedded relative clause. The
transformation that derives the compound would delete /ja? ə/ *'have'* and
shift /khm̀/ *'enclosure'* to a post-nominal position.

    Another relationship found in this pattern is:

    2) Purpose (goal: use)

97) /gò̰ chǽ/ *'dibble stick'* (rice spear) < /gò̰/ *'spear'* + /chǽ/
                                                               'rice'

The apparent meaning of the compound is *'spear for (planting) rice'*.
The purposive construction in Akha is like:

98) /chǽ/ /khá/   /ni/ *'for planting rice'*
    rice   to plant   for

If such a construction (the typical purposive type construction in Akha)
is relatable to this compound, then the transformation must operate on a
fuller construction such as:

99) /chǽ khá ni/   + /jɔ́ ə/   + /gò̰/   → *spear that is for*
                                                      planting rice

    for planting rice   It is   spear
                  (exists)

The phrase is composed of an embedded sentence (*It exists for planting
rice.*) modifying *'spear'*. The transformation here deletes the verb /khá/
'to plant', /ni/ *'for'*, and /jɔ́ ə/ *'it is'*, and shifts the noun to a
position after the head noun.

    A third pattern is composed of a verb + noun head. Among the gram-
matical relations expressed by such patterns the predominant one is:

    1) Purpose

100) /hɔ̀ m̀ sà?bò̰/ *'rice steamer'* < /hɔ̀ m̀/ *'to fix rice'* + /sà?bò̰/
                                                                'steamer'

If the phrase /hɔ̀ m̀/ were derived from an embedded clause, i.e.
/hɔ̀ m̀ ə sà?bò̰/, one would expect an interpretation like *'steamer that
fixes rice'* - which is possible. But I would suggest as the probable
source:

101) /hɔ̀ m̀ ni jɔ́ ə/   + /sà?bò̰/ → *steamer that is for*
                                                 fixing rice

    It exists for fixing rice   steamer

The appropriate nominalising transformation would delete /ni jɔ́ ə/.

A slight variation of this pattern is reflected in:

102) /yù?yá ù?tà?/ < /yù?/ + /yá/ + /ù?tà?/
sleeping platform to lie down to stay floor

Rather than a single modifying-verb, we have a concatenation of two. The proposed underlying source is the same as in 101), a /ni/ transformation of:

103) /yù?yá ni jɔ́ ə/ + /ù?tà?/ → floor to lie down on and rest

It exists for lying down on floor

There is also a pattern of noun compounds of the type noun + verb.

104) /hɔ̀ cà?/ 'boiled rice' < /hɔ̀/ 'rice' + /cà?/ 'to boil'

105) /hɔ̀ chu/ 'package of rice' < /hɔ̀/ 'rice' + /chu/ 'to wrap'

106) /hɔ̀ thɔ̣̀/ 'a rice delicacy of < /hɔ̀/ 'rice' + /thɔ̣̀/ 'to pound'
steamed, pounded
rice'

Note that in each case the best circumlocution in English depends on a passive clause, i.e. 'rice that has been boiled'; 'rice that has been wrapped'; 'rice that has been pounded'. The closest approximation to a passive in Akha is a sentence of the form:

107) /hɔ̀/ + /ŋà næ/ + /cà? ə/ → The rice is (has been) boiled by me.

rice me by to boil

For an underlying form for these compounds, there might be posited:'

108) /hɔ̀/ (SOMEONE /næ/) /cà? ə/ 'The rice has been boiled by SOMEONE.'

A transformation deletes the passive agent and /ə/. For the example above:

109) /hɔ̀/ (SOMEONE /næ/) /cà? ə/ → /hɔ̀ cà?/
Rice has been boiled (by rice that has been boiled
someone).

A most unusual pattern (only one example, to date) is verb + verb.

110) /chɛ̀chɛ̀ dù/ < /chɛ̀chɛ̀/ + /dù/
outhouse to defecate to dig

I can only guess at the possibility of there being something like:

111) /chɛ̀chɛ̀ ni/ + /dù/ → Dig in order to defecate.
in order to defecate to dig

The import of /chɛ̀chɛ̀ dù/, then, would be something like 'something that has been dug in order to defecate'. I think this word is a modern

acquisition; I am not aware of a long-standing practice of the Akha to dig holes for their toilet. Thus, it may be a loan-translation, or perhaps a loan-blend (/chè/ *'faeces'* alternates with /khè/; cf. Thai อึ /khî/ *'faeces'*).

There is another pattern of a very anomalous nature - noun + verb + verb. I have one example, and its very meaning will suggest some of the reasons behind its anomalousness.

112) /húbí da yə?/ < /húbí/ + /da/ + /yə?/
     helicopter   *airplane*   *to ascend*   *to revolve*

This, I think, is a classic example of a hybrid compound. /húbí/ is from Thai เรือบิน /ryabin/ *'airplane'*, after the Shan dialect in which Thai /r/ is /h/. Added to this fact that part of the word is a loan, /húbí da yə?/ is obviously a modern word, so it might be expected the language would evolve a new construction to express a difficult distinction (between helicopters and regular airplanes). As to a source, it doesn't seem reasonable to posit an underlying sentence such as:

113) /da yə? ə/   + /húbí/   → *airplane that ascends (by) revolving*
     to ascend (by?)   *airplane*
     revolving

the typical embedded source I've suggested elsewhere, since obviously the plane does not revolve. /yə?/ does not characterise the plane, but a part of the plane. But I am not aware of a satisfactory source that will explain the relation between /húbí/ and /da yə?/.

By far the largest class of compounds has the structural pattern noun head + stative verb. In almost every case the stative verb is a characterisation of the noun head.

114) /abyè? chǽ/   < /abyè?/ + /chǽ/
     a pickled condiment   *sprout*   *to be pickled*

115) /chæ phyú/ < /chǽ/ + /phyú/
     husked rice   *rice*   *to be white*

116) /lɔ́dɑ byà/   < /lɔ́dɑ/ + /byà/
     woman's (flat) necklace   *necklace*   *to be flat*

These are taken as compounds, rather than full sentences of the sort *"The rice is white"*, because of the form of the stative verb. A stative verb can function as either a predicate or a noun modifier. The form of the verbs here is that of predicates; but as a predicate, a construction similar to 115) would make the noun the subject and the verb would probably have a following verb particle, for example:

117) /chǽ phyú ə/ or /chǽ phyú ŋa/

which is to be translated, *"The rice is white"*. In this example, note
the tone change in /chǽ/ *'rice'* to /chæ/ in the compound. Such a con-
struction also constitutes a full sentence, not a nominal construction
such as we have in 115). Neither are these constructions noun phrases
composed of a noun head + modifying stative verb. In such phrases, the
stative verb is marked by /yɔ-/, e.g. /chǽ yɔphyú/ *'white rice'*. Note,
too, the shift in meaning for some of the compounds, e.g. 115); in a
nominal phrase the meanings would be, respectively, *'white rice'*, and
'red metal'.

In this class of compounds, noun + stative verb, there is an anomalous
example.

118) /ícù?ítsà?/ < /ícù?/ + /í-/ + /tsà?/
     cool water   *water*   *water*   *to be cool*

This pattern of reduplication of part of the word as above (/í-/) occurs
elsewhere as will be seen below, but this particular pattern - noun +
noun (bound) + stative verb - is unique to this word. I don't know of
any syntactic pattern in Akha that would be a satisfactory explanation
for this reduplicative pattern.

This reduplicating phenomenon is illustrated also in /jíbàjíchú/
'rice whiskey still', with a structural pattern of noun + noun (bound)
+ noun (bound?).

119) /jíbàjíchú/   < /jíbà/   + /jí-/   + /-chú/
     rice whiskey still   *rice whiskey*   *rice whiskey*   *container*

This pattern, too, is an enigma; I cannot suggest a possible deep struc-
ture that might underlie this word.

From noun compounding I turn to verb compounding. Some of the morpho-
logical principles of the verbs duplicate, structurally, those of the
nouns; some are unique to the verbs. The first structural pattern to
consider is noun + stative verb. The relationship that seems to be ex-
pressed here is that of instrument of the verb.

120) /jíbà yà?/ < /jíbà/   + /yà?/
     to be drunk   *rice whiskey*   *to be satiated*

There is an instrumental construction in Akha, e.g.:

121) /àjà yænæ/ + /nɔ́ pa?/   → *(By) what did you step on and get*
                                      cut?

     by what   *to step on*
                      and cut

Parallel with this there can be postulated an underlying sentence for

120) such as:

122) /ŋá/ + /jíbà næ/ + /yà? ə/ → *I am drunk.*
    I   by whiskey   to be satiated

The intransitive character of /yà?/ would require a verbal transforma-
tion to delete /næ/. The justification for this approach lies in the
fact that in a sentence with the verbal compound /jíbà yà?/, e.g.
/ŋá jíbà yà? ə/ *'I am drunk'*, /jíbà/ appears in the position for a
direct object, yet the sense of /yà?/ is not transitive; it is not pos-
sible, in other words, to interpret /jíbà/ as a separate constituent of
the predicate (at this syntactic level). It seems more likely that on
the syntactic level /jíbà yà?/ together form the verb of the predicate.

There is, however, a verb structure of noun + verb which definitely
reflects an object + verb relationship. And yet the meaning of the struc-
ture is not really direct object + verb. And because it is not, I con-
tend such structures are compounds, understood as a whole and not within
the context of individual constituents of a predicate. The difference
is reflected merely in the understood relationships of the parts. For
instance:

123) /chæ̂ dì/   < /chæ̂/ + /dì/
    to thresh rice   rice   to strike

It would be nice to see in this pattern a transformation of some under-
lying sentence, but there are no overt markers of such a transformation -
no deletions of morphemes, no insertions; no changes in order. So ac-
tually my notion is based on two arguments.

1) There is a difference of sense between *'to thresh rice'* and *'to
strike rice'*, as in 123). One could suppose the Akha are capable of
talking about both ideas, and if /chæ̂ dì/ is the proper expression for
both, then the explanation for 123) may be idiomatic. Of course, transla-
tion equivalence is not the best grounds for argument, but there is an
obvious semantic relation between *'thresh'* and *'strike'* which seems to
also come out in Akha, and which it would be nice to retain if something
like a transformational explanation could be found. A parallel situa-
tion is seen in:

124) /chæ̂ thɒ̣/   < /chæ̂/ + /thɒ̣/
    to mill (dehusk) rice   rice   to beat, strike

125) /chæ̂ yà/   < /chæ̂/ + /yà/
    to harvest   rice   to cut

126) /ayæ̂ chá/   < /ayæ̂/ + /chá/
    to sing   music   to utter, voice

2) There is a parallel with certain verbs of seemingly similar structure where one morpheme is bound, so that it can't be analysed as direct object + verb at the syntactic (surface) level, e.g.:

127) /ʃdɪdɪ/ < /ʃ-/   + /dɪdɪ/
     to swim   water (bound)   to strike

It would be hard to analyse /ʃ-/ as an immediate constituent of a predicate. Only at the level of morphology is it an immediate constituent. By extension from /ʃdɪdɪ/, then, we could propose a transformational source for 123)-126).

The same structural pattern of noun + verb is used to express a variety of relationships. Three more are given below.

1) 128) /byʍ dzà/ < /byʍ/ + /dzà/
         to divide   pile   to measure

The underlying sense here seems to be 'to measure INTO, OR BY, piles'. The compound is derived by a transformation from an underlying instrumental expression.

     129) /byʍ næ/   + /dzà/   → /byʍ dzà/
          with piles   to measure   to divide (by using piles)

The transformation deletes /næ/ 'with, by'.

2) 130) /byʍ thà/ < /byʍ/ + /thà/
         to pile up   pile   to keep, maintain

Here, the underlying structure would appear to translate as 'to keep AS, OR IN, piles'. For a transformational basis, we can look to an expression with the very general locative particle /ɫ/ 'at, in'. One can say:

     131) /byʍ ɫ/   + /jɔ́ ə/   → They are in piles.
          in piles   they are

The same kind of relationship would be expressed in:

     132) /byʍ ɫ/   + /thà ə/   → He keeps them in piles.
          in piles   he keeps

By transformation of 132) the compound /byʍ thà/ is derived.

3) 133) /ʃcù? jɨ̀?/ < /ʃcù?/ + /jɨ̀?/
         to bathe   water   to wash, bathe

and here, the sense seems to be 'to wash WITH water', a transform of an instrumental construction with /næ/ (as in 121)).

There is one more relation expressed by noun + verb, but I am quite uncertain about it in several ways; it was elicited via portraying the action.

134) /cι?dð?/   < /-cι?/   + /dð?/
     to strike a match   *match (bound   to burn (intransitive)*
                              form)

It could be my "striking" action was ignored, and I was given an ex-
pression for the end product - *a burning match*. Assuming not, though,
then it is necessary to explain the peculiar grammatical relationship
between /-cι?/ and /dð?/. A big question is, can this compound take
another noun as subject, as the one who strikes. If it can take an-
other subject, then does /-cι?/ express a kind of burning?

As mentioned above, the discussion of compounding is all very ten-
tative. Suffice it (I hope) to say, further data should provide some
very interesting insights.