1 Introduction

Eastern/Central Arrernte (ECA) is a mesh of closely related dialects in the area around and to the east of Alice Springs in central Australia. These dialects form part of a larger dialect mesh for which there is no vernacular term. The language which incorporates the ECA dialects has been variously defined and labelled as Upper Aranda (Hale 1962), Eastern Arrernte (Wilkins 1989: 15) and Arrernte (Aranda) (Dixon 2001). ECA and Wilkins’ Eastern Arrernte are more or less coextensive terms. Much of the description in this chapter cannot be extended to Arandic varieties beyond ECA.

There are estimated to be between 1,500 and 2,000 speakers of ECA, and probably around 4,500 speakers of Arandic group varieties in total (Henderson and Dobson 1994). ECA is under considerable pressure from English, which dominates local media, education and government. Nearly all ECA speakers also speak at least some English, often a distinctive Aboriginal variety. Many older people believe that younger speakers are not learning or using ECA as well as they should be, particularly in the areas closer to Alice Springs. Some of the phenomena described in the latter part of this chapter have been recorded primarily from middle-aged or older speakers. Principal sources on ECA are Wilkins (1989), Breen (1990), Henderson and Dobson (1994), Henderson (1998) and Breen and Pensalfini (1999).

There is no Arrernte term which exclusively picks out a word-level unit. A nominalised form of angk42 ‘speak’, angkentye, covers a wide range of linguistic and textual units: language, word, phrase or other piece of language, message, news, story. Aboriginal language, way of talking. Sporadic attempts

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1 I am grateful to Bob Dixon and Sasha Aikhenvald for their comments on an earlier version of this chapter; to my Arandist colleagues, especially Gavan Breen, for discussion of these matters over the years; and to the Arrernte speakers who have helped me, especially Veronika Dobson, Margaret Heffernan, Therese Ryder and Margaret Mary Turner.

2 In citation of a single morpheme/allomorph in the text the ‘+’ symbol indicates (bound) root or suffix status. In morpheme-by-morpheme word glosses it indicates an affix boundary. In glosses, ‘+’ indicates a clitic boundary and ‘-’ indicates the boundary between elements of a compound or contiguous elements of a complex verb. ‘-’ has the same function in the orthography but also marks clitic boundaries.
The word in Eastern/Central Arrernte have been made in the educational context to select a standard term exclusively referring to a word-level unit, without long-term success, e.g. *angkentye akweke* literally ‘small unit of language’.

There is recognition of a word unit in the taboo on mentioning the personal names of recently deceased people and people with the same name as the speaker. This is extended to words resembling those names, applying most commonly to nominal lexemes, especially the open class items. Personal names, in particular, are usually replaced with the substitute word *kwementyaye*. Other nominals are often replaced by a descriptive compound or phrase, for example *ake-arripeak* ‘pointy head’ as a substitute for the word for ‘crested pigeon’.

With regard to orthographic word status, there is variation both across writers and within the work of individual writers whereby disyllabic or larger clitics and compounding elements are written as separate words, hyphenated or as a single word:

(1) water=comit kwatyakerte kwaty-akerte kwaty akerte
    remember=pres itelareme itele-areme itele areme

In this chapter, I will discuss the basic definitions of phonological word in §3 and grammatical word in §4, give an account of clitics in §5 and discuss the alignment of phonological and grammatical words in §6. The issues of word status in complex predicates are presented in §7. Finally, the discussion is summarised in §8.

2 Brief summary of typology

The verbal system, which contains most of the morphological complexity in the language, is basically agglutinating with tendencies towards both polysynthetic and analytic structures. Reduplication and compounding play important roles. Clause-level constituent order is relatively free but with a preference for AOV and SV, while relatively strict ordering prevails within nominal phrases and between the parts of complex predicates. Grammatical function of NPs is indicated by pronoun form or by case clitics which attach to the final word of the NP. Phonologically, ECA has a number of less common features: pre-stopped nasal consonants (i.e. stop+nasal), contrastively labialised consonants and, in some dialects, contrastively pre-palatalised consonants. Breen (1990) has claimed that syllable structure is exclusively VC at some level.

3 Phonological word

This section introduces the basic criteria for the phonological word in ECA. More complex issues, including mismatch with grammatical word will be discussed in §§6–7. The phonological word in ECA can only be discussed in
Table 1 Consonants in ECA orthography

<table>
<thead>
<tr>
<th></th>
<th>labial</th>
<th>lamino-</th>
<th>apico-</th>
<th>lamino-</th>
<th>velar</th>
<th>uvular</th>
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<tbody>
<tr>
<td>stop</td>
<td>p</td>
<td>th</td>
<td>t</td>
<td>rt</td>
<td>ty</td>
<td>k</td>
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<tr>
<td>nasal</td>
<td>m</td>
<td>nh</td>
<td>n</td>
<td>rm</td>
<td>ny</td>
<td>ng</td>
</tr>
<tr>
<td>pre-stopped nasals</td>
<td>pm</td>
<td>thn</td>
<td>tn</td>
<td>rtn</td>
<td>tny</td>
<td>kng</td>
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<tr>
<td>lateral</td>
<td>w</td>
<td>lh</td>
<td>l</td>
<td>rl</td>
<td>ly</td>
<td></td>
</tr>
<tr>
<td>approximant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>r</td>
<td>y</td>
</tr>
<tr>
<td>tap/trill</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>rr</td>
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</tbody>
</table>

relation to the other elements of the phonological hierarchy. The syllable is introduced in §3.1. The prosodic morphology of verbs, including the suffix allomorphy discussed in §3.1 and stress (§3.5) provide evidence for disyllabic feet, but this foot structure does not always correspond directly to surface patterns of stress. Above the word level, an intonational phrase level can be recognised as the domain of intonational contours. This has been claimed by Breen and Pensalfini (1999) to be the domain of rules relating to certain vowels (§3.2).

The consonant inventory is given in the standard orthographic form in table 1, except that there are also labialised counterparts, written Cw, for all apart from /wl/ and /hl/. All dialects have /wl/, /l/ and /le/ (basically [ə]). Less conservative lects also have /w/ in contexts where conservative lects derive the surface vowel rounding from /e/ before a labialised coronal. For simplicity's sake, the description here is of the less conservative lects.

3.1 Prosodically conditioned allomorphy

According to Breen's (1990) analysis, the basic syllable structure is exclusively VC(C), at least at the level of prosodic morphology. This, of course, goes against claimed universals whereby onsets are never forbidden and codas never obligatory (Jakobsen 1962). While other analyses are possible, the VC analysis permits a simple statement of prosodic morphological phenomena, and will be assumed here.

Surface syllable structure is not restricted to VC syllables. Phonetically, words may begin with a consonant and end with a vowel. According to Breen and Pensalfini (1999), morpheme-initial /le/ is not realised in initial position in an intonational phrase (and is not represented in the orthography). However, at the beginning of a phonological word in medial position within an intonational phrase, /le/ is usually realised, partly depending on the surrounding consonants. See (3) and (4) below.
The word in Eastern/Central Arrernte

<table>
<thead>
<tr>
<th>Table 2 Verb number and Reciprocal allomorphy</th>
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<tbody>
<tr>
<td>number of</td>
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<tr>
<td>preceding syllables</td>
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<td>odd</td>
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<td>even</td>
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</table>

Allomorphy of the Reciprocal verb suffix and part of the allomorphy of the Dual and Plural verb suffixes depend on the number of syllables found between the beginning of the phonological word and the suffix, as shown in table 2. There are restrictions on which forms can occur with various classes of stems, and there are also other non-prosodically conditioned allomorphs. Assuming binary footing from the beginning of the word, the prosodic conditioning can alternatively be stated in terms of the position of the first syllable of the suffix within the foot structure: non-head syllable of foot, head syllable of foot, or not in the first or head foot. Note that the first and third conditioning environments overlap; a three-syllable\(^3\) stem can take both the \(+err\) and \(+ewarr\) Plural allomorphs, as in (2) below.

Allomorphy of the Plural markers in table 2 is illustrated in (2). The Uncommon forms are in free variation with their Common counterparts but occur less frequently, and mostly in the speech of older speakers. The pseudo-orthographic forms in parentheses indicate the syllabification, showing in (a) and (c) how this takes into account underlying initial /e/, even though this vowel is not realised in surface forms. In what follows, where I refer to syllables this is at the level of the VC analysis unless otherwise indicated.

\(^3\) Though a five-syllable stem preceding number marking appears to be theoretically possible, none has actually been recorded.
3.2 Final vowels

A final vowel, typically central [ə] ~ [ɛ], may be added, at the end of an intonational phrase according to Breen and Pensalfini (1999). This depends on the nature of the final word. If the final phonological word in the phrase is of the underlying form /C(C)/, then the final vowel is obligatory. See (8e). Leaving aside a few other complications, the final vowel is otherwise generally optional, as shown in (3) where the second line indicates a pronunciation of each word as a separate intonational phrase.

(3) [έτνφανθεκναρενάκ] = [έτνφανθεκναρενάκ]
    [έτνφα μάνφ ούκερε ενάκε]
    /ίτνφ emern akngerr inek/
    itne merne akngerre in+cke
    3pl:erg food big:acc get+past
    They got a lot of vegetable food.

A word in isolation constitutes an intonational phrase on its own, as in (4). Word-initial /l/ is therefore not realised. A phrase-final vowel will frequently occur on the end of the word, depending on the overall word form, as just noted. It is on this basis that the orthography writes final ‘e’ on all words.

(4) kwabyte water /ekw.aty/ [kwáˈjə] = [kwáˈjə]

As the basic syllable structure implies, there are no underlying sequences of vowels within words. (Surface diphthongs result from vowel–glide sequences.) The insertion of intonational-phrase-final vowels means that a sequence of such a vowel followed by some other vowel is generally a sufficient criterion for an intonational phrase boundary and therefore for a phonological word boundary. The exception is that in pronunciations directed to second language learners, a prosodic word consisting of three or more syllables (including words comprising a mono-morphemic grammatical word) may sometimes alternatively be pronounced in more than one part, and each of the parts may have a final vowel, as in (5). This is not particularly common. The parts tend towards disyllables (VC) but do not necessarily represent a strict division of the prosodic structure of the word; in some cases a single underlying consonant occurs both as the last consonant of one part and the first consonant of the next.

(5) unathete ‘mulga blossom’ [utnáˈjəte] [utnə vəˈjəte]
    merure ‘ridge’ [tnəˈloˈre] [tnəˈloˈloˈre]
3.3 Initial vowels and other segments

Unstressed word-initial /a/ can optionally be reduced to /ɛ/, depending on the form of the word and the context in which it occurs. This means that many words have an initial [ɛ] - [ə] variation, as in (6), even in citation form. This is not a boundary signal since it does not result in phonetic elements which occur only at word boundaries, but it does require reference to the phonological word. It is particularly relevant to the discussion of complex verb forms in §7.

(6) alheme 'go+pres' /alh.əm/ [vːləmo]-[ləmu]-[vːləm]-[ləm]

Restrictions on other word-initial segments or sequences of segments do not translate well into boundary signals because of /a/-reduction. While /h/ and /lnh/ do not occur underlingly after word-initial /ɛ/, their presence cannot be a negative signal because reduction of initial /a/ can result in equivalent sequences, /ar/ and /lərn/ giving rise to initial [af] and [lən] and phrase-medial [af ...] and [lən ...]. Similarly, there are a number of clusters that cannot occur after initial /ɛ/ but can occur elsewhere: /ŋŋ/, /nl/, /rl/, /krl/, /rtr/, /rth/, /rtrn/, /rtn/, /rtnyl/. In these cases, however, reduction of initial /a/ is very infrequent but can result in the same surface forms expected with initial /ɛ/, for example [nŋ ...] and phrase-medial [nŋ ...]. Again they cannot function categorically as negative boundary signals, though in this case they do have a high probability of being word-internal.

Retroflex consonants are optionally pre-palatalised following /a/ in word-initial position but only prepalatalised after /ɛ/ in non-initial position if they are also immediately followed by a heterorganic consonant. The phonetic result is a diphthong: [ɛːtə] 'artepe 'back'. This means that prepalatalisation where a single retroflex consonant or homorganic cluster follows /a/ indicates the beginning of a phonological word, though its occurrence at the beginning of clitics raises questions about their status (see §5). There is one further context in which this type of prepalatalisation occurs, idiosyncratically, the Past Habitual verb suffix *etərə.

3.4 The Rabbit Talk play language

The play language 'Rabbit Talk' (Turner and Breen 1984, Breen 1990) involves a number of processes which obscure the standard form of words. Two of these

4 Though there are individual and dialect differences with regard to frequency of /a/-reduction. Further, in some cases, a word with initial /a/ may correspond to a word in another ECA dialect with initial /ɛ/. In surface terms, the word in the first dialect will show [ɛ]-[ə] alternation in citation form while the cognate form in the other dialect is phonetically consonant-initial in citation form.
are of interest here. In the case of polysyllabic words, the first syllable of a word is transposed with the remainder of the word, as for example the /amp/ syllable in (7a). This process may thus split a morpheme, as it does with the verb roots in (7a–b). In the case of monosyllabic words, a syllable /ey/ is prefixed, as in (7d–e). Although these two processes are obviously formally distinct, they clearly have a common outcome: the first section of the morphological word becomes the last section of the prosodic word, which is consequently no longer in a linear correspondence with the morphological word.

\[
\begin{array}{lll}
(7) & \text{ordinary speech} & \text{Rabbit Talk} \\
\text{a. moan+pres} & \text{ampangk+eme} & /\text{amp.angk} / \\
\text{b. smell+pres} & \text{ntyern+eme} & /\text{ern.en} / \\
\text{c. that (mid)} & \text{yanbe} & /\text{ey.} / \\
\text{d. man} & \text{artwe} & /\text{artw} / \\
\text{e. Let’s go!} & \text{mpe!} & /\text{emp} / \\
\end{array}
\]

The domain of these processes of the Rabbit Talk play language appears to be the phonological word. However, there are complexes of morphemes which Rabbit Talk variably treats as a single domain or as multiple domains: nominal plus disyllabic case clitic and complex verbs. Both are discussed further below. The value of Rabbit Talk evidence is limited by the restricted data available. It is mostly only known by some older speakers, particularly from the northeastern part of the ECA area, and is no longer in common use. It was used, by people of all ages, for secrecy sometimes but mostly for humorous effect, including to downplay the imposition in requests for food.

3.5 Stress

Stress in ECA is not always clear and consistent, particularly but not exclusively in casual and/or extended speech. A thorough analysis still remains to be done but some preliminary statements can be made with a fair degree of validity, or at least optimism. Each phonological word bears a primary stress. Some basic rules can be stated in terms of (VC) syllable structure: in words of two or more syllables, the second syllable bears primary stress, as in (8a–d); in words of four or more syllables secondary stresses may occur on alternating syllables after the primary stress, as in (8d). Secondary stresses are more likely in citation forms. A final vowel is not stressed except in Imperative forms of verbs and where it is the only surface vowel of the word, as in (8e). In words of the underlying form VC(C) where V is /ə/, /i/ or /u/, there is dialectal variation between placing primary stress on the initial vowel or the predictable final vowel, as in (8f).
The word in Eastern/Central Arrente

(8) a. merne 'food' /emern/ [mënə]
b. atherke 'green' /atherk/ [ætərke]
c. ampeyel 'back(wards)' /ampetel/ [æmpejə]
d. atekertene 'cough+PRES' /akekertnem/ [ætəkərtnəmə]
e. re '3SGNOM/ERG' /er/ [rə]
f. ampe 'child' /amp/ [æmpə]- [ampə]

Primary stress may be attracted to word-initial /a/, /i/ or /u/ if the following vowel is [ə]. This is more likely if the consonant(s) of the first syllable are coronal, especially apica1s. The language name Arrernte, for example, can be stressed [ærərnte] or [ərərnte] (Wilkins 1989: 94-5). Stress may also be attracted to the initial /a/, /i/ or /u/ of clitics and compound elements. The question of whether this is primary or secondary stress is discussed in §5 and §6.

A significant problem in the analysis of stress is that it is difficult to distinguish between secondary stress within a phonological word and the varying degrees of prominence associated with the primary stresses of words in a phrase. It is thus difficult to determine in some cases whether two morphemes constitute two phonological words in sequence within a phonological phrase or a single phonological word in which an affix, clitic or compound element bears a secondary stress.

3.6 Summary

In this section we have seen that the basic phenomena which characterise the phonological word in ECA are prosodically conditioned verb suffix allomorphy, the processes of Rabbit Talk, position and degree of stress, and the realisation of vowels at word margins. The significance of these criteria varies: the allomorphy is relevant only to verbs, while stress can be difficult to determine.

4 Criteria for grammatical word

There is no simple definition of grammatical word in ECA. Nominal morphology is limited to compounding, and limited suffixation in the pronoun system inasmuch as it is analysable. NP case is otherwise marked by case enclitics. In terms of conventionalised coherence (see chapter 1), speakers usually speak of nominal plus clitic sequences as single ‘words’ though

5 Pronouns distinguish person, number, case and optionally kin category. Suffixes marking case and kin category can be distinguished in some forms; other forms are suppletive. Only a subset of cases are distinguished in the basic pronominal forms – Ergative, Nominative, Accessive, Dative and Possessive – with other cases marked by case enclitics attached to the Dative forms.
disyllabic clitics are sometimes spoken of as separate from the nominal they attach to. However, this may reflect phonological word rather than grammatical word.

Verbs and adverbs can bear affixation, always suffixes. For verbs, two classes of morphological elements can be recognised apart from the root, non-obligatory and obligatory morphology, in that order. The non-obligatory class includes markers of aspect, subject number and motion associated with the verb stem action. These markers include simple suffixes, compounded verb roots and combinations of both, and fall into several categories of incompatible elements. The obligatory class marks tense, mood and/or dependent clause relation. Each verb must contain at least one element from this class. The order of morphological elements of both classes within the verb is largely fixed, though there are alternative sites for some markers and very limited multiple marking, such as the Plural in (9).

(9) unth+ili+rr+erl+1-t-ap+erl-iw+eme
    look_for+PLURAL+CONT.GO1+PLURAL-CONT.GO2+PLURAL+PRES
    They are walking around.

Verb words have conventionalised coherence and meaning: suffixes are not usually spoken of by ECA speakers. The most common citation form for verb lexemes is the present tense form.

All this suggests that a verb word can be defined on the basis of cohesiveness, fixed ordering and conventionalised coherence. However, certain non-verbal morphemes may intervene at specific points within verb structures. For example, in (10a) the verb morphology is interrupted by the particle akwele 'supposedly' which can alternatively occur after the entire uninterrupted verb, as in (10b), with apparently the same meaning (though there may be subtle pragmatic differences). The particle can also occur with NPs and in isolation. This raises the possibility that the verb in fact constitutes two grammatical words. This phenomenon is discussed in more detail in §7.

(10) a. areme akwele l+h+eme
    place SUPPO REFLEX-PRES
    supposedly sit down

    b. areme+eh+eme akwele
    place+REFLEX-PRES SUPPO

5 Clitics

All clitics in ECA are enclitics. Wilkins (1989: 347–59) categorises them into three groups on the basis of the categories of hosts to which they attach:
separate from the nominal they
are attached to. In some contexts, they
attach to the verb rather than to the nominal.

(i) clitics which attach only to nominals.
(ii) clitics which attach to either adverbs or nominals
(iii) clitics which attach to either verbs or nominals

To this can be added case clitics, which attach to verbs, nominals, certain
adverbs, and certain particles which can occur within an NP (e.g., the Intensifier
anthurre). Case clitics most commonly attach to a nominal or anthurre, but if
an NP contains a relative clause, and the verb of that clause is the final word of
the NP, then the case marker can attach to that verb directly after the obligatory
verbal morphology, as in (11).

ground hard clear=RC TV+PAST=DAT
arrern+em+ele
place+PRES+SAMESUBJ
... and putting (them) on the hard ground that they had cleared

NPs are recursive, with case marking indicating relations at each level of embed-
ding within an NP as well as the clause-level function of the overall phrase. The
order of case clitics therefore follows from the structure of the NP, as illustrated
in (12). Restrictions on the possible sequences result from the applicability of
particular cases to particular levels. Core grammatical cases such as Ergative
are applicable only to the highest level of the NP since they indicate clause-
level relationships (except that a relative clause may contain an Ergative marked
argument for the same reasons). A majority of the semantic cases can mark rela-
tions within an NP, and therefore can be followed by higher level case clitics.
However these principles do not mean that highest level case clitic is final in an
NP – some NP-internal non-case clitics may follow, for example =areye Plural.

(12) [akngwelye [ampe [town=areneyle]NP =kene=le]NP uthn+eke
dog child town=ASSOC=POSS=ERG bite+PAST
The kid from town’s dog bit (someone).

Although clitics and postpositional particles are typically phrase-final, in complex
verbs some can occur either after the entire verb or after a first or non-final
element of the complex verb, usually with no apparent difference in meaning.
For example, the relative clause marker in (11) could alternatively occur after
the Past tense marker.

Non-case clitics occurring with an NP generally have scope only over the
preceding phrase, but some may also have scope over the whole clause, for example,
=ekamporre ‘first’ in (13). Where they follow verbs, many non-case
clitics seem to be ambiguous between scope over the verb and scope over the
whole clause. For some clitics, the scope depends on the specific function. In its
relative clause marker function, =arle may follow the verb or the first constituent
or both but marks the status of the whole clause. In its focus marking function, it has scope only over the preceding phrase.

(13) urréke iţinenhe merne awele-awelet ak+etyēke
later 3pl:ACC veg.food.bush.tomato:ACC put+PURP
akng+etyēnhe+ele, kwatye ngent=ekemparate the
take+FUT+SAME:SUBJ water soakage:ACC=FIRST 1sg:ERG
nty+em=erage
dig+PRES=ABL.
We’ll take them to gather bush tomatoes later – I’m going to dig a
soakage first.

The emphatic clitics =ey, =ew and =eyew, and the interrogative clitic =ey, always occur last in a clitic sequence (but may be followed by a post-positional particle to which further clitics may be attached). There is some evidence that polysyllabic clitics, such as =ekempare ‘first’, should be analysed as clitic complexes but there is insufficient space to deal with this here.

Wilkins (1989: 347) observes that it is often not clear whether certain morphemes are to be analysed as clitics or particles. The problematic cases are items which are exclusively post-positional (or at least not clause-initial). Others which are post-positional but can also occur clause-initially and/or in isolation, are more clearly particles. Though any of the problem particles/clitics may clearly occur within the same intonational phrase as the preceding element, it is not always clear whether it constitutes a separate phonological word. This difficulty applies especially with disyllabic and larger forms. Stress typically falls on the second syllable of a disyllabic particle/clitic but, as noted above, it is difficult to decide whether the degree of stress is to be interpreted as secondary stress within a single phonological word, for example arlwēkere-ä rênye ‘women’s camp+ASSOC’, or a lesser degree of prominence associated with a primary stress on a separate word within a phrase. In the former case, it is not possible to attribute the location of the secondary stress in forms like arlwēkere-ä rênye to the alternating stress rule which otherwise accounts for secondary stresses within phonological words. A separate rule dealing just with disyllabic clitics is required.

However, there is some evidence that disyllabic and larger clitics may constitute separate phonological words. First, as discussed in §3 above, retroflex consonants are optionally prepalatalised following /a/ in word-initial position but only prepalatalised after /a/ in non-initial position if they are also immediately followed by a heterorganic consonant. The clitics =uţeke Semblative and =adoraye ‘what about?’ can be pronounced with prepalatalisation, which suggests the initial /a/ in these forms is word-initial.

Second, Rabbit Talk suggests that disyllabic case clitics, at least, constitute a separate phonological word. In (14a–b), the two elements count as separate domains: the nominal as a monosyllabic word which therefore undergoes /ey/
The word in Eastern/Central Arrente

prefixation while the clitic constitutes a separate word, which being disyllabic, undergoes transposition. There is some inconsistency in the evidence though. One case has been recorded where the nominal and clitic constitute a single domain for Rabbit Talk transposition, (14c), and therefore constitute a single word. Although I do not have any evidence of this type of variation in a single form, it seems likely.

(14) a. 'ear=comit' iripe-akerte /ey.irl.ert.ak/ b. 'night=assoc' ingwe-arenye /ey.ingw.eny.ar/ c. 'what=assoc' iwenhe-aperte /enh.ap.ert iw/

Monosyllabic clitics are stressed consistently with the primary and alternating stress rules, and are therefore taken to form part of the same phonological word as the host. However, the monosyllabic clitic =arle Focus/RC can be pronounced with prepalatalisation, again indicating that the initial /a/ is word-initial and therefore that =arle constitutes a separate phonological word. That this is inconsistent with the facts of stress suggests a distinction between prosodic word and phonological word. The available Rabbit Talk evidence shows different behaviour by case and non-case clitics. Monosyllabic case clitics behave as part of the host word, for example yanh=ele 'there=Loc' becomes anheleye. However, the only monosyllabic non-case clitic recorded behaves in a way that suggests it is a kind of unincorporated appendix to the phonological word. The particle=clitic sequence kele=arle ‘finished=Focus’ is rendered as lekarle. The clitic does not count as part of the phonological word as far as transposition is concerned, yet it is not treated as a separate word in that /ey/ is not prefixed.

The only other criterion for phonological word that is applicable to clitics is final vowels. A final vowel cannot occur on the host, which indicates that host and clitic are within the one intonational phrase. Monosyllabic clitics of the underlying form /eC/, such as the Dative case marker /e/, behave differently to full phonological words of the same form, such as in (8e), since a final vowel is not necessary on the clitic when in intonational-phrase-final position. The behaviour of clitics attached to a monosyllabic word is more complex. This is discussed further in §6.

If, as some of the evidence above suggests, at least disyllabic and larger clitics constitute distinct prosodic/phonological words, this is clearly at odds with the usual notion of a clitic. I propose that such clitics can constitute phonological words but only within a recursive phonological word structure conjoining the phonological words of the host and clitic.

With regard to conventionalised cohesion, the sequence of word plus clitic is typically spoken of by ECA speakers as a single word; clitics are not typically spoken of as separate words. Monosyllabic case clitics are typically not written

6 Also lexicalised as the name of a type of boomerang.
as separate from the word they attach to, though monosyllabic non-case clitics and disyllabic case clitics sometimes are.

6 Relationship between phonological and grammatical word

There are a number of situations which diverge from one-to-one alignment of phonological and grammatical words. Some of these reflect a general dispreference in ECA for monosyllabic words.

6.1 Two grammatical words align with a single phonological word

This can occur where a monosyllabic nominal is followed by a disyllabic clitic, as in (15a), or a monosyllabic first part of a complex predicate is immediately followed by the second part, as in (15b). Alternatively, but much less commonly in these cases, there can be a separate stress on each part, though it is not clear whether it is a primary or secondary stress on the second element.

(15) a. ṭuŋ-comit ūr-akéte ~ ūrákértē
    b. close-IV+PRES ṭwe īrēne ~ ṭwērērne

6.2 Two phonological words align with a single grammatical word

Two phonological words can align with a single grammatical word in compound nominals and total reduplications.

In reduplications, both parts bear a stress on their second syllable, with the first being stronger. The position of the stress in the second element cannot be attributed to the alternating stress rule since it is independent of the number of syllables in the first element, as demonstrated by (16a). Initial /a/ before a retroflex consonant can be pre-palatalised, as in (16a), indicating that the second element is a separate phonological word. If the element is greater than three syllables, in addition to the stress on the second syllable of the second element there will also be secondary stress on the second syllable after that, as in (16b). Reduplications of monosyllabic bases typically form a single phonological word.

(16) a. arlētyeye 'pencil yam (plant)'
    arlētyeye – arlētyeye  'area with lots of pencil yam plants'
    b. arrēmēlētyeye  'to sit down, land' (PLACE+REF+PURP)
    arrēmēlētyeye-arrēmēlētyeye  'to persistently try to sit down'

The only relevant evidence available from Rabbit Talk involves reduplication of disyllabic elements, in which case it is not possible to distinguish whether the domain of transposition is the entire reduplicated form or each element individually.
The word in Eastern/Central Arrernte

However, Wilkins (1984) points out that there is a difference in stress between the reduplication *iperte-iperte* ‘rough, holey’ and the phrase *iperte iperte* ‘deep hole’ (*iperte* ‘hole’ and *iperte* ‘deep’). I propose that this behaviour of reduplicated forms be attributed to a recursive phonological word structure in the reduplicated forms, the same as that proposed for host plus disyllabic clitics in §5. Both elements constitute distinct phonological words which are conjoined into a single higher phonological word.

For compound nominals, the details of stress position and degree are as for reduplications, as shown in (17). If the first element is monosyllabic, the compound may consist of either one or two phonological words. as in (17c).

(17) a. southeast antëkerre-ikngëre
    b. bird species (lit. ‘stranger coming’) ipënye-apëtyeme
    c. back of head (lit. ‘head-mound’) akë-täpmwe ~ akërtämwe

The limited evidence from Rabbit Talk shows that at least some nominal compounds can constitute a single domain: *mwerre-akngerre* ‘nice’ (*mwerre* ‘good’ *akngerre* ‘much’) becomes *rrakngerrem*.

6.3 Phonological word is misaligned with two grammatical words

Where a monosyllabic word with underlying initial /l/ precedes another grammatical word with initial /l/ or /l/ within an intonational phrase, the initial vowel of the second word can combine with the first grammatical word to form a phonological word, with that vowel receiving a primary stress, as shown in (18). Pause between the two prosodic words seems not to be possible. This kind of overlap is optional but very common. It is clearest when the monosyllabic word is in initial position in an intonational phrase and the following word has initial /l/ or /l/. It is less clear where the initial vowel of the second word is /l/ because in that context /l/ can be very similar in quality to the final vowel on a monosyllabic word.

(18) [ệnhë̈ge] [Ịgį̈ge] ~ [Ịgį̈ge]
    [thl] [kwēre] [arrēneke] [thē] [ikwēre] [arrēneke]
    1sg:erg 3sg:dat place+past
    I put (something) on it.

Rabbit Talk involves reduplication not possible to distinguish whether reduplicated form or each element

(19) [kë̈ge] [körtkë̈ge] ~ [körtkë̈ge]
    [ṛ] [nētyeke] [alhēke] [ṛ] [nētyeke] [alhēke]
    3sg:nom get+purp 3sg:nom get+purp
    S/he went to get (it).
This phenomenon can be seen as the result of four things: (i) in words of the underlying form /le(C)C/, the only underlying vowel cannot bear stress, (ii) every phonological word bears a primary stress, (iii) sequences of (non-contrastive) word-final vowel and word-initial vowel are strongly dispreferred if not actually prohibited within an intonational phrase and (iv) core constituents of a clause tend to fall within a single intonational phrase. A similar outcome results from the processes illustrated in (15) and (17c).

7 Complex predicates

The complex predicate constructions present a number of issues for the definition of phonological and grammatical word in ECA. The basic facts are that these structures appear on some grounds to constitute a single grammatical and phonological word. Wilkins (1989) has described the verb types discussed below in this way, except for the Transitive and Intransitive Verbalisers which he describes as ambiguous between derivational suffixes and free verbs (1989: 216). However, other evidence suggests that all the complex verb predicates discussed below involve multiple grammatical and/or phonological words. Recall the discussion on (10a–b) above.

Six of the complex predicate types are discussed here:

(i) Suffix-root compounds
(ii) Lexical Complex Predicates
(iii) Transitive Verbaliser (TV) complexes
(iv) Intransitive Verbaliser (IV) complexes
(v) Attenuative verbs
(vi) Initial Separation

Each of these involves a division of the predicate into two parts which occur in fixed order and within a single intonational phrase. More than one of the types above can occur in a single complex verb, as demonstrated in (35). Types (i)–(iv) by default involve two phonological words, and when the two elements are contiguous, these phonological words are conjoined under a single higher level phonological word. Their alternative occurrence as a single phonological word can be attributed to the optional flattening of this structure to a single phonological word at a single level.

The types of evidence which establish the word structure of complex predicates are presented in §7.1. The six complex predicate types are then discussed in these terms in §7.2.

7.1 Types of evidence for complex word structure

7.1.1 Interposing non-verbal morphemes In all complex predicates, non-verbal morphemes can intervene between the two parts. Wilkins, who
of four things: (i) in words of the vowel cannot bear stress, (ii) every (iii) sequences of (non-contrastive) strongly dispreferred if not actually (iv) core constituents of a clause A similar outcome results from

a number of issues for the definition in ECA. The basic facts are that constitute a single grammatical described the verb types discussed Intransitive Verbalisers which nominal suffixes and free verbs (1989: 381) complicated verb predicates dis- and/or phonological words. Recall used here:

distinguish into two parts which occur a single higher occurrence as a single phonological meaning of this structure to a single

type: complex predi-

cate types are then discussed

structure

dates In all complex predicates, even the two parts. Wilkins, who
described this phenomenon as ‘particle/clitic insertion’ on the basis of more
limited data, observed that it is critical to understanding the verb system and the whole issue of ‘word’ in ECA (1989: 381).

There is considerable variation in the intervening material that can occur with the various types of complex verbs, but it is possible to form a rough scale to indicate which types have been recorded in wider ranges of complex verb types. From most to least widespread, these are:

(i) certain particles and clitics, the most likely being anthurre Intensifier, akwele ‘supposedly’, ake ‘maybe’, arle foci, arle ‘too’, ane ‘only’

(ii) akwele ‘still’

(iii) third person singular pronoun functioning non-referentially as an emphatic (cf. Henderson 2001)

(iv) other pronominal NPs

(v) simple non-pronominal NPs, most likely being a single nominal

(vi) other adverbs, complex NPs

(vii) dependent clauses

Example (10) above exemplifies the least degree of intervening material, the single particle akwele ‘supposedly’ while (20) illustrates an intervening dependent clause with an Intransitive Verbaliser complex verb (the discontinuous elements are shown here in bold face).

(20) alakente re ampe akwele mpe uth+etyen+ele
thus 3sg:nom child small:nom urine excrete=fut+same:subj

irr+entye-akngere.

NGMLSR

Little kids behave that way when they need to have a leak.

The scale above is also roughly implicational. For example, the only complex verb type which permits dependent clauses also permits items from the preceding types. The scale also gives a rough indication of the relative likelihood of occurrence in complex verb types where more than one type of intervening material is possible: even where a broader range of intervening material is possible, items from the particle/clitic end of the scale are more likely. Particles and clitics also appear to be more basic in another way: when any of the other types of intervening material actually occur, it is very likely that that they will be preceded by a particle or clitic.

As might be expected, there tend to be fewer intervening morphemes, rather than more. This suggests a markedness principle favouring the least disruption to a complex verb. It also makes it difficult to precisely determine the range of intervening material permissible for a given complex verb.

In most cases, the intervening material can alternatively occur elsewhere without a difference in meaning. For clitics and particles, the intervening position is typically equivalent to following the entire complex verb, though Wilkins
(1989: 381) reports one combination where there is a meaning difference. Having NPs and higher-ranked items in the intervening position appears to place focus on the verb. If a verb is multiply complex, intervening material is more likely to occur at an earlier boundary rather than a later one.

It will be argued below on the basis of stress placement and prosodically conditioned allomorphy that intervening material, even a monosyllabic clitic, is not phonologically incorporated into the complex verb as a whole.

7.1.2 Stress placement We have seen above that it is difficult to distinguish between secondary stress within a phonological word and the varying degrees of prominence associated with the primary stresses of words in a phrase. This means that degree of stress is not in general a good determinant of phonological word status in complex verbs. It has also been claimed above that secondary stresses appear to be optional even in citation form. Despite these things, arguments can be made for some complex verb types on the basis of the position of stress in the second part.

In all complex verb types discussed here, there can be clear primary stress on the second syllable of the first part of a complex verb. The situation with monosyllabic first parts is slightly more complicated due to the processes discussed in §6. In lexical complex predicates, transitive constructions, Attenuative marked verbs and verbs made complex by suffix+root markers, there may also be stress on the second syllable of the second part. In Attenuative forms and some lexical complex predicates, the first part is disyllabic and the position of this stress in the second part is identical with a secondary stress placed by the alternating stress rule within the domain of the entire compound verb. But when the first part is larger than a disyllable, the position of the stress is clearly independent of the number of syllables in the first part and therefore cannot be accounted for by application of the alternating stress rule, as demonstrated in (21). The stress may be optionally attracted to an initial /u/, /i/ or /a/ of the second part but this is also not strictly dependent on the number of syllables in the first part.

(21)  mpwär+ety- álh+érr+eme
do+PRIOR.MOTION+GO+DUAL+PRES
two go and then do

The preceding discussion assumes no intervening material, the situation where complex verbs are most likely to be perceived with only the single primary stress. When pronouns, other nominals or dependent clauses intervene, those words typically have their own primary stresses and the stress on the second part of the complex verb is usually relatively clear. If a stress is perceived in the second part, the number of syllables of intervening material has no effect on the position of that stress, regardless of type of intervening material.
The word in Eastern/Central Ararmini

All this suggests two possibilities. (i) The second part optionally gets a secondary stress, similar to what appears to happen with disyllabic case clitics discussed above, even though the second part of a complex verb need not commence with a disyllabic morpheme. (ii) The second part constitutes a distinct phonological word, or at least initiates one. The lesser degree of stress could be attributed either to the second part being in non-head position in a phonological phrase or to the separate phonological words of the two parts being united within a higher phonological word (which is optionally reduced to a single flat phonological word). It is not possible to decide this on the basis of stress alone, but the related phonological phenomena of prosodically conditioned allomorphy and the Rabbit Talk processes support the second alternative.

7.1.3 Prosodically conditioned suffix allomorphy The number of syllables in the first part of a complex verb does not count in determining prosodically conditioned allomorphy in the second part, as in (22). Any intervening material is similarly not taken into account. This suggests that the second part is not part of the same phonological word as the first or any intervening material.

(22) akwaketye-ak+errirr/*ewarr+eme
put.arm.around1-put.arm.around2+PLURAL+PRES
more than two put arms around (someone)

The allomorphy does not vary with any of the apparent variation in stress. Even where there is no secondary stress perceived in the second part, allomorphy in the second part is invariably conditioned only by the preceding content of the second part. The variation in stress is therefore a relatively superficial phenomenon.

There is a small number of cases where allomorphy can alternatively be determined by the entire preceding verb, as in (23), but in that alternative the 'two parts' do not show any other evidence of separate word status and appear to be in the process of being lexicalised. These mostly involve monosyllabic first parts.

(23) a. aheye+ewarr/*errirr+eme
breathe1-breathe2+PLURAL+PRES
b. aheyangk-angk+errirr/*ewarr+eme
breathe+PLURAL+PRES
more than two breathing

7.1.4 Rabbit Talk processes For the complex verb types for which there is evidence, Rabbit Talk varies between treating a complex verb type as a single domain, as in (24), and the two parts as separate domains, as in (25-6), though there is no evidence of this type of variation within a specific complex verb.
(24) apek+erle-an+eme
      smash+CONT+PRES

Rabbit Talk
kerlanemap

(25) arrern+etye-alp+eme
      place+PRIOR.MOTION-RETURN+PRES

rnetyarre malp

(26) akeme7+ihe-il+eme
      wp+TV+PRES

melhak mil

If the domain of transposition is the phonological word, as suggested above, then this is consistent with the proposal above that the two parts of complex verbs constitute two phonological words unified within a higher phonological word.

7.1.5 Site of Attenuative marker The Attenuative has a disyllabic marker which precedes the root of a simple verb: the first syllable is a reduplication of the first syllable of the base to which the marker attaches; the second syllable is /elp/, as shown in (27). It creates a complex verb type in its own right (see §7.2.5) but is also relevant here because, for nearly all complex verb types, including the lexical complex predicate in (28), the marker can attach to either the first or second part. Again, this makes no obvious difference in meaning but there may be subtle pragmatic effects.

(27) a+elp-atax+eme
      ATTEN(REDup+elp)-demolish+PRES
      start to demolish (something)

(28) a. akw+elpe-akwaketye-ak+eme
      ATTEN(REDup+elp)-put.arm.around+PRES
      put臂,围绕 strands

b. akwaketye-ak+elpe-ak+eme
      put.arm.around+ATTEN(REDup+elp)-put.arm.around+PRES
      start to put (your) arm around (someone)

7.1.6 Conventionalised coherence Despite the evidence that the parts of complex verbs constitute separate phonological words, speakers usually speak of them as a single word. This often even happens when there are intervening particles or clitics. In writing, complex verbs are often represented as a single word but are sometimes written as two words or with a hyphen between the parts. However, when intervening material is more extensive or consists of pronouns, other nominals, etc., the two parts of the complex verb will usually be written as separate words. The significance of these practices in writing is not completely clear since they might reflect the way the speakers’ Arrernte literacy was acquired or reflect some influence from English.

7 This is a bound morpheme which occurs only with the Transitive and Intransitive Verbalisers.
Rabbit Talk
kerlanemap

netyarre malp

melak mil

e/ word, as suggested above, then the two parts of complex verbs form a higher phonological word.

The Attenuative has a disyllabic verb; the first syllable is a reduplicated marker that attaches to the second complex verb type in its own right or nearly all complex verb types, and the marker can attach to either previous difference in meaning but

(29)  \[\text{ar+ety=arle} \quad \text{akwèle} \quad \text{alh+érre+eme} \]
\[\text{see+PRIOR.MOTION=FOC} \quad \text{SUPPO GO+DUAL+PRES} \]

\[\text{two supposedly go and then see}\]

The Attenuative may precede the entire complex verb, as in (30), but cannot occur before the second part, as shown in (31). This suggests that the second part does not constitute a word in the sense that a simple verb does. If it constitutes a separate phonological word as the discussion above suggests, then the evidence of the Attenuative suggests that it does not constitute a separate grammatical word.

(30) \[\text{mpwelye-mpwar+etye-alh+eme} \]
\[\text{ATTEN(REDU+elp)-DO+PRIOR.MOTION-GO+PRES} \]

\[\text{start to \{go and then do\}}\]

(31) \[\text{mpwar+etye-afhlepe-alh+eme} \]
\[\text{DO+PRIOR.MOTION-ATTEN(REDU+elp)+GO+PRES} \]

Despite the difficulties in defining grammatical word in ECA, an argument that root+suffix verbs are single grammatical words can be made in some cases on the grounds that the root and suffix parts are in general co-dependent. For example, the marker for continuous action while in motion is the compounding =erl-\text{ap}, the two parts of which can be separated by intervening material, as in (32). While the -\text{ap} part can be analysed as a verb root, it does not occur productively as the sole root of a non-compound verb.\(^8\)

(32) \[\text{apem+elearteke} \quad \text{re} \quad \text{ap+em+ele} \]
\[\text{feel+DO.ALONG_1=SEMBL} \quad \text{3SG:ERG DO.ALONG_2+PRES+SAME:SUBJ} \]

\[\text{like going along continuously feeling (its way)}\]

\(^8\) The existence of the full verb ap + ‘go’ in Kaytetye suggests that this was once the case in ECA. It is now restricted to the compounding +erl-ap and combination with +ety ‘hither’.
7.2.2 Lexical complex predicates These consist of a pre-verb word which cannot occur with any verbal morphology except Attenuative, and an inflected verb. They are distinguished from adverb and verb combinations by their fixed order and lack of productivity. In most cases, it is not possible to ascribe separate meanings to the two parts, though the verb parts are always homophonous with independent verbs. Intervening material can include particles and clitics, pronouns and simple non-pronominal NPs.

(33) ikernke antulure re antemene=arle re iw+elhe+eke stick₁ INTENS 3sg:NOM now=FOC 3sg:NOM stick₂+REFL=PAST
He’s got himself really stuck now.

(34) itele ware ampe nhenhe ar+eke remember₁ just child this:ACC remember₂+PAST (S/he) just remembered this kid.

7.2.3 Transitive Verbaliser The Transitive Verbaliser has two forms, +elhe-il and -il, with overlapping distribution and slightly different behaviour. The +elhe-il form is formally a kind of suffix+root marker where the -il initiates the second part but is distinct from the others discussed above because the Attenuative may apply to either part, as in (35). Single uninflected nominal and adverb words may generally combine with either +elhe-il or -il. Purposive and nominalised clauses and NPs with multiple words or bearing a final case clitic only combine with -il. Pre-obligatory verb stems combine only with +elhe-il. Intervening material appears to be limited to particles and clitics and the third person pronoun with +elhe-il, as in (36); adverbs and simple NPs can also intervene with -il.

(35) a. ap+elpe-apat+elhe-il+eme ATTEN(REDUP+elp)-be.stunned+TV+PRES
b. apat+elhe-il+elpe-il+eme
be.stunned+elhe-ATTEN(REDUP+elp)-il+PRES
start to stun someone

(36) mperlik+elhe antulure renhe il+eme be.white+elhe INTENS 3sg:ACC TV+PRES make it go really white

7.2.4 Intransitive Verbaliser Like its transitive counterpart, the Intransitive Verbaliser combines with a single nominal word or phrase, adverbs and certain clause types. It is the freest of all complex verb types with regard to intervening material, permitting all types including dependent clauses, as in (20) where the Intransitive Verbaliser forms a complex predicate with alakenhe ‘thus’ meaning ‘behave that way’.
The word in Eastern/Central Arrernte

7.2.5 Attenuative As already noted, the partially reduplicative Attenuative marker precedes a verb word, as shown in (37). Pronouns and certain particles and clitics have been recorded as intervening material, as in (38). An unusual aspect of this is that the reduplicant is therefore separated from its source by other morphemes. There is no Rabbit Talk evidence available.

(37) at+elp-at+errirr/*ewarr +eme
ATTEN(REPDUP+elp)-burst+PLURAL+PRES
start to burst

(38) kwayte uyepe aneme=arle uyerr+erlenge
water=NOM ATTEN(REPDUP+elp) THEN=FOC disappear+DIFFSUBJ
the water started to go away then

In verbs which are also otherwise complex, there are certain limitations with the Attenuative. Intervening material between the unit consisting of the Attenuative plus the first part, and the second part of the verb appears to be limited to particles and clitics and the third person singular pronoun, as in (39). Both the Intransitive and Transitive Verbalisers can form complex predicates with a single nominal or a larger NP. The Attenuative can apply to a nominal in that context but only to a single nominal (including a compound or a single nominal bearing a case clitic), not to an NP consisting of more than one nominal, as in (40).

(39) ingwelpe-ingwe=arle irr+eme
ATTEN(REPDUP+elp)-night=FOC IV+PRES
starting to get dark

(40) a. antywe akngerre-apenhe=arteke ilelp-il+eme
nest big=SEML ATTEN(REPDUP+elp)-TV+PRES
start to make into (something) like a big nest

b. *antywelpe-antywe akngerre-apenhe=arteke il+eme
ATTEN(REPDUP+elp)-best big=SEML TV+PRES

Evidence from prosodically conditioned allomorphy and Rabbit Talk suggests that the combination of a single nominal word with either of the verbalisers involves separate phonological words. The first nominal in a multiword NP also constitutes a distinct phonological word. This constraint on the Attenuative suggests that the combination of a single nominal and verbaliser is structurally different in a way that can be accounted for by the proposal that the two prosodic words of a complex verb are unified within a higher prosodic word when they are contiguous (or when only clitics intervene).

7.2.6 Initial Separation The first two, or rarely three, syllables of a verb can optionally be separated from the remainder of the verb. Intervening material seems to be limited to particles, clitics, pronouns and simple NPs.