6.1 Derivation and Semantics

This chapter has two primary goals. The first is to introduce a fundamental problem in lexical semantics, that the meanings of individual lexemes are highly diverse. The second goal is to examine in some detail the semantics of derived lexemes, to see what generalizations we can draw.

6.1.1 The Polysemy Problem

The most fundamental aspect of a word’s meaning is that it refers to some entity or relation (real or imaginary) in the world. We can refer to this entity or relation as the word’s semantic type. The word reptile, for instance, refers to all individuals in the world that are reptiles. Verbs like respect or love refer to relationships between individuals. Formal approaches to grammar have provided us with terminology that allows us to make even more fine-tuned distinctions between words. We can differentiate bear from teddy bear by saying that the first is animate but the second is not, or foliage from leaf and literature from book on the basis of the mass/count distinction. Verbs are given labels such as ergative, unaccusative, transitive, or intransitive. (For a more detailed discussion, see Pustejovsky 1995:8 ff.)

The main problem of lexical semantics, or word meaning, is that the meanings of individual lexemes are highly diverse. We call this the problem of polysemy. For example, while some lexemes are inherently mass or count nouns, others can be either, as with watermelon:

(1) a. I don’t like watermelon. (mass)
   b. I sold three watermelons. (count)

Besides the mass/count alternation, there are several other well-known alternations we find in lexeme meaning. A few are illustrated below:
(2) **Figure-ground reversal**
   a. Hugh stubbed his toe on the *gate*.
   b. The kids ran through the *gate*.

(3) **Container-contained alternation**
   a. A hot *glass* put under cold water will shatter.
   b. Franny downed the *glass* in two seconds flat.

(4) **Place-people alternation**
   a. The president and his family live in the *White House*.
   b. The *White House* announced yesterday that the peace talks will continue.

(5) **Characteristic-person alternation**
   a. Sarah would have gotten the part if it weren’t for her scratchy *voice*.
   b. It was well known that The *Voice* didn’t drink . . . he was sharp, he wanted to stay sharp. (Irving 1989: 262)

The sentences in (2-5) contain pairs of words with very different — even contradictory — interpretations. In (2a) *gate* refers to a solid barrier, but in (2b) an aperture; *glass* (3a-b) can refer to the container or to the liquid inside. Examples like these show that the same phonetic string can convey different, but related meanings depending on the linguistic and pragmatic context. (As seen in 2.1.2 a given phonetic string may also convey completely unrelated meanings, in which case we are dealing with homonyms.)

We probably don’t want to say that regular alternations like those in (1-5) involve pairs of separate lexemes. One reason is that for some words at least, slight variations in the meaning of a lexeme are apparently infinite. This is especially clear when we use evaluative adjectives like *good*, *bad*, or *wonderful*. *Wonderful* means
something very different in the sentences Moby Dick is a wonderful book and George is a wonderful nurse. For one thing, the first sentence is true only if Moby Dick is both a book and wonderful. But the second sentence can be true even if George is not a nurse but a stockbroker. This is because wonderful can be construed as describing either the noun nurse or the activity associated with it. George is a wonderful nurse as long as he takes care of sick people (such as his kids) quite wonderfully.

Let’s say that I go and visit my mother-in-law, who is famous for her terrible kitchen. I am rummaging through the drawers and say:

(6) All I can find here are bad knives.

When I say that a knife is bad, I am not criticizing its morals, as I would be doing if I called someone a bad person. A bad knife simply does not cut well. In general, we can define bad by saying that a bad X doesn’t do what Xs are supposed to do. This approach explains why the word bad in the sentence in (7) means different things depending on whether Larry is a poodle, a calico cat, or a comedian who just finished a matinée performance:

(7) Larry was really bad today.

Dogs are expected to obey, and so a bad poodle is most likely one that was disobedient. But since obedience is not considered a salient characteristic of cats, whatever Larry did to be a bad cat, it probably was not simply to disobey. And finally, if Larry is a bad comedian, bad takes on a different connotation altogether.

6.1.2 The semantics of derived lexemes
When somebody makes up a word, they are inventing it for use under a particular circumstance. Sometimes the circumstance can be very peculiar. Take the sentence in (8):

(8) Joe was Houdini’d and died.

In order to understand this sentence, you have to know something about the event that the speaker is describing. You also have to know who Houdini was — a famous escape artist — and how he died. He died following a series of punches to his stomach (a fan was testing the strength of his abdominal muscles, which Houdini prided himself on). So when we say “Joe was Houdini’d and died,” what we mean is that he was punched in the stomach and died in the way that Houdini did. This is a dramatic example of how you might need to know pragmatic factors about the type of situation in order to understand a particular lexeme. We’ll say more about examples like (8) below.

The second factor that can affect a word’s meaning is its history. We might think of every lexeme not just as a word and its meaning, but as the word and every time it has ever been used: every time we hear the word, we revise its lexical entry in some way. That this indeed goes on is particularly evident from first language acquisition research. Children in earlier stages of language acquisition may underextend a word by using it to refer to only a subset of its actual referents, or overextend a word by using it to refer to objects or individuals that are typically covered by the word, as well as to others that are “perceptually similar” (Clark 1993: 33). For example, a child might underextend the word dog by using it to refer to more typical examples of the species, but not to varieties like Chihuahua or Pekingese (Kay and Anglin 1982), or overextend apples by using it to refer to both apples and oranges. Such under- and overextensions are generally very short-lived, which
indicates that children revise lexical entries as they are exposed to more and more tokens of a word.

In fact, it is not unreasonable to think that the meaning of a word is simply a list of every single use of that word that you have ever heard or said. Every word has a history. It has your own personal history — how you have heard the word. And it has the history of the word as it has been used by other people. The result is that over time, the meanings of words become more and more complex and diverse in various ways. This makes the task of the morphologist looking for semantic patterns of word formation more complicated than it would be if the semantics of word formation were purely compositional (as the semantics of syntactic constructions are often considered to be). A syntactic construction may have pragmatics to deal with, but it doesn’t have history.

One question you might want to ask is what kinds of meanings arise via lexeme-formation, or word-formation, rules. Are derived forms like lexemes, with potentially very complicated meanings? Or are they like syntactic collocations, with simple meanings?

Let’s take the English suffix -ism. This affix has some very highly lexicalized meanings, one of which is ‘doctrinal system of principles’. This is the meaning that we find in words like the following, and many others having to do with religion, philosophy, science, politics, or the arts:

(9) Catholicism  Platonism  romanticism  McCarthyism
     Judaism     Marxism  realism  socialism
     Buddhism    idealism  surrealism  fascism

The suffix -ism has another meaning which is even more specific and lexicalized: ‘a peculiarity of speech’. We talk about colloquialisms, spoonerisms, or
Reaganisms. (*Reaganism* can either be a system of beliefs, or a peculiarity of speech.) So *-ism* is an example of a suffix with two very highly lexicalized meanings, both of which might be considered to be more characteristic of words than of affixes.

The German suffix *-ei* is like *-ism* in that it also has at least two very highly lexicalized meanings. The first, illustrated by the words in (10), takes a noun and makes another noun meaning ‘the place in which X works’. The second, seen in (11), takes a verb stem and creates a noun referring to the ‘act of doing X’:

(10) a. Bäcker ‘baker’ → Bäckerei ‘bakery’  
b. Drucker ‘printer’ → Drukerei ‘printing office, print shop’  
c. Sattler ‘saddler’ → Sattlerei ‘saddlery, saddler’s workshop’  
d. Tischler ‘joiner’ → Tischlerei ‘joinery’

(11) a. plaudern ‘chat (v.)’ → Plauderei ‘chat (n.)’  
b. zittern ‘tremble’ → Zitterei ‘trembling’  
c. prügeln ‘clobber’ → Prügelei ‘brawl, fight’  
d. quengeln ‘whine’ → Quengelei ‘whining’

Note that English has a cognate suffix *-ery, -ry*, cf. *bakery, tannery, winery; bribery, flattery, foolery*. This suffix is of French origin.

Let’s turn now to a type of word formation which is much more abstract — zero-derivation.¹ We will see that zero-derivation results in lexemes whose interpretation is context-dependent in much the same way as the words we looked at in section 6.1.1 above.² All of the data on zero-derived verbs that we discuss here comes from Clark and Clark (1979), but the analysis we present is that of Aronoff (1980).

The peculiarity of zero-derived verbs is that they often have a wide range of meanings. To give you just one example, the verb *to sand* denotes two very different
actions. The most common meaning is ‘to rub with sandpaper’. The second meaning is ‘to spread or cover with sand’, as is done in winter to make roads less slippery.

While sand is well-established as a verb, zero-derivation is a productive derivational process in English (cf. 4.1.3), as shown by the following nonce forms presented by Clark and Clark. All of these sentences are actual quotations:

(12) a. Ruth Buzzi houseguested with Bill Dodge (Herb Caen, SF Chronicle)
b. He wristed the ball over the net (tennis commentator)
c. When you’re starting to Sunday School members, then I think you’re going too far (a Californian legislator)
d. Will you cigarette me? (Mae West)
e. We all Wayned and Cagneyed (NY Times magazine)

Clark and Clark classify noun-to-verb derivations into various categories. For each category, they give numerous examples, of which we have given only a few:

(13) Location (N is at a place) blanket, saddle, roof
     (put something at N) kennel, ground, cellar
Duration (spend the duration of N) summer, holiday, vacation, weekend
Agent (N acts) jockey, referee, umpire, pilot
Goal (make into N) fool, orphan, baby, cripple
     pile, loop, powder
Instrument (use N) ship, nail, glue, shampoo, fork
Miscellaneous lunch, hay, whale, dog

The descriptions given in (13) for each of the categories are slightly vague. One of the meanings given for the Location category is ‘put something at N’. To be more precise, verbs like kennel, ground (e.g., a teenager), or cellar involve keeping, not
simply putting. Likewise, the true description of the Instrument category is much trickier than ‘use N’ because often you don’t use the noun — you use something else. For example, while shipping originally took place via ship, today we ship things by truck or air. We might redefine this category as ‘do what you do with N’. Even this, however, needs to be interpreted fairly broadly. Clark and Clark describe a fictional Max, who has a strange fetish — he likes to sneak up to people and stroke the backs of their legs with a teapot. When one of Max’s friends says to another, ‘Well, this time Max has gone too far. He tried to teapot a policeman,’ we need to interpret teapot as ‘rub the back of the leg with a teapot’. By no stretch of the imagination is this what we would normally think of upon reading the definition ‘do what you do with N’.

The miscellaneous category includes some interesting words. We use the verb whale to mean ‘catch whales’ or fish to mean ‘catch fish’, but are hard-pressed to come up with many other verbs of this type. We don’t use a verb deer to mean ‘hunt deer’ or butterfly for ‘catch butterflies’. The verb dog patterns with words like clown in having the meaning ‘act like a dog’.

The zero-derived verbs with the most extensive semantic possibilities are probably those that are derived from personal names. To understand them, you need to know the history of the person, and often of a particular event. To understand the sentence in (8), repeated here as (12), you have to know the circumstances of Houdini’s death:

(14) Joe was Houdini’d and died.

But to understand the sentences in (15) (from Clark and Clark 1979: 784), you have to know other things about Houdini, namely that he was famous for sensational and
seemingly impossible escapes (15a) and that his lifetime crusade was to show up phony mediums and spiritualists for the frauds that they were:

(15)  

a. My sister Houdini’d her way out of the locked closet.

b. I would love to Houdini those ESP experiments.

The semantic obscurity of verbs derived from personal names results in speakers forgetting very rapidly that there even was a zero-derivation. While any English speaker can see the connection between nurse (noun) and nurse (verb) or bottle (noun) and bottle (verb), most aren’t aware that boycott and lynch are of the same ilk. Lynch ‘the punishment of persons suspected of crime without due process of law’ appeared in 1811 and comes from Captain William Lynch of Pittsylvania County, Virginia. Lynch and his neighbors were plagued by criminals, but couldn’t appeal to the courts because they were too far away. The men drew up a contract on September 22, 1780 in which they agreed to deal with the criminals themselves, even inflicting corporal punishment if necessary. Charles C. Boycott was an English land agent in County Mayo, Ireland. He was ostracized in 1880 for preferring to evict his tenants than to reduce rents, and found himself and his family without servants, farm help, or even mail delivery. His name came to be synonymous with this kind of cold-shoulder treatment, whether it be abstention from buying a product or dealing with a person, as a means of protest (definitions and etymologies from American Heritage Dictionary of the English Language).

Lees, in his classic book on English nominals (1960), derives the meanings of denominal verbs from sentences containing them. So the verb summer would be derived from the phrase spend the summer and the verb kennel from keep in a kennel. Marchand (1969) has a similar strategy: he associates a denominal verb with a
sentence containing the noun from which it is derived. More recently, Hale and Keyser (1993) also relate the lexical semantics of verbs to a syntactic structure.

The question is, given the sometimes idiosyncratic array of meanings that zero-derived verbs may have, what kind of semantics can we write for the noun-to-verb rule? We can potentially go two ways. We can either be very inclusive, or specific, and formulate rules that will give all of the cases. Or we can do the opposite and write a very general — what we call a sparse — rule. A sparse rule basically says very little but will, as you will see, yield the right answer.

Let’s review all of the examples of zero-derived verbs that we have given here and ask ourselves what is going on, in general. The general answer is that each verb has something to do with the noun. You take a noun and make it into a verb. We don’t need to say anything more than that. Because it is a verb, it has the meaning of some action or activity, and on basic Gricean principles of cooperation (Grice 1975), we know that the verb will have something to do with an activity connected to the noun. Grice tells us that when people speak to one another, they have to assume that they are being cooperative.

While other derivational formations don’t have as dramatic an array of potential meanings as do zero-derived verbs, we still find variety. Aronoff (1976: 38) points out that new English nouns of the form X-ousness have three possible meanings, depending on context:

(16) a. ‘the fact that Y is X-ous’

*His callousness surprised me* ‘The fact that he was callous surprised me’

b. ‘the extent to which Y is X-ous’
His callousness surprised me ‘The extent to which he was callous surprised me’

c. ‘the quality or state of being X-ous’

Callousness is not a virtue ‘The quality or state of being callous is not a virtue’

The difference between lexemes of the form X-ousness and zero-derived verbs lies in the rules that produce them. While the meaning of words like callousness is constrained by the semantics of the suffixes -ous and -ness, as well as by the meaning of the stem itself, the meaning of zero-derived verbs is constrained only by the meaning of the base noun.

In section 6.1.1 we addressed the semantics of evaluative adjectives like good, bad, or wonderful. We said that the interpretation of such adjectives may vary depending on the noun they modify. Here we will formalize this notion. Following Katz (1964), we can say that evaluative adjectives modify “that component of the meaning of a noun which has to do with the particular respect in which evaluations are made, within the language, of things in the extension of the noun” (p. 751). We can refer to this as the evaluative domain of the word.

What is interesting is that the evaluative domain of simple lexemes like nurse, knife, or dog is the same as the evaluative domain of zero-derived verbs like pilot or shampoo. If Mary is good at piloting, it means that she is a good pilot. If this is good shampoo, it is good for what you do with shampoo. What this tells us is that the mechanisms by which speakers assign meanings to evaluative adjectives and to zero-derived verbs based on context are likely the same.

To summarize the analysis that we have just presented, the wide array of meanings of zero-derived verbs results from two properties. The first is that the rule
by which they are formed is very simple, specifying only that we take a noun and form a verb. The second is that conversational convention dictates only that the verb have something to do with the noun. In fact, we can reasonably pare this analysis down even further and say that the proper analysis of zero-derived verbs is that they are simply verbs. The fact that they denote an activity connected with the noun is derivable on purely conversational grounds.

We next give you an example of another derivation that works in the same way as zero-derived verbs, but is a little simpler. Marchand gives examples of English agent nouns in -er. He points out that they fall into four basic categories, which can then be broken down even further into two separate sets. The four basic categories are listed below:

(17) Persons: baker, dancer, gambler, driver
Animals: pointer, retriever, warbler, trotter
Material objects: blotter, eraser, fertilizer, shutter
Immaterial objects: reminder, clincher, thriller, eye-opener

These nouns can be further divided into their habitual and non-habitual uses. So if we say:

(18) He is a gambler

we usually mean that he gambles all the time. You can also use agent nouns non-habitually:

(19) All ticket-holders may enter

If you are trying to get the meaning of agent nouns in English, you have to say that they fall into the four categories listed in (17), multiplied by the two categories habitual vs. non-habitual. We need to do this because even a word that is normally understood to be habitual, like blotter, can be used in a non-habitual sense. If you use
something that’s not a blotter as a blotter, then it must be a non-habitual blotter, because it is only being used as such on this particular occasion.

There are two possible analyses of agent nouns, both of which are reasonable. We won’t try to choose between them here. One is the strategy that we used above with zero-derived verbs, to assign the derivation a sparse semantic rule. We can follow Marchand in saying that an agent noun is ‘someone or something connected with what the base denotes’, or alternatively, ‘somebody or something whose function or characteristic is to perform a particular act’. For now we will assume the latter. It permits the categories person, animal, material object, and immaterial object, as well as a habitual or non-habitual interpretation.

The other method which linguists might use to account for possible meanings of X-er agent nouns involves archetypes. The idea is that not all members of a given category are equal. You can have archetypical, or typical, members of a category, and then you can have more marginal members. In this case, it is probably reasonable to say that the archetypical agentive is a person who habitually performs a particular type of action. So the archetypical agentive is a word like baker, dancer, gambler, or driver, in the habitual sense. These somehow reflect the core of the meaning of this particular formation. Other forms, like retriever, blotter, or clincher, involve relaxation of the core meaning. We use them to distinguish one specimen from other members of its class. So a pointer is a kind of dog that has the characteristic of pointing; specifically, it has been bred to stand still and point out the prey to the hunter. And a retriever is a kind of dog that goes and gets the prey — retrieves it — once it has been killed.

Even within a specific class like that of retrievers, you can get central and marginal exemplars. Most people don’t know that poodles (the big ones, anyway) are
retrievers. But they are. The fact that we can make a sentence like, “You can use a poodle as a retriever,” tells you that retrieving is not a salient, central characteristic of poodles — they are best known for being fuzzy.

When we claim that persons are the archetypical members of the category of agentive nouns, we can also argue that some other members of the category — material objects, for example — aren’t even agents at all. Instead, they are instruments, because they don’t have any will. You have to have will to be an agent. In short, the second method of analyzing agentives is to establish a central case, the archetype, and to work out from that to get the others. Note that when it comes to denominal verbs, we do not have the option of applying this analysis because there is no central case, no archetype.

6.1.3 Summary

In this chapter we have explored the semantics of derivation, looking at a group of derivational operations in English, some of which are semantically very particular, such as -ism, and others which are very abstract. Our point has been to show that the meanings of morphologically complex words are partially predictable from the meanings of their parts. It is only through use in context that they acquire particular meanings. Over time, a single word may acquire a number of distinct lexicalized meanings and, as a result, a complex lexical entry.
6.2 Kujamaat Jóola verb morphology

The Kujamaat Jóola verb is a wonderful example of how some languages exploit rich inflection to express a wide range of syntactic and semantic categories. What we would express in English as a sentence, for example, is encompassed by a single Kujamaat Jóola verb in (1):

(1) \[ u- bO≠- E…n- E…n- Orut- al- O \]

\[ 1\text{PL.INCL} - \text{send-INC- INC- NEG- 1\text{PL.INCL}- 3SG.OBJ} \]

'\(1\text{PL.INCL}\) had not yet sent him'

The core of (1) is a lexical root—\( bO≠ \)'send'—which provides the basic meaning of the verb. The rest of the meaning is conveyed by affixes on either side of the root. The first person plural inclusive subject is expressed by the circumfix \(u-\ldots-al\), the emphatic dubitive-incompletive by repetition of the dubitive-incompletive suffix \(-E…n\), the meaning 'not yet' by \(-Orut\), and the third person singular object by \(-O\). With the exception of the circumfixal subject marker, which we would probably want to call a case of extended exponence, the relationship between meaning and form is one-to-one; the meaning of the word as a whole is the sum of its parts. We refer to this type of morphology as **agglutinative**.

This section is the longest section on Kujamaat Jóola included in this book, and it goes well beyond the relationship between derivation and semantics. It is based on Sapir (1965), with the revisions he presents in his 1967 article. For organizational purposes, we also decided to include a general treatment of the interaction between verbal morphology and syntax in Kujamaat Jóola.
One characteristic of agglutinative morphology, identified by Horne (1966), is that affixation is not obligatory. (This differentiates agglutinating systems from polysynthetic ones, in the traditional sense of the word.) We see this in Kujamaat Jóola in that a bare root is used for the positive imperative:

(2) ri ‘eat!’
    jól ‘come!’
    tek ‘hit!’

The order of morphemes in any language is typically fairly rigid, and Kujamaat Jóola is no exception. The following diagram schematizes the basic structure of the verb. At its core is the lexical stem, which may be simple or derived. (We will see some examples below.) The stem is followed by what Sapir refers to as position 1 suffixes, including aspectual and negative markers, as well as a derivational directional suffix and the second members of the past subordinate and first person plural inclusive circumfixes. Position 1 suffixes are followed by the position 2 suffixes: the passive marker, object pronominals (direct, indirect, or both), and noun emphasis marker. Finally, the third position is filled by verb reduplication and the simple subordinate marker. Immediately preceding the verb stem are the subject markers and relative pronouns (position 1 prefixes); the leftmost position (position 2) is filled by the resultative, the resultative negative, and the negative imperative markers:
Table 6.1. The Kujamaat Jóola verb

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<th>2-</th>
<th>1-</th>
<th>-1</th>
<th>-2</th>
<th>-3</th>
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<tr>
<td>resultative subject</td>
<td>STEM</td>
<td>aspect</td>
<td>object</td>
<td>subord</td>
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<tr>
<td>result neg rel pronoun</td>
<td>mood</td>
<td>passive</td>
<td>redup</td>
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<td>neg imper</td>
<td>past subor</td>
<td>noun emphasis</td>
<td></td>
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<tr>
<td>past subor</td>
<td>negation</td>
<td>directional</td>
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</tbody>
</table>

As you read through our description of Kujamaat Jóola verb morphology, keep the following questions in mind:

- How does the division of labor between morphology and syntax in Kujamaat Jóola compare to that of English and other languages you know?
- How similar are the morphs within a given position class with respect to the type of information they convey?
- How might the richness of the verbal morphology in Kujamaat Jóola affect the syntax?

6.2.1 The stem

Some examples of Kujamaat Jóola roots, or simple stems, are given below:

(3) -tey- ‘run’

-juk- ‘see’

-manj- ‘know’

-ceŋ- ‘ask’
Inflectional affixes may attach to a bare root, or the root can be extended by the addition of derivational affixes. There are about six of these that may attach to verbs and are productive. Five are listed below, with examples:

(4) *Productive verbal derivational suffixes*

a. -en causative
   -lînt- 'make a rumbling noise'
   -lînten- 'cause something to make a rumbling noise'

b. -o reflexive-descriptive
   -buŋ- 'braid someone’s hair'
   -buŋo- 'braid one’s own hair'

c. -ơo strong reflexive
   -buj- 'kill'
   -bujơo- 'kill one’s self'

d. -ơr reciprocal
   -jim- 'forget'
   -jimơr- 'forget each other'

e. -um directive
   -riben- 'follow'
   -ribenum- 'follow by means of'

Evidence that both bare roots and the roots plus derivational affixes count as stems in Jóola verb morphology comes from the following observations:

(5) Both can be used as the positive imperative

\[
\text{pur } \vec{bo} \quad \text{‘go out from there!'}
\]
purum bo  ‘go out via that way!’

(6) Both participate in full reduplication

a. na- bo- bol e- liw- ey
   3SG.SUB-roast- REDUP 3CL- meat- DEF3
   ‘He roasted the meat’

b. na- bol- o- bolo
   3SG.SUB-roast- REFL- REDUP
   ‘he burned himself’

(7) Both may serve as nominal stems

a. e- joj ka- joj- en
   3CL-assemble, gather  7CL-assemble-CAUS
   ‘to assemble, gather’ ‘to cause (people) to assemble’

b. fu- joj ka- joj - en- a
   5CL-assemble  7CL-assemble-CAUS-AGENT
   ‘assembly, gathering’ ‘gatherer of people, leader who brings people together by force of charisma’

The Bantu (also Niger-Congo) stem may also consist of a root plus derivational suffixes (Hyman 1993, Mchombo 1993). For example, Mchombo shows that, as in Jóola, the Chichewa verb stem plus derivational affixes functions as a unit in that it may be nominalized (but units larger than the verb stem may not), undergo reduplication, and be used as the bare imperative. In addition, the Chichewa verb stem serves as the domain for a phonological process, tense-lax vowel harmony.
6.2.2 Subject and object marking

Verbs in Kujamaat Jóola are generally marked for subject agreement. When the subject is expressed by a noun or noun phrase (or when a non-human subject noun phrase is understood), the corresponding noun class marker appears.\(^3\) Markers of the form \(Ca\) prefix as \(Cu\) (cf. (8b-c)). Example (8d) contains a bound subject relative marker, \(ka\)-:

(8) a. \(e\)- munguno \(e\)- jum bo
   \(3CL\)- hyena \(3CL\)- stop here
   ‘Hyena stopped there’

b. \(ka\)- \(n\)en- ak ku- tuj- ut
   \(7CL\)- arm- DEF7 \(7CL\)- break- NEG
   ‘The arm didn’t break’

c. \(ba\)- suwa\(b\) bu- ii\(t\)
   \(13CL\)- bird.DEF13 \(13CL\)- fly
   ‘The birds flew off’

d. \(ku\)- \(n\)il- ak ka- ri\(n\)- ul\(o\)- m
   \(5CL\)- child- DEF5 \(5REL\)- arrive- DIR- SUBOR
   ‘The children who arrive’

Kujamaat Jóola also possesses a set of bound personal pronouns. Freestanding personal pronouns, which we won’t present here, may be used in place of the bound pronominals to convey emphasis:
Table 6.2. Bound subject pronouns.

<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th></th>
<th>Plural</th>
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<tbody>
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<td></td>
<td></td>
<td>Inclusive</td>
<td>Exclusive</td>
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<td>1</td>
<td>ni- ~ i-</td>
<td>nu- ~ u- … a-</td>
<td>nu- ~ a-</td>
</tr>
<tr>
<td>2</td>
<td>nu- ~ u-</td>
<td>ji-</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>na- ~ a-</td>
<td>ku-</td>
<td></td>
</tr>
</tbody>
</table>

Note that two forms are given for all but the second person plural and third person plural prefixes. In general, the full forms are used with the initial verb of a clause, in the absence of preceding prefixes or proclitics, and the shorter forms in other contexts. The alternation in the second portion of the first person plural inclusive suffix is morphophonemically determined, with the final /l/ surfacing before vowels but not consonants.

Somewhat surprisingly, the shorter form of the subject prefixes may substitute for the full form, as in the following example, to indicate an imperative or interrogative, or to emphasize the subject. A priori, we might have expected the longer form to convey greater emphasis. The explanation probably involves markedness and the relationship between context and form: the short form of the subject prefix is marked, and therefore more salient, when it occurs with a verb that is initial in its clause:

(9)  

u- tiger fu- gol- af

2SG- break 5CL- stick- DEF5

'Did you break the stick?' or 'Break the stick!' or 'YOU broke the stick'
Sapir points out that sometimes we get a mismatch between the subject expressed by a noun phrase or freestanding pronominal and the subject expressed by a class prefix or bound pronominal. We see in (10) that a plural marker (pronominal or noun class) can be used with a singular subject, implying that the subject is only partially expressed by the noun phrase:

(10) a. injɛ nu- mĩmĩk di suleman
    I 1PL- chat with Souleyman

    ‘I was chatting with Souleyman’

b. e- mungun- ey si- lakɔ e- jaw

    3CL-hyena- DEF3 4CL- PROG 3CL- go

    ‘The hyena (and some friends) were going’

Examples like this may provide insight into the mechanism of subject agreement.

The Kujamaat Jóola bound object pronominals are presented in Table 6.3. These may be used for direct or indirect objects:

Table 6.3. Bound object pronouns.

<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Inclusive</td>
</tr>
<tr>
<td>1</td>
<td>-ɔm ~ aɔm ~ -an</td>
<td>-ɔla ~ -ɔlal</td>
</tr>
<tr>
<td>2</td>
<td>-i</td>
<td>-u ~ -ul</td>
</tr>
<tr>
<td>3</td>
<td>-ɔ ~ -ol</td>
<td>-i: ~ -iɾ</td>
</tr>
</tbody>
</table>

As with the bound subject pronominals, the alternations in Table 6.3 are morphophonemically determined, with the exception of the two first person plural
exclusive pronominals, which are regional variants. As seen below, -\textit{om} is the basic form of the first person singular object marker (11). The variant -\textit{am} appears when the verb includes a reduplicant or the simple subordinate marker -\textit{mi} (12), but is replaced by -\textit{an} when immediately followed by a reduplicant that begins with a vowel (13). Notice that an indirect object pronoun always precedes a direct object pronoun:

(11) a. \textit{u}sa\textit{f- om- i}:
\begin{description}
\item \textit{2SG.SUB- greet- 1SG.OBJ- 3PL.OBJ}
\item ['greet them for me']
\end{description}

\begin{description}
\item b. \textit{na- sen- om}
\item \textit{3SG.SUB- give- 1SG.OBJ}
\item ['He gave me']
\end{description}

(12) a. \textit{ma- nu- sel- a:m- o- mi}
\begin{description}
\item \textit{REL- 2SG.SUB- give- 1SG.OBJ- 3SG.OBJ-SUBOR}
\item ['this that caused you to give him to me']
\end{description}

\begin{description}
\item b. \textit{ku- itEn- a:m- o- itEn}
\item \textit{3PL.SUB- lift- 1SG.OBJ- 3SG.OBJ-REDUP}
\item ['They lifted him for me']
\end{description}

(13) \textit{ku- itEn- an- itEn}
\begin{description}
\item \textit{3PL.SUB- lift- 1SG.OBJ- REDUP}
\item ['They lifted me']
\end{description}

Here are some examples of other bound object pronominals in context. Note in particular that unlike derivational suffixes, pronominals do not participate in verb stem reduplication. We will see below that this holds true for other inflectional affixes, as well:
(14) a. ku- buburen- ola- buburen
   3PL.SUB- grind- 1PL.INCL.OBJ- REDUP
   'they ground us (incl.) into the sand'

b. ku- sen- am- i- sen
   3PL.SUB- give- 1SG.OBJ- 2SG.OBJ- REDUP
   'They gave you to me'

c. na- sen- uli- o- sen
   3SG.SUB- give- 1PL.EXCL.OBJ- 3SG.OBJ- REDUP
   'He gave him to us (excl.)'

d. na- sen- o- uli- sen
   3SG.SUB- give- 3SG.OBJ- 1PL.EXCL.OBJ- REDUP
   'He gave us (excl.) to him'

6.2.3 **Aspect**

Kujamaat Jóola tenses has an essentially aspectual system. This means that
instead of expressing tenses like past and future outright, it expresses notions such as
duration, completeness, and doubt. The unmarked form of the verb can be interpreted
either as present or past, as seen in (15):

(15) e- bøy ni- njar- e
   3CL- cow.DEF3 1SG.SUB- take- NE
   'I take/took the cow'

The suffix -e:n, the so-called dubitive-incompletive, is used to indicate that an
action has not been completed (much like the imperfect aspect familiar from English or
the Romance languages) or that it is in doubt.⁴ In (16), the final /n/ of the past absolute suffix assimilates in place with the following labial stop, surfacing as [m]:

(16) sunkən ni- bəj- em- bəj bu- kər₁

last year 1SG.SUB-have- INC- REDUP 3CL-money

'Last year I had money'

In (16), it is understood that the subject no longer has money. Sapir (1967) presents another example: *Fukan njeenjaw kabaak, emitey desəfən mənik̓ulu* 'Yesterday I was going to Kabak, but the rain overtook me (en route) and I returned (without getting there).' Here the verb *njeenjaw (jeen < -jaw-em 'go' + INC)* 'was going' indicates that the action of going was not completed. Without the dubitive-incompletive marker, this sentence would mean instead that the subject went to Kabak despite the rain.

The dubitive-incompletive marker -em may co-occur with other position one suffixes. It may precede or follow -εrit (habitual negative), -ut (negative), -ωut 'not yet', -ωulɔt 'toward speaker' (negative), and -ulɔ 'toward speaker'. This fact tells us that they are in the same position. Interestingly, it always precedes the other variants of -ulɔ, -u and -ul, as well as the habitual marker -ε and the second portion of the first person plural inclusive subject circumfix -a ~ -al.

Doubling the dubitive-incompletive marker emphasizes it. Such doubling occurs only in contrastive constructions. This is a nice example of compositional semantics; it is as if each suffix contributes a degree of meaning.
(17) mante a- bən- e:n- e:n- ut si- kor- əs a- nil- aw
perhaps 3SG.SUB-send-INC- INC- NEG 4CL-money-DEF4 1CL-child- DEF1
let- a- yok a- kən- c
RES NEG-3SG.SUB-limit 3SG.SUB-hurt- REFL

‘If he had not sent the money the child would not have gotten into trouble’

We learned immediately above that there is some flexibility regarding the placement of the dubitive-incompletive suffix -e:n with respect to other first position suffixes. The second member of the emphatic construction -e:n ... -e:n is even more flexible: it may be placed anywhere with respect to the first position suffixes except directly after the habitual -e. What’s more, it can even follow an object pronoun.

Future in Kujamaat Jóola is expressed by using the resultative and resultative negative markers pan- and let- ~ let-, which appear outside of inflectional morphology for subject, as we see in the following examples (the /-n/ of pan- is dropped before nasals):

(18) a. pa- ni- jer e- bəy
RES - 1SG.SUB-take 3CL- cow.DEF3
‘I will take the cow’

b. let- i- manj
RES.NEG-1SG.SUB-want
‘I won’t want’

In relative clauses, the future is expressed by a resultative clitic pi that combines with the marker agreeing with the relativized subject or object (p. 92). We see this in (19):
Lastly, combining the dubitive-incompletive suffix with the resultative prefix *let-*, a negative marker, results in a construction that indicates an action that missed taking place or that will not be accomplished. We might translate it as 'might have' or 'might not have':

(20) manter basen nu- nes- en- e b- a- b- e,

perhaps Bassen 2SG.SUB-look-INC- NE 9CL-here- 9CL- EMPH

*let- u- juk- en- ol

RES NEG-2SG.SUB-see- INC- 3SG.OBJ

'If you had been looking for Bassen, you might not have seen him'

The Kujamaat habitual marker is seen in (21). Gero and Levinsohn (1993) point out that it has a progressive use as well, in which case it occurs with the verb 'be' (22) (example from Gero and Levinsohn 1993: 82):

(21) a. ni- manj- e manj

1SG- want- HAB- REDUP

'I always want'

b. nu- bon- e u- o- bon

1PL.EXCL.SUB-send- HAB- DIR- 1PL.EXCL.SUB-REDUP

'we always send from'
The habitual marker combines with the negative marker in a single morph, \(-erit\)

\[(23)\]

\[
\begin{array}{l}
 i- \ \eta_{ar} \ \epsilon_{n} \ \epsilon r i t \\
\quad \text{1SG.SUB-take- INC- HAB.NEG}
\end{array}
\]

`I did not always take`

### 6.2.4 Negative

The negative is generally indicated by the suffix \(-ut\), but as seen in the last section, the resultative and negative are expressed by a single morpheme, \(le- \sim le\) (cf. \(18b\)), and the habitual and negative are also expressed by a single morpheme, \(-erit\) (cf. \(23\)). Similarly, \(-ul\) 'toward speaker' and \(-\omega rut\) 'not yet' combine to produce \(-\omega ul\).

\[(24)\]

a. \[
\begin{array}{l}
 i- \ \text{ma}_{n} \\
\quad \text{1SG.SUB-want}
\end{array}
\]

`I want`

b. \[
\begin{array}{l}
 i- \ \text{ma}_{n}- \text{ut} \\
\quad \text{1SG.SUB-want-NEG}
\end{array}
\]

`I don’t want`

### 6.2.5 Passive

The passive is used infrequently, and is restricted for the most part to constructions with inanimate subjects. It is marked by the suffix \(-i:\)

\[(22)\]

\[
\begin{array}{l}
 \omega:m- \ b- \ \omega \ \omega- \ \text{si}_{i}l- \ e \\
\quad \text{be- 15CL- INAN 3SG.SUB- cook-HAB}
\end{array}
\]

`She is cooking`
Example (25b) shows that the passive can pattern with derivational affixes in participating in nominal formation (cf. (7)). This is important because passive is usually considered to be an inflectional category. Baker, Johnson, and Roberts (1989) even argue that the passive morpheme –en in English (*He was bitten, we were taken*) is an argument.

6.2.6 Emphasis and subordination

We have seen two forms of emphasis in the Kujamaat Jóola verb system already. Using the short form of the subject pronoun where the full form is expected (e.g., in the first verb in a clause) can be used to emphasize the subject. The dubitive-incompletive marker itself can be emphasized by reduplication.

Reduplication serves to create emphasis of the Kujamaat Jóola verb stem as well. This process highlights its action, in contrast to its arguments:

(26) ba- larb bu- tey- en- ola- tey- en

13CL- sun DEF13 13CL- run- CAUS- 1PL.INCL- run- CAUS

‘The sun made us run (seek shelter)’

The Noun emphasis (NE) suffix -e places emphasis on either the subject or a complement that precedes the verb.
As might be expected, the use of this marker interacts with word order in interesting and complex ways, as we will see in 6.2.7.

An interesting property of the noun emphasis marker is that it occupies the same position class as the object and passive markers (cf. Table 6.1). This could be accidental, and the fact that they never co-occur could be explained as a logical impossibility. A second, more enticing possibility, however, is that they share the same position because they contribute the same sort of information. The discussion in Sapir (1965: 101-2), together with an examination of the sentences in the grammar and other published texts, indicates that the presence of either the object or the noun emphasis marker prevents a corresponding noun phrase from occurring in postverbal position. If all preverbal complements are in fact topicalized or focused, and therefore outside of the core clause—a very real possibility—than we could say that the presence of an object or noun emphasis marker in the morphology eliminates an argument position in the syntax. The same can be said, of course, for the passive marker. If this hypothesis is on the right track, the positional similarity between the object, noun emphasis, and passive markers may correspond to a functional similarity.

Sapir (1965) presents the simple subordinate -m ~ -mi with emphasis markers because it "shifts emphasis from the verb to its immediate, usually post-verb, environment" (p. 35). It occurs most often in relative clause constructions or verb strings (the /u/ in (28a) is epenthetic):
The actual use of -mi is more complicated than what is presented here, and in many ways it is akin to the noun emphasis marker (whose usage is also more complex than our discussion would indicate), as is brought out by Gero and Levinsohn (1993). We refer the reader to that paper, as well as to Hopkins (1990), for further information.

The past subordinate (PS), marked by the circumfix ba ... $\varepsilon$r, sets off a subordinate clause (29a-c). As its name indicates, the information within the subordinate clause typically refers to an event or state that precedes the action described by the main verb, although the opposite is true when the subordinated verb bears the suffix -cost 'not yet' (29b). In negative constructions, the second element of the circumfix, -$\varepsilon$r, is dropped (29a-b):

(29) a. a- mpa- Om na- sen- Om, injE ba- baj- ut

1CL-father- 1SG.POSS 3SG.SUB- give- 1SG.OBJ I PS- have- NEG

waf

thing

‘when my father gave (it) to me, I had nothing’
b. bey nu- lakɔ-e aw ba-jaw-ɔrut dakar

where 2SG.SUB-stay-NE you PS- go- not yet Dakar

‘where were you before you went to Dakar?’

c. ba- reg- er-ul

PS-speak-PS-2PL OBJ

‘having spoken to you’

Note that although we classify the second portion of the past subordinate as a position 1 suffix, following Sapir (1965), it may co-occur with the dubitive-incompletive marker, which it always follows, and the ‘towards speaker’ marker -u -ul, which it precedes. It does not co-occur with any other first position suffix.

6.2.7 The relation between morphology and syntax

We conclude the section on Kujamaat Jóola with an illustration of how verb morphology may interact with syntax. We take as our starting point the basic word order, which is SVO (Sapir 1965: 100; example from Hopkins 1990: 82-3):

(30) ñaa fu- tut- af fu- sumbo- e- sumbo sumba-ay

now 7CL-small one-DEF7 7CL-chew tobacco-HAB-REDUP tobacco-DEF10

‘The small one always chews tobacco’

As shown in (31), the subject of a finite clause always precedes the verb:

(31) a. ø- nĩe na- juk- e

1CL- man 3SG- see- HAB

‘A man sees’

*na-juk-e ø-nĩe
CHAPTER SIX

b. na- juk-ε
   3SG 3SG-see-HAB

'He sees'

The order of verbal complements, however, is generally free. Any permutation of the sentence in (32a) is permitted, but they vary in terms of what is emphasized:

(32) a. e- jamen-ey fu- ri- af ni- sen-ε
   5CL goat DEF3 5CL food DEF5 1SG give-NE

'I gave the food to the goat'

b. furiaf ejameneey nisene

c. ejameneey nisene furiaf

d. furiaf nisene ejameneey

e. nisene furiaf ejameneey

If there is a possibility of ambiguity, speakers will always place the direct object closest to the verb. In the case of postverbal complements, the direct object directly follows the verb; in the case of preverbal complements, it directly precedes:
(33) a. ni- sen- e a- kamban- aw a- jaŋ- aw
    1SG-give-NE 1CL-boy- DEF1 1CL-girl- DEF1
    ‘I gave the boy to the girl’

b. a- jaŋ- aw a- kamban- aw ni- sen- e
    1CL-girl- DEF1 1CL-boy- DEF1 1SG-give- NE
    ‘I gave the boy to the girl’

According to Sapir, if a verb is not marked for noun emphasis, a preverbal complement must then be restated via a bound person marker or postverbal object pronoun. Restatement of the NP object with a pronoun, bound or freestanding, is obligatory if it is [+ human] (34). Nonhuman preverb objects are preferably, but not obligatorily, restated (35):

(34) alasan ni- sen- o- sen bo- kor- ob
    Alasan 1SG.SUB-give- 3SG.OBJ- REDUP 13CL- money- DEF13
    ‘I gave Alasanne the money’

(35) a. bo- kor- ob ni- sen- sen (bo) alasan
    13CL- money- DEF13 1SG- give- REDUP(13CL) Alasan
    ‘I gave the money to Alasanne’

b. e- boy i- sen (yo) ja fu- ri- af
    3CL-cow.DEF3 1SG-give (3CL 3SG) if 5CL-food-DEF5
    ‘If I give the food to the cow’

If both the direct and indirect object occur preverbally, both may be restated by bound pronominals. According to Sapir, only one is obligatorily restated, but he does not
specify the indirect or direct object (36). Recall from 6.2.2 that the bound indirect object pronoun precedes the direct object pronoun:

(36)  

a.  

\[ a- \text{nil- aw ku- sek- ak ni- sen- il- o- sen} \]

1CL-child-DEF1 5CL-woman-DEF5 1SG-give-3PL-3SG-REDUP

'I gave the child to the woman'

b.  

\[ a- \text{nil- aw ku- sek- ak ni- sen- o- i- sen} \]

1CL-child-DEF1 5CL-woman-DEF5 1SG-give-3SG-3PL-REDUP

'I gave the women to the child'

If two [-human] objects precede the verb, one—preferably the indirect object—is restated:

(37)  

\[ e- \text{jamen-ey fu- ri- af ni- sen- sen yo} \]

3CL-goat- DEF3 5CL-food-DEF5 1SG-give-REDUP 3CL it

'I gave the food to the goat'

### 6.2.8 Conclusion

The facts present here highlight the need for a morphological component in any theory of grammar. For example, the Kujamaat Jóola reflexive and reciprocal pattern differently from object pronouns: the former are derivational affixes that participate in full reduplication and nominal formation, while the latter are inflectional affixes and do not participate in either. This would be unexpected under a purely syntactic approach to verbal morphology since reciprocal and reflexive objects presumably share the same structural position in the syntax. At the same time, we see that verbal morphology and syntactic word order interact. A linguist working on one must become familiar with the
other as well. Finally, we have seen that in semantic terms, the Jóola verb system is based on aspect, rather than tense. This is not at all unusual. It has been determined, for example, that Proto-Indo-European also had an aspectual system. Note that we have not presented every Kujamaat Jóola verbal affix here. Sapir (1967) describes others, including obligative and indefinite markers.

This will be our last Jóola section in the book. The next chapter deals with morphological productivity, and we do not have enough data at our disposal to include Jóola in the discussion.
CHAPTER SIX: EXERCISES

1. We see in this chapter that a single form can have two or more related meanings, in which case we are dealing with the phenomenon called polysemy. Polysemy can be contrasted with homophony (cf. 2.1.2), where two or more words have different and unrelated meanings. Determine which of these relations is exemplified by the forms below.

   a) check: to verify; a piece of paper used in place of cash
   b) snake: a long, slender reptile without legs; a despicable person
   c) head: the part of the human body that sits upon the neck and shoulders; the leader of a group or organization
   d) tree: a plant with a woody stem and branches; a diagram showing relationships between members of a group, such as a family
   e) bat: a wooden club; a flying rodent
   f) itch: an uncomfortable tingling sensation on the skin; a desire

2. Write sentence pairs that illustrate the following semantic alternations:

   a) figure-ground reversal
   b) container-contained alternation
   c) place-people alternation
   d) person-characteristic alternation
3. For each of the following pairs, determine which word denotes a more archetypical member of the group.

   a) cheese: gorgonzola or cheddar?
   b) dwelling: house or apartment?
   c) bird: robin or chickadee?
   d) bread: sliced American loaf or baguette?
   e) bear: koala or grizzly?
   f) saw: chainsaw or hand saw?

4. In your opinion, what is a central exemplar, or more archetypical member, of each of the following groups? What is an example of a marginal exemplar? What are some reasons why someone else might come up with a different list?

   a) skyscraper
   b) restaurant
   c) cheese
   d) cat
   e) ice cream topping
   f) breakfast cereal
   g) island
   h) dessert
   i) tree
5. For some English speakers, the third person plural pronoun *they* is taking on a new function. Using the following sentences as your guide, how would you describe that new function?

   a) We *did* see somebody hanging around the dumpster. *They were/He was* wearing a jean jacket and a black cap.

   b) There was only one guy at the party. *He/*They looked pretty amused.

   c) I ran into Irwin after the play. *He/*They were really pleased about *his/*their performance.

6. Sort the following words into two groups based on the semantics of the suffix *-ful*. How is it used in each set? Is either *-ful* productive?

   a) careful
   b) deceitful
   c) prayerful
   d) handful
   e) sorrowful
   f) earful
   g) mouthful
   h) playful
   i) bagful
7. Determine whether the following pairs of forms are related in meaning. If they are, describe the relationship.

a) all-nighter  dancer
b) dancer  badger
c) by-law  byway
d) milky  inky
e) He's done it  He's here
f) Mary's found it  Mary's ski goggles
g) an unsanded board  room and board
h) anew  alike
i) funny  Bobby
j) merriment  cement
k) friendly  quickly
l) adviser  governor
m) duchess  sorceress

8. Hebrew adjectives

Hebrew, as we have already seen, is a language with templatic morphology, meaning that words consist of a consonantal template which can be thought of being superimposed over a vocalic pattern. Rewrite each of the following forms using CV notation, where C stands for consonant and V for vowel. Does a semantically-based pattern emerge, and if so, what is it? If you find any exceptions, make a hypothesis to explain it/Them.
a) kafeh 'hard'
b) rax 'soft'
c) ?adom 'red'
d) nakiy 'clean'
e) maluax 'salty'
f) gashum 'rainy'
g) varod 'pink'
h) yarok 'green'
i) xam 'hot'
j) xamim 'warm'
k) tezelet 'light blue'
l) kaxol 'blue'
m) yavef 'dry'

m) lax 'humid, damp'
o) jaxor 'black'

9. Ganja Balanta (Senegal)

Identify the derivational morpheme which is common to the italicized verb in most of the following sentences. Describe its meaning. (Data from Fudeman 1999.)

a) insogma 'I will call him'
b) insogudma Sibow 'I will call Sibow for him'
c) anin ma *wusud* ndundugi Segu  ‘The woman bought Segu a tunic (*ndundugi*)’

d) *aweetid* Segu biti ma  ‘She/he found Segou the dog (*biti ma*)’

e) *aweet* Segu  ‘She/he found Segu’

10. The following data from Dixon (1994: 9-10) illustrate an important grammatical contrast, that between a nominative-accusative case system and an ergative one. Examine the data and articulate the difference between an accusative language, exemplified here by Latin, and an ergative language, exemplified by Dyribal, a language from northeast Australia. ABS stands for absolutive case and ERG stands for ergative case.

**Latin**

a) domin-us veni-t  ‘the master (NOM) comes’

b) serv-us veni-t  ‘the slave (NOM) comes’

c) domin-us serv-um audi-t  ‘the master (NOM) hears the slave (ACC)’

d) serv-us domin-um audi-t  ‘the slave (NOM) hears the master (ACC)’

e) domin-i veni-unt  ‘the masters (NOM) come’

f) serv-i domin-um audi-unt  ‘the slaves (NOM) hear the master (ACC)’

g) serv-us domin-ós audi-t  ‘the slave (NOM) hears the masters (ACC)’

**Dyribal**

a) *ŋuma* banaga-ŋ’u  ‘father+ABS return-NONFUT  ‘father returned’

b) *yabu* banaga-ŋ’u
Another good example is noun-noun compounding; see Downing (1977).

In what follows, we will be focusing on zero-derivation of verbs from nouns. But it is interesting that English allows the other possibility, zero-derivation of nouns from verbs. Nouns derived from verbs generally signify an instance or result of the activity denoted by the verb. So the noun hit denotes an ‘instance of hitting’, while the noun run can denote either an instance (She went for a run) or a result (She scored two runs). It is possible to form a verb from the noun run in this second baseball sense of the term: (meaning that we scored more runs than they did). The fact that the past tense of outrun in this sense is not *outran shows that the verb is derived from the noun. This indicates that these rules are directional, although some people have claimed that they are not.

There is an exception: class markers consisting of a single vowel are optionally dropped in rapid speech when the subject directly precedes the verb.
In Sapir (1965), the suffix -ɛn is considered a past marker, and its reduplicated form, which we learn below is emphatic dubitive-incompletive, is considered an indicator of remote past. He revises this analysis in his 1967 paper.

This is probably due to a phonological constraint against superlong vowels, which we would have if the habitual ɛ were to merge with ɛn. Furthermore, if the illicit sequence */ɛ + ɛn/* were to be reduced to /ɛn/, the habitual meaning would be unrecoverable.