

## INTD0111A/ARBC0111A

# The Unity and Diversity of Human Language

Same course, different color  
Lecture #7  
Oct 3<sup>rd</sup>, 2006

## Announcements

- A slight change in your exams' dates: Midterm is assigned on Oct 19<sup>th</sup>, as before, but is now due on Oct 26<sup>th</sup>. Final exam is assigned Dec 12<sup>th</sup>, and is due on Dec 19<sup>th</sup> by 5pm. So, you get a week, rather than five days, to work on each.
- *Language Adoption Project*: If you haven't done that already, start thinking about who you want to work with and on which language. Use "*The world atlas of language structures*", which is available in the main library at the Main Atlas Case [G1046.E3 W6 2005](#).

## Announcements

- A list of languages and reference grammars for each are available here:  
<http://linguistics.buffalo.edu/people/faculty/dryer/dryer/atlas.bib>
- As you can see there's no shortage of languages to work on; just make sure you choose an unfamiliar or endangered language. If you're not sure if a language is suitable for the LAP, check with me first.
- Do some basic online search on the language you initially choose, and see if it interests you still.

## Transition

- Within the principles and parameters framework, cross-linguistic variation is attributed to the existence of a number of parameters in UG, each of which has binary options to be set one way or the other on the basis of the primary linguistic data.
- Under this approach, then, acquiring a human language is nothing but a process of parameter fixation. Here's the table we ended with last time:

## Parameters and languages so far

Parameter	English	Japanese	French	German	Welsh
HD parameter	Head-initial	Head-final	Head-initial	?	Head-initial
Subject placement parameter	Specifier of AuxP	Specifier of AuxP	Specifier of AuxP	?	Specifier of VP
Verb attraction parameter	Aux down to V	?	V up to Aux	V up to Aux	V up to Aux
V2 parameter	No	?	No	Yes	?

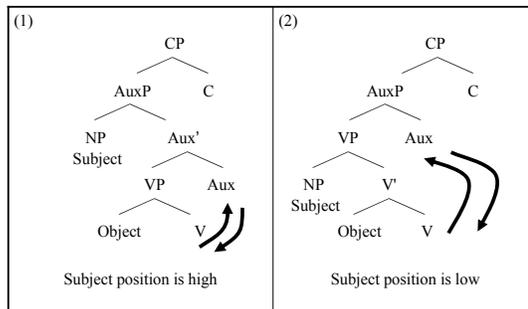
## Verb attraction and subject placement in head-final languages

- We have seen how the interaction of different parameters in head-initial languages can give rise to different languages, e.g., English, Welsh, French, and German.
- Now, one should wonder if we see this same parametric interaction in head-final languages.
- It turns out that, at least as far as we know, such interaction does not exist. Any ideas why?

### Verb attraction and subject placement in head-final languages

- Let's consider the interaction of subject placement and verb attraction with head-finality in tree-geometric terms.
- Here's how the two trees would look like for two head-final languages, one of which places the subject in specifier of AuxP, and the other places it in specifier of VP, with verb attraction going either up or down:

### Verb attraction and subject placement in head-final languages



### Verb attraction and subject placement in head-final languages

- As you can see, no matter where the subject is, it will precede the verb, and whether V moves up or Aux moves down, there is no effect on word order.
- The parametric approach thus predicts that no comparable word order variation in head-final languages can result from the subject placement and verb attraction parameters.
- To use Baker's chemical motif, while Welsh is an "alloy" of English, there are no comparable alloys of Japanese.

### How about VOS, OVS, and OSV word orders then?

- VOS: Malagasy (Austronesian)  
manasa ni lamba ny vihavavy  
wash the clothes the woman  
"The woman is washing the clothes."
- OVS: Hixkaryana (Carib)  
kanawa yano toto  
canoe took person  
"The man took the canoe."

### How about VOS, OVS, and OSV word orders then?

- OSV: Nadëb (Maku)  
samũy yi qa-wùh  
howler-monkey people eat  
"People eat howler-monkeys."

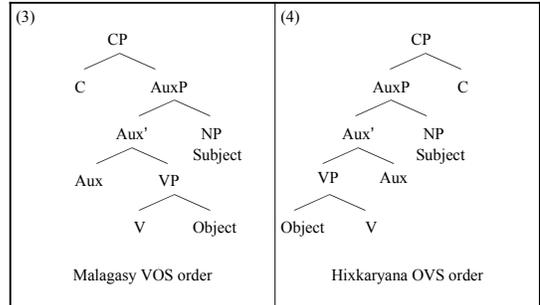
### VOS and OVS

- Both VOS and OVS orders share one property: they both have the subject in final position.
- To account for these languages, Baker suggests a "subject side" parameter: "Subjects may occur initially or finally in the sentence."

## VOS and OVS

- The interaction of the subject side parameter with the HD parameter should give us VOS (Mirror Japanese) and OVS (Mirror English):

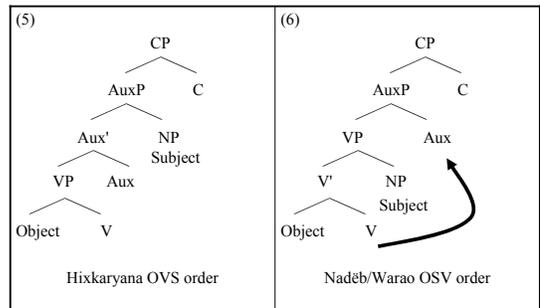
## VOS and OVS



## Predictions?

- Now, here's a question for you:  
Would the verb attraction parameter and the subject placement parameter be relevant to either of these two language types, or both, or neither?
- Correct, it should be relevant for OVS orders, giving rise to Mirror Welsh. But does it exist? This is what Nadëb and Warao are claimed to be.

## Deriving OSV



## Summary table for the 6 language types

Parameter	English	Japanese	Welsh	Malagasy	Hixkaryana	Nadëb
HD parameter	H-initial	H-final	H-initial	H-initial	H-final	H-final
Subject side parameter	S-initial	S-initial	S-initial	S-final	S-final	S-final
Subject placement parameter	Specifier of AuxP	Irrelevant	Specifier of VP	Irrelevant	Specifier of AuxP	Specifier of VP
Verb attraction parameter	Aux down to V	Irrelevant	V up to Aux	Irrelevant	Irrelevant	V up to Aux

## Something just doesn't seem right

- That looks like a nice story, except for one thing. Can you guess what that is?
- Well, our table makes it seem like all these types should have the same statistical distribution, which is obviously not the case.
- Consider their frequencies in Tomlin's sample again:

### Distribution of basic word order types in the world's languages

Word order	# of Languages	%
SOV	180	45
SVO	168	42
VSO	37	9
VOS	12	3
OVS	5	1
OSV	0	0

### Explaining frequency of VSO

- For a start, why are VSO languages not as frequent as SVO and SOV languages, but more frequent than VOS, OVS, and OSV languages?
- Baker's answer: ...  
Well, here's the logic:

### Explaining frequency of VSO

- If parameters are decided by a coin flip, then the HD parameter predicts a 50/50 distribution of head-initial and head-final languages.
- Since the subject placement parameter and the verb attraction parameter are irrelevant to head-final languages, then VSO languages will arise only in head-initial languages.

### Explaining frequency of VSO

- To get a VSO language, 1 out of 4 scenarios has to materialize (again assuming a coin flip): The subject has to be placed within VP and V has to move up to Aux. The three other scenarios give rise to SVO.
- If you do the math, the prediction then is that 25% of head-initial languages will be VSO, and 75% will be SVO.
- Given Tomlin's sample, the prediction is not perfect, but it's close.

### Ok, but why are VOS, OVS, and OSV so rare, then?

- If you're following what I've been saying, you should've noticed a discrepancy between what we just said about head-final languages and the table for the six word orders with parameters specified on an earlier slide. Here is the table again to help you think about the problem:

### Summary table for the 6 language types

Parameter	English	Japanese	Welsh	Malagasy	Hixkaryana	Nadëb
HD parameter	H-initial	H-final	H-initial	H-initial	H-final	H-final
Subject side parameter	S-initial	S-initial	S-initial	S-final	S-final	S-final
Subject placement parameter	Specifier of AuxP	Irrelevant	Specifier of VP	Irrelevant	Specifier of AuxP	Specifier of VP
Verb attraction parameter	Aux down to V	Irrelevant	V up to Aux	Irrelevant	Irrelevant	V up to Aux

## So, where's the problem?

- The problem is that the table is based on the assumption that subject placement and verb attraction parameters are relevant to head-final languages. After all, this is how we explained how Hixkaryana and Nadëb are different.
- But maybe this is good news. After all, the table is problematic in predicting that these language types should be more frequent than they actually are. So, maybe there is another solution.

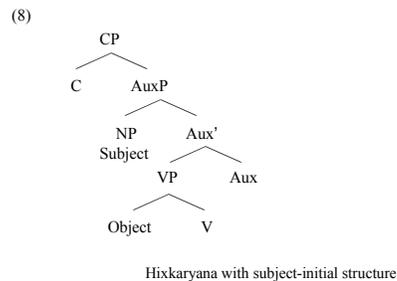
## Revisiting the subject side parameter

- Recall that the crucial parameter for these languages is the “subject side” parameter.
- Suppose we follow Baker and assume that the “subject side” parameter is only relevant for head-initial languages, but not for head-final languages.
- If so, then there has to be another way to get the subject to appear in final position in OVS languages like Hixkaryana.

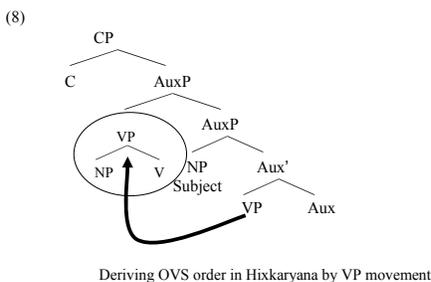
## Deriving OVS

- Maybe “a rare language type” is the result of the application of “a rare rule of grammar”.
- Some “marked” option has to take place, so these languages exist.
- Can you think of any? Here's the tree for Hixkaryana, this time assuming the subject is in initial position:

## Deriving OVS



## Deriving OVS



## Deriving OVS

- As it turns out, there is good evidence that this analysis is on the right track.
- For one thing, there are sentences in Hixkaryana where the subject is actually not in final position, e.g., indirect objects typically follow the subject:  
 otweto yimyakoni rohetxe totokomo wya  
 hammok gave my-wife people to  
 “My wife used to give hammocks to the people.”

## Deriving OVS

- Also, Hixkaryana exhibits SOV order in nonfinite embedded clauses:  
 ro-wy wewe yamatxhe itehe harha owo hona  
 me-by tree after-felling I-go back village to  
 “After I fell the tree, I will go back to the village.”
- This shows that the position of subject in Hixkaryana is not determined by the subject side parameter, but rather by some other operation, which we called VP movement here.

## Deriving OVS

- Now, if such operation is (for whatever reason) a “marked” option in human language grammar, then we expect languages like Hixkaryana to be rare, which they are.
- Sounds circular? Maybe, but still a viable solution.

## How about Nadëb/Warao OSV order?

- Actually, this is an interesting question. So, why don’t we turn it into a homework problem for everyone then?
- But we still don’t know why Malagasy-type languages are also so rare.
- It turns out Baker has an answer to that in terms of his innovative theory of parameter hierarchy (his “linguistic periodic table”, so to speak).

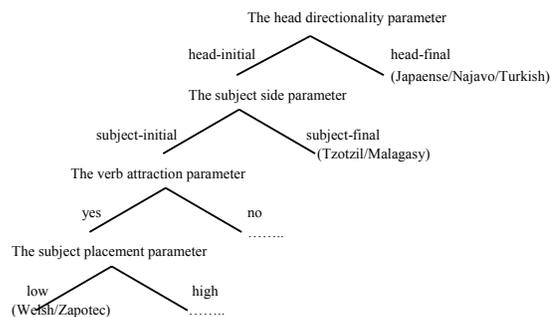
## Why is VOS rare?

- The idea of a parameter hierarchy is simple, and would be really interesting, if true.
- The claim is that parameters are ranked in a hierarchical order, such that the one higher on the hierarchy will determine which ones are available lower on the hierarchy.
- Let’s see how.

## Why is VOS rare?

- We have already seen one example: The HD parameter outranks the subject side parameter, in that this latter is only available for head-initial, but not head-final languages.
- Similarly, the subject side parameter outranks the verb attraction parameter (which, in turn, outranks the subject placement parameter) in that it is not relevant to subject-final languages.
- The hierarchy looks something like this:

## Baker’s parameter hierarchy (1<sup>st</sup> version)



### Baker's parameter hierarchy (1<sup>st</sup> version)

- As we discuss more parameters, we'll have to revise this hierarchy, but the point of the hierarchy should be clear: Certain parameteric options exist only by virtue of their relationship to other parameters higher than them on the hierarchy.
- What's an attractive feature of this approach? What's a potential problem(s)?

### Summary table for the 6 language types (revised)

Parameter	English	Japanese	Welsh	Malagasy	Hixkaryana	Nadëb
HD parameter	H-initial	H-final	H-initial	H-initial	H-final	H-final
Subject side parameter	S-initial	Irrelevant	S-initial	S-final	Irrelevant	?
Subject placement parameter	Specifier of AuxP	Irrelevant	Specifier of VP	Irrelevant	Irrelevant	?
Verb attraction parameter	Aux down to V	Irrelevant	V up to Aux	Irrelevant	Irrelevant	?
VP-movement	?	?	?	?	Yes	?

### When verbs come in sequence

- Compare Edo with English:
  - a. Ozó ghá là èvbàré khièn  
Ozo will cook food sell  
"Ozo will cook the food and sell it."
  - b. Ozó ghá suà àkhé dè  
Ozo will push pot fall  
"Ozo will push the pot down [literally, so that it falls]."

### When verbs come in sequence

- Similar to Edo are Sranan and Saramaccan:
  - c. Kofi naki Amba kiri (Sranan)  
Kofi hit Amba kill  
"Kofi struck Amba dead."
  - d. a bi fèfi di wòsu kabà (Saramaccan)  
he Tense paint the house finish  
"He had painted the house already."

### When verbs come in sequence

- Structures such as those in (a-d) in Edo, Sranan, and Saramaccan, are called *serial verb constructions*, because verbs in such constructions can follow one another in a serial order without the need to use connecting elements such as "and" or repeating the object with each verb.
- So, maybe it's another parameter:

### The serial verb parameter

- "Only one verb can be contained in each VP (as in English), or more than one verb can be contained in a single VP (as in Edo)."
- But do you notice something about languages that allow verb serialization?
- Right. They either mark tense with a separate word or do not mark it at all. Hmmm ... Is that a coincidence?

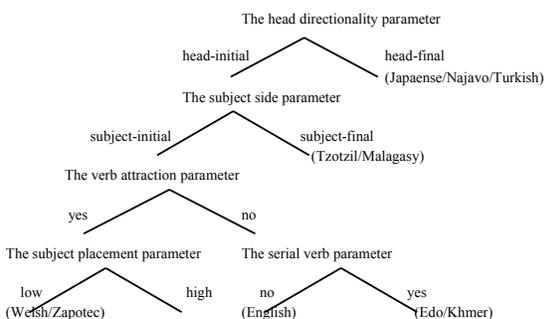
## The serial verb parameter

- Before we answer let's consider these further Edo examples:
  - a. Evbàré òré Ozo lé-rè  
    food Focus Ozo cook-past  
    "It's food that Ozo has cooked."
  - b. \*Evbàré òré Ozo lé-rè khièn(-rèn)  
    food Focus Ozo cook-past sell(-past)  
    "It's food that Ozo has cooked and sold."

## The serial verb parameter

- So, when is verb serialization blocked?
- Exactly! When Aux is an affix, verb attraction becomes a problem, and the result is a bad sentence.
- For Baker, this follows if the verb attraction parameter outranks the serial verb parameter, so that the hierarchy will now look like this:

## Baker's parameter hierarchy (2<sup>nd</sup> version)



## Verb serialization in Khmer

- Further evidence for the incompatibility between verb attraction and verb serialization comes from the Khmer languages.
- Eric Schiller notes that Proto-Khmer was originally a VSO language. It gave rise to the two modern languages of Ravua, which is still VSO, and Modern Khmer, which is SVO. Interestingly for the verb serialization phenomenon, only Modern Khmer developed serial verb constructions, but not Ravua.

## So, what about ... Mohawk?

- Great language! But a challenging problem for our theory of word order.
- We do this next time. Read Baker's "Baking a polysynthetic language." and Whaley's chapters 7 & 8 on morphology and typological morphology.