

## Principles and Parameters

So, let's say that the component of grammar that predisposes them to look for auxiliaries and noun phrases (i.e. for categories) is invariant across all human children. It's a *principle* of the system. Nonetheless, the syntax of different languages differ in other ways. (Most variation between languages is in simple *signe/signifié* correspondence, of course, but grammatical differences also exist. English is not just French with different morphemes, and Japanese is not just Latin with different morphemes). Children must look for the structures that vary across languages too. Again, the idea/hope is that there are only a few of these things, and they may vary only in a limited number of ways. These things are called *parameters* (hence Principles and Parameters model of language acquisition).

### Examples of parameters:

Parameter A: Headedness or, as Baker calls it, the Head Directionality Parameter.

**What's a head?** First we'd better remind ourselves of what a *head* is. Look at some of the phrase-structure rules that we were using last time:

1. a)  $S' \rightarrow (\text{Comp}) S$
- b)  $S \rightarrow \{ NP / S' \} (\text{INFL}) VP$
- c)  $VP \rightarrow (\text{AP}+) V (\{NP/S'\}) (\text{PP}+) (\text{AP}+)$
- d)  $NP \rightarrow (\text{D}) (\text{AP}+) N (\text{PP}+)$ .
- e)  $PP \rightarrow P (NP)$
- f)  $AP \rightarrow (\text{AP}) A$

Ignore the S' and S rules for the moment. What's consistent about the remaining 4?

All the phrase-marker names on the left are named after the only obligatory element that appears on the right. NPs are named after the N, PPs are named after the P, VPs are named after the V, and APs are named after the A. In all of these cases, a single, unmodified element can appear all by itself in the same position as an entire complex phrase built around :

2. a. NP [Dogs] bark.  
   [The dogs that live next door] bark.
- b. VP Dogs [bark]  
   Dogs [quickly bark at any noise they hear]
- c. PP Jane walked [away]  
   Jane walked [straight away from the suspicious cop]

- d. AP The [hot] sun  
The [extremely hot yellow] sun.

The head word of a phrase is the single-word element of the phrase without which you couldn't have the phrase.

11. English vs. Japanese:  
& Edo & Lakhota

- a) (John) ate pizza Verb-Object  
(írén) (ghá) rhiè [NP éfótò Úyì]... Verb-Object (61)  
he will put photo Uyi....  
"he will put the photo of Uyi..."

(Taro-wa) pizza-o tabe-ta Object-Verb  
(Taro-TOP) pizza-ACC eat-PAST  
"Taro ate pizza"

(John) wowapi k'uhe iyeye Object-Verb  
letter that found  
"John found that letter"

- b) to the party Preposition-Object

yè néné ékptétin Preposition-Object  
in the box

paatii e .... Object-Postposition  
party-to  
"to the party"

[oyuke ki] ohlate Object-Postposition  
[better the] under  
"under the bed"

- c) ...the college which the eldest son got into... Noun-Relative Clause

...gotyoonan-ga gookakusare-ta daigaku-o.... Relative Clause-Noun  
eldest.son-NOM pass.into-PAST college-ACC

- PP (English/Edo: P-first, Japanese/Lakohta, P-last)  
VP (English/Edo: V-first, Japanese/Lakohta, V-last)  
NP (English: N-first, Japanese, N-last)

So for these phrases, at least, it looks like you can use exactly the *same* phrase-structure rules for these phrases English and Japanese — it's just that the linear order of the head and the rest of the phrase is different for the two.

English	Japanese
NP → N (S')	NP → (S') N
VP → V (NP)	VP → (NP) V
PP → P (NP)	PP → (NP) P

Now let's consider our three other rules:

- a) S' → (Comp) S
- b) S → { NP / S' } (INFL) VP
- f) AP → (AP) A

What problems do you see for the head directionality parameter in these rules?

Let's look at a few more examples from Baker:

- d) Determiners: English vs. Lakohta

the [letter that I wrote]	D NP
[wowapi] k'uhe	NP D
[letter] that	

- e) Complementizers: English vs. Japanese:

that [she will show Mary's picture of John to Chris]	C S
[Hiro-ga Hanako-ni zibun-no syasin-o miseta] to	S C
[Hiro-NOM Hanako-DAT self-GEN picture-ACC showed] that	

- f) Auxiliaries
- |                        |        |
|------------------------|--------|
| is [thinking that ...] | Aux VP |
| [... to omette] iru    | VP Aux |
| [...that thinking] is  |        |

- g) Adjectives:
- |                                 |        |
|---------------------------------|--------|
| (John is) proud [of his mother] | Adj PP |
| *of his mother proud.           |        |
| (John is) smarter [than Bill]   | Adj PP |
| *than Bill smarter.             |        |

(Hanako-ga) Taro yori kasikoi  
(Hanako-NOM) Taro from smarter

On the model of naming phrases after their heads, what are the real names of S and S'?  
Further, what should the name of a phrase like *that tree* be?

12. What problems for headedness with our new phrases arise in the sentences below?

- a) Dogs will bark.
- b) This student thinks other students are working.
- c) This student worked.

but contrast:

- 13.
- a) \*Dog will bark.
  - a') A dog will bark
  
  - b) \*This student wonders other students are working
  - b') This student wonders whether other students are working.
  
  - c) \*This student not worked.
  - c') This student did not work.

What remaining problems do you see for a fully consistent head directionality parameter setting in English?

**More parameters:**

Null subjects: French vs. Italian

- 12.
- |    |   |    |   |
|----|---|----|---|
| a) | Maria parla francese<br>Maria speaks French | b) | Marie parle français<br>Maria speaks French |
| c) | Parla francese<br>(she/he) speaks French    | d) | *Parle français<br>(she/he) speaks French   |

wh-movement: English vs. Chinese

- 13.
- a) I think he will say that he is pleased.
  - b) What do you think he will say \_\_\_\_\_ ?
  - c) Ni xiangxin ta hui shuo shenme?  
You think he will say what

polysynthesis: English vs. Navajo

14. ni-sh-hozh  
2s-1s-tickle  
'I tickle you.'