

Syntax: Basics of X-bar theory**I. General concepts in syntax** (see O’Grady et al. (2010) reading for more discussion)

(1) Structure matters: Words form **constituents** (groups, ≈phrases) in syntactic structure

(a) Native speaker behavior shows us that these groupings are valid

- Movement, replacement, etc. —> operations over syntactic constituents
- Meaning is affected by syntactic constituency

She watched the spy with the binoculars

(b) Therefore, we need our model of mental grammar to build up syntactic structure on the basis of constituents as well

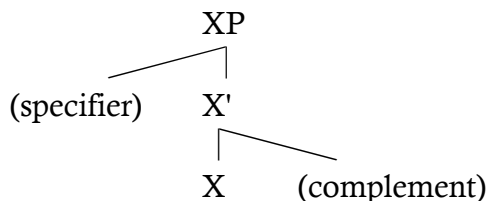
(2) The **X-bar schema**

(a) This is a model of the syntactic component of mental grammar

(b) We will first learn how the model works, and then begin to test it on/apply it to language data

(c) Our goal for this course is to learn enough syntactic theory to be able to examine interesting phenomena in Japanese — so there are many details of the X-bar model (and syntax in general) that we will not pursue

(3) The general version of the X-bar schema is:



(a) **head** — The word that is the “core” of the phrase

- determines the type of phrase (X is the head of XP, for any X)

(b) **complement** — the phrase that is the sister of X (the head)

- A complement is a phrase that the head requires inside its own phrase
- Examples: Direct object (complement of V); object of preposition (complement of P)

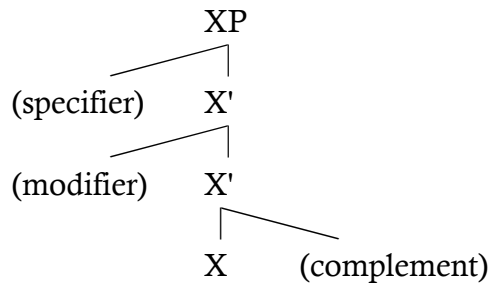
(c) **specifier** — the phrase that is the daughter of XP

- A specifier is a “subject-like” phrase that occurs with a head (*yes, this is vague!*)
- Examples: Possessor (spec. of N); certain adverbs (spec. of V, A, P)
- The subject of a sentence is the specifier of the IP phrase

- The *linear order* of elements (left-to-right) is **language-specific**

- Nodes are generally **binary-branching** (exceptions will be noted)

- (4) To this general version we can add optional **modifiers** (*warning: reading takes a shortcut here!*)



- **modifiers** are also known as **adjuncts**

- Modifiers cause **recursive X' nodes** to appear
- Modifiers are **optional** (their presence is not required by the head)
 - Examples: APs modifying N, or certain PPs modifying N, V
- Again, **linear order** (left/right side of X') depends on language and/or modifier type

- (5) **Lexical categories as heads of phrases**

- “Lexical” (~open-class) categories = N, V, A, P
- These words are heads of phrases (the phrases may also contain other elements, which generally provide more information about the head)
 - Whenever you see a head of one of these categories, it **must project a phrase**

- (6) The **sentence as IP**

- The head of a sentence is I, the “inflectional head”; morphemes (possibly abstract/invisible ones) involving grammatical features such as verb tense and modality (possibility, necessity, etc.) typically go in this position
- The **complement** of an IP is the **predicate** of the sentence
- The **specifier** of an IP is the **subject** of the sentence
 - Note: We now have a *structural* way to define these traditional terms — how can we describe their position in the tree?
 - Subject =
 - Direct object =

- (7) Complementizer phrases (CPs)

- A **complementizer** (C) is a head (i.e., word) that turns a sentence (IP) into something that can be a complement
 - Example: Embedded clauses
- The *complement* of C is IP
- The *specifier* of C is ... a very useful position to move things into in some languages
- A main-clause (matrix) IP is probably also contained inside a CP, but we can't necessarily see that until we start looking at the syntax of questions

- (8) Where are we? Evaluating the X-bar schema/back to our starting point

- We are predicting that the maximal string of elements **dominated by a common node** in a syntax tree is a **constituent** according to native-speaker judgments

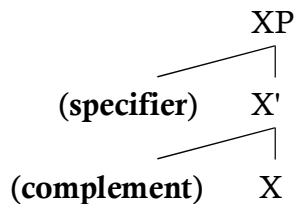
II. Applying the X-bar schema to Japanese

(9) Japanese phrases have the following word order:

- | | | | | | |
|-----|------------------------------|------|--|-----------------|-----------------------------|
| (a) | Direct object + verb | NP V | susi-o | tabe-ta | |
| | | | <i>sushi-ACC</i> | <i>eat-PAST</i> | ‘ate sushi’ |
| (b) | Object + postposition | NP P | uti de | | |
| | | | <i>home at</i> | | ‘at home’ |
| (c) | Postpositional phrase + verb | PP V | [PP uti de] | tabe-ta | ‘ate at home’ |
| | | | <i>home at</i> | <i>eat-PAST</i> | |
| (d) | Embedded clause + verb | CP V | [CP Aya-ga susi-o tabe-ta to] | omo-u | |
| | | | <i>sushi-ACC eat-PAST C think-NPST</i> | | ‘thinks that Aya ate sushi’ |

- Conclusion: Japanese is a **head-final** language

(10) X-bar phrase structure for Japanese



- repeat X' level if **modifier** is needed

(11) Hints, tricks, and reminders — Points to keep in mind while drawing sentence trees

- How do the **subject** and the **predicate** fit into a sentence?
- What structure does a **direct object** take?
- What structure does the **object of a postposition** take?
- What is the structure of an **embedded sentence**?