Morphological processes

- Morphological processes are classified into two main types depending on their functions.
  - Derivation
  - Inflection

Inflection

- "Bending" a lexeme to fit in a sentence.
- Inflectional morphology is syntactically determined.

Inflectional morphology

- Inflectional categories/ inflectional dimensions

<u>French</u>
manger 'to eat'

	Present		Future	
	singular	plural	singular	plural
1st	mange	mangeons	mangerai	mangerons
2nd	manges	mangez	mangeras	mangerez
3rd	mange	mangent	mangera	mangeront

- How many inflectional dimensions?

Inflectional morphology

- Morphosyntactic features/ inflectional features/ morphosyntactic properties
- Features belong to the same dimension if they share a semantic or functional property and are mutually exclusive.

- What are the features of the following categories in the paradigm of *manger?*
  - Tense, Number, Person

A feature value notation

French

mangerons   TENSE: FUTURE

'we will eat'   PERSON: 1ST

                    NUMBER: PLURAL

mangent?

Exponence

- The realization of morphosyntactic features via inflection
- The morpheme [s] is the exponent of the morphosyntactic feature plural.
- Simple exponence: one morpheme for one morphosyntactic feature
- Cumulative exponence: more than one morphological feature maps onto a single morpheme

Exponence

- Extended exponence: a single morphosyntactic feature is realized simultaneously on more than one form

Ancient Greek

elelýkete   'you had unfastened'

Perfective is marked by reduplication (*le-*), infixation (*k*) and the form of stem (*lŷ*).

Context-free and context-sensitive inflection

- Context-free inflection: a simple mapping between a morphosyntactic feature and a particular phonological string
  – [PROGRESSIVE] and –iŋ

- Context-sensitive inflection: realization of a morphosyntactic feature varies
  – [PAST]

Inherent vs. contextual inflection

- Inherent inflection reflects properties of inflected elements regardless of contexts.
  - Gender of nouns
  - Tense of verbs

- Contextual inflection is determined by syntactic contexts. It marks the relationship between two elements in a syntactic construction.
  - Case marking on nouns and pronouns
  - Gender marking on adjectives

Contextual inflection

- How is inflection assigned?
  - Government
    The form of an element is dictated by other elements.
    - Case marking on nouns and pronouns

  - Agreement (or concord)
    Morphosyntactic features of elements in a phrase or sentence are not in conflict.
    - Subject-verb agreement

Inherent and contextual inflection

- Contextual inflection may convey redundant information. Thus, it is more likely to disappear in the course of time than inherent inflection.

  une   grande maison

  INDEF.FEM   large.FEM   house.FEM

  'a large house'

Inflection and Derivation

Inflection	Derivation
• Produces a new word-form	• Produces a new lexeme
• Does not change lexical category	• May or may not change lexical category
• Does not change the core meaning	• Often change the meaning
• Have a regular meaning	• May or may not have a regular meaning
• Can be added to all members of the class	• Cannot be added to all members of the class

Inflection	Derivation
(i) relevant to the syntax	not relevant to the syntax
(ii) obligatory expression of feature	not obligatory expression
(iii) unlimited applicability	possibly limited applicability
(iv) same concept as base	new concept
(v) relatively abstract meaning	relatively concrete meaning
(vi) compositional meaning	possibly non-compositional meaning
(vii) expression at word periphery	expression close to the base
(viii) less base allomorphy	more base allomorphy
(ix) no change of word-class	sometimes changes word-class
(x) cumulative expression possible	no cumulative expression
(xi) not iterable	possibly iterable

Table 5.5 A list of properties of inflection and derivation

Order of morphemes

- Derivational morphemes are closer to the stem than inflectional morphemes.
  - form-al-itie-s
  - glob-al-ize-d
- If both the derivation and inflection follow the root, or they both precede the root, the derivation is always between the root and the inflection. (Greenberg 1963)

Other implicational universals (Greenberg 1963)

- The presence of inflectional morphology implies the presence of derivational morphology.
- The presence of morphological gender marking implies the presence of number marking.
- If a verb agrees with either its subject or its object in gender, it also agrees with it in number.
- If the pronoun is marked for gender in the plural, it is also marked for gender in the singular.

Order of morphemes

- However, there exist cases in which inflection appears closer to the base than derivation.
  - connect-ed-ness
  - inherent inflection

Order of inflectional morphemes

- Inflection morphology is represented by templates.

    Stem-Number-Case

- Inherent inflection is closer to the stem than contextual inflection.

Models of inflectional processes

- Item-and-Arrangement Morphology
  - Morphology is the concatenation of morphemes.
  - เป็นการเติม inflectional morpheme ให้ stem
  - ปัญหา อาจไม่มี one-to-one ระหว่าง inflectional properties กับรูปที่แสดง และบางครั้งไม่แสดงด้วยการเติม affix แต่ใช้วิธีอื่น เช่น เปลี่ยนเสียงสระก็ได้
- Item-and-Process Morphology
  - Inflection are process-based operations.
  - $[X]_N \rightarrow [X\text{-}ami]_{N[+pl.,instr]}$
  - ถ้าเติม –ami จะได้ feature +pl., instr กับ N

Models of inflectional processes

- Word-and-Paradigm
  - A lexeme and its feature values in a paradigm goes through realization rules.
  - $[X]_{N[+pl,instr]} \rightarrow [X\text{-}ami]_N$
  - ต่างจากแบบที่ผ่านมา $[X]_N \rightarrow [X\text{-}ami]_{N[+pl.,instr]}$
  - ไม่ใช่ process ไม่ได้เติม feature แต่การมี feature นี้ทำให้ realization มีการเติม –ami
  - การวิเคราะห์แบบนี้เรียก realizational morphology

Models of inflectional processes

- Distributed Morphology
  - A morpheme is inserted in a slot with certain features.
  - ใน syntactic tree มี abstract morphemes ในรูปของ features [+plural] [+past] …ที่ปลายโหนด
  - phonological content จะ spelt out ด้วยการ insert vocabulary items ที่สอดคล้องกับ feature
  - $/z/ \Leftrightarrow [\_, +plural]$
  - The task of providing fully inflected word is distributed over other components of grammar

Morphological theories

- Dichotomy approach (split morphology)
  - Rules of derivation operate on a lexicon that feeds into the syntax.
  - Syntactic rules apply.
  - Inflectional rules apply.
- Explains why derivation is closer to the root
- But, this approach doesn't explain exceptional cases of root-inflection-derivation.

Morphological theories

- Continuum approach
- Differences between inflection and derivation are not clear-cut.
- Prototype: the most typical member of a class
  - Prototypical inflection: agreement *–s*
  - Prototypical derivation: noun suffix *–ment*
- Explains the ordering of affixes
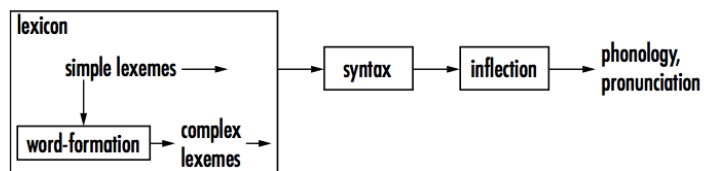 - More prototypically derivational affixes appear closer to the base

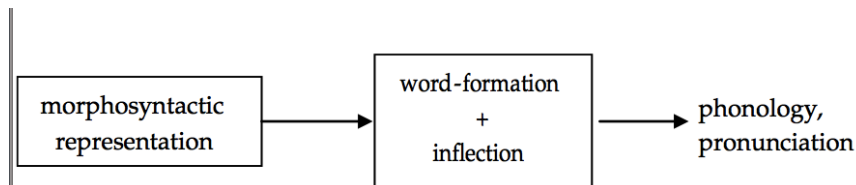Figure 5.4 Word-formation and inflection in a split-morphology architecture

Figure 5.5 Word-formation and inflection in a single-component architecture

Morphological theories

- Tripartition approach
  - Contextual inflection
  - Inherent inflection
  - Derivation
- Inherent case is similar to derivation in that an inflected form has an unpredictable, idiosyncratic meaning.

Syncretism

- A single inflected form corresponds to more than one set of morphosyntactic features.

<u>Romanian</u>

	'to fill'	'to do'	'to know'
1sg	úmpl-u	fác	stí-u
2sg	úmpl-i	fác-i	stí-i
3sg	úmpl-e	fác-e	stí-e
1pl	úmpl-m	fác-m	stí-m
2pl	úmpl-ti	fác-ti	stí-ti
3pl	úmpl-u	fác	stí-u

Inflectional processes

- Affixation
- Stem alternation
- Apophony (or ablaut concerns vowel changes within a root, for example, sing-sang-sung, drive-drove-driven)
- Reduplication

  And other processes