Morphological language classification

Languages of the world

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- Different degrees of morphological complexity
- exs.: Yay (Southern China; (a)) vs. Oneida (North America; (b))

(1) a. mi⁴   ran¹   tua⁴   ŋwa¹   lew⁶
        not   see   CLASS   snake   CMPLT
        He did not see the snake.   (Example from Gedney 1991, xxx)

     b. yo-nuhs-a-tho:lé:
        3NEUT.PAT-room-epenthetic-be.cold.STAT
        The room is cold.   (Example from Michelson 1991, 133)

Morphological typology of the 19th century

- The – implicit – premise of the first language typology is that morphology, especially inflection, forms the core of the language system.
- Two paramters are in the center of interest:

1) Expression of grammatical meaning, i.e. the degree of their grammaticalization:

- concrete vs. Abstract

- degree of binding and fusion of grammatical forms

2) Degree of complexity of the word vs. Complexity of the sentence (degree of synthesis)

Friedrich Schlegel's Types: inflecting vs. isolating

Entweder werden die Nebenbestimmungen der Bedeutung durch innre Veränderungen des Wurzellauts angezeigt, durch Flexion, oder aber jedesmal durch ein eignes hinzugefügtes Wort, was schon an und für sich Mehrheit, Vergangenheit, ein zukünftiges Sollen oder andre Verhältnisbegriffe der Art bedeutet; und diese beiden einfachsten Fälle bezeichnen auch die Hauptgattungen aller Sprache. Alle übrigen Fälle sind bei näherer Ansicht nur Modifikationen und Nebenarten jener beiden Gattungen; daher dieser Gegensatz auch das ganze in Rücksicht auf die Mannigfaltigkeit der Wurzeln unermeßliche Gebiet der Sprache umfaßt und völlig erschöpft. [Schlegel 1808: 45]

August Wilhelm Schlegel's three classes: isolating – agglutinating - inflecting

- 1) Languages without any grammatical structure,
- 2) languages that use affixes,
- 3) languages with inflection.

Among inflecting languages, two kinds are distinguished, **synthetic** and **analytic**. The analytic languages have:

- articles preceding the noun,

- personal pronouns preceding the verb,

- auxiliary verbs in verbal inflection,

- prepositions instead of case,

- adverbs for comparative of adjective etc.

The synthetic languages do not have such paraphrases (**periphrases**).

Wilhelm von Humboldt's morphological typology as description of the language system („Sprachform"):

- "Die charakteristische Form der Sprachen hängt an jedem einzelnen ihrer kleinsten Elemente; jedes wird durch sie, wie unerklärlich es im einzelnen sei, auf irgendeine Weise bestimmt. Dagegen ist es kaum möglich, Punkte aufzufinden, von denen sich behaupten ließe, daß sie an ihnen, einzeln genommen, entscheidend haftete. [... H. fordert,] dass in den Begriff der Form der Sprache keine Einzelheit als isolierte Tatsache, sondern immer nur insofern aufgenommen werden darf, als sich eine Methode der Sprachbildung an ihr entdecken lässt. Man muss durch die Darstellung der Form den spezifischen Weg erkennen, welchen die Sprache und mit ihr die Nation, der sie angehört, zum Gedankenausdruck einschlägt."
[Humboldt 1836: §12, 420ss.]

Edward Sapir's morphological Typology

Sapir (1921, esp. Kap. V) reduces morphological typology to two parameters:

- 1. Degree of **fusion** of the affixes with each other and with the root: (isolating -) agglutinative – fusional.

- 2. Degree of **synthesis** of the components of the sentence into more or less complex words: analytic – synthetic - polysynthetic

Index of synthesis

- One extreme: no morphological synthesis
    - Completeley isolating language
    - All morphemes are free morphemes
- Other extreme: all grammatical relations between morphemes are morphologically realized
    - Extreme polysynthesis; every sentences consists of a single (complex) word

Index of synthesis

ISOLATING<--x----x--------------------------x----->SYNTHETIC
                Yay   English   Oneida
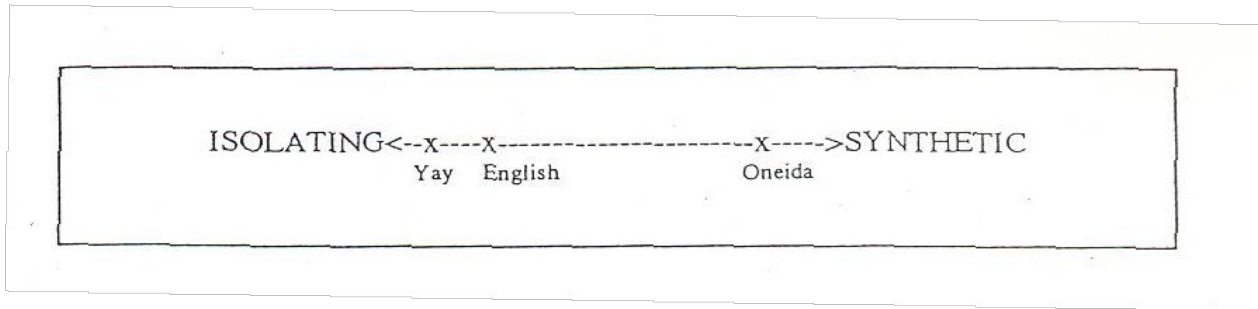
- No language is entirely isolating
- Chinese comes close
- However, even Chinese has some inflection and derivation affixes
- Also, Chinese has composition

(2) a. tā   zài   túshūguǎn   kàn   bào
        he   at   library   read   newspaper
     He's at the library reading a newspaper.

     b. Xiǎo   Huáng   kuài   yào   lái   le
        Little   Huang   fast   will   come   ASP
     Little Huang is coming!

     c. tā   chī   le   yī   ge   yóutiáo
        he   ate   PFV   one   CLASS   fritter
     He ate one fritter.   (Data adapted from Li and Th

Properties of isolating languages

- Isolating languages frequently ha[ve] a complex tonal system
- For instance Yai (cf. ex (3))
- No obvious functional explanation
- Possibly just an accidental areal phenomenon

- Isolating languages frequently use serial verbs
- cf. ex (4) (also Yai)

(3)
yĭ (high tone)	"clothes"
yí (rising tone)	"to suspect"
yĭ (falling then rising tone)	"chair"
yì (falling tone)	"meaning"

(4)
| may⁶faay⁴ | koŋ² | ma¹ | rop¹ | caw³ | hauɰ³ | ku¹ |
| bamboo | bend | come | stroke | head | give | I |

The bamboo bends down to stroke my head for me.

Properties of isolating languages

- Isolating languages usually have
  fixed word order

- Not surprising from a functional
  perspective, because in the
  absence of morphological marking,
  grammatical distinctions can only be
  expressed by word order

Examples for isolating languages

- Chinese
- English
- Thai
- Vietnamese
- Bulgarian

Properties of synthetic languages

- Robust usage of morphology; i.e.
  Complex words
- Example: Bare (Arawakan,
  Venezuela), cf. (5)

(5) nu-khniñani   hme-muduka-na-ka   bĩ   babuka   Varela   abi
    1P-people   3P-kill-PFV-SEQ   you   around   Varela   with
    My people shot at you because of Varela   (Data from Aikhenwald 1995)

- Extremely synthetic: polysynthetic
- For instance Tiwa (NA), cf. (6)

(6) a. Ti-khwian-mu-ban
       1S-dog-see-PST
       I saw the dog.

    b. Men-mukhin-tuwi-ban
       2D-hat-buy-PST
       You two bought a hat.

    c. In-khwian-wia-che-ban   seuanide-ba
       AGR-dog-give-PASS-PST   man-INST
       The man gave me the dog.

Properties of synthetic languages

- In polysynthetic languages, a single word may contain more than one lexical root

- Process is called incorporation

- Despite superficial similarity there are crucial differences to word formation via composition
  - Most frequent case: incorporation of noun by verb
  - Results in complex verb
  - Incorporated noun remains referentially autonomous
  - Incorporated noun saturates argument position of the verb

Properties of synthetic languages

- complex agreement system
- e.g. Tiwa (NA, cf. (7), (8)):
  - Verb agrees with subject, direct object and indirect object

- No language is entirely synthetic; even polysynthetic languages have syntactically complex sentences

(7) 'U-ide   **tow**-keuap-wia-ban
    child-A   1S:C:A-shoe-give-PST
   *I gave the shoes to the child.*

(8) 'U-ide   **tam**-musa-wia-ban
    child-A   1S:B:A-cat-give-PST
    I gave the cats to the child.

Examples for strongly synthetic languages

- Inuktitut
- Chukchi
- Ainu (Japan)
- Circassian (Northern Caucasus)
- Basque
- Maya
- Lakota
- Mohawk

Fusion index

- One extreme: agglutinatinative languages
  - Morpheme boundaries are easy to identify
  - Every morpheme has a unique, clearly identifiable function
- Other extreme: fusional languages
  - No clear morpheme boundaries
  - Single grammatical morpheme frequently expresses different grammatical functions

AGGLUTINATIVE<-----x--------------------->x-------->FUSIONAL
                   Nahuatl   Greek
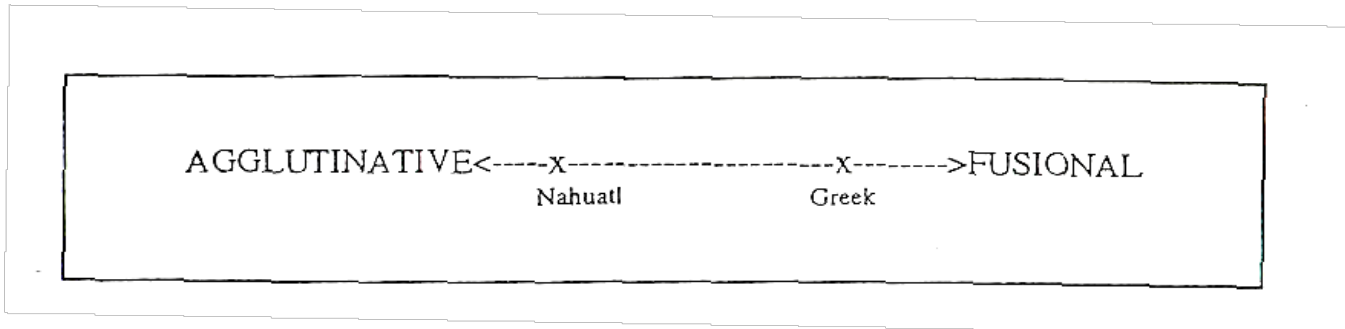
Properties of agglutinative languages

- Clearly identifiable morphemes
- E.g. Nahautl (Uto-Aztecan)

(9)	no-kali	my house	no-pelo	my dog
	no-kali-mes	my houses	mo-pelo	your dog
	mo-kali	your house	mo-pelo-mes	your dogs
	i-kali	his house	i-pelo	his dog

- No irregular allomorphy
- Morphemes are invariant between different contexts

Examples for agglutinative languages

- Turkish
- Basque
- Chechen
- Finnish
- Hungarian
- Inuktitut
- Swahili

Properties of fusional languages

- Morpheme boundaries are difficult to identify
- e.g. Ancient Greek

(10)	lu-ō	1S:PRES:ACT:IND (I am releasing)
	lu-ōmai	1S:PRES:ACT:SBJV (I should release)
	lu-omai	1S:PRES:PASS:IND (I am being released)
	lu-oimi	1S:PRES:ACT:OPT (I might release)
	lu-etai	3S:PRES:PASS:IND (He is being released)

- Every suffix has several grammatical functions
- Certain regularities suggest a particular segmentation
- Not possible to define this generally

- *There can't be purely fusional languages.*
- *Such a hypothetical language would be unlearnable because the number of morphemes would be huge and there would not be any systematicity within paradigms.*

Examples for fusional languages

- Ancient Greek
- Latin
- Semitic languages (Arabic, Hebrew, ...)
- Slovenian
- Lithuanian
- Armenian

Relation between the two indices

- Opposition between fusional and agglutinative would not be applicable to purely isolating languages (there are no purely isolating languages though)
- Correlation:
  - Strongly synthetic languages are usually agglutinative
  - Can be explained functionally via learnability considerations: polysynthetic fusional languages would have an extremely high number of morphemes and would therefore be unlearnable.

Repetition: Examples of different morphological types

1) isolating type

Mandarin

ta bu	hui	yong	dao	chi	fan
he no	can	use	knife	eat	rice

„He cannot eat rice with a knife"

Repetition: Examples of different morphological types

2) agglutinative type

Turkish

ev	→	Haus (Nom. Sg.)
ev-ler	→	Häuser (Nom. Pl.)
ev-i	→	sein/ihr Haus (Sg.+Poss.)
ev-ler-i	→	seine/ihre Häuser (Pl.+Poss.)
ev-den	→	von dem Haus (Sg. Abl.)
ev-ler-den	→	von den Häusern (Pl.+Abl.)

Aztecan

nikita	„ich sehe es"	tikinita	„du siehst sie (Pl.)"
kita	„er sieht es"	nikitak	„ich sah es"
kinita	„er sieht sie (Pl.)"	kitakeh	„sie sahen es"
kitas	„er wird es sehen"	kinitakeh	„sie sahen sie (Pl.)"
kitak	„er sah es"		

Repetition: Examples of different morphological types

3) fusional type

Latin: „am-o"

1. sg. ind. pres. active
(„I love")

Repetition: Examples of different morphological types

4) polysynthetic type

Yup'ik (Alaska)

angya-li-   ciq- sugnar- quq-   llu

boat- make-FUT- PROB- 3sg.NOM-also

`Also, he probably will make a boat`

Repetition: Examples of different morphological types

The three faces of English

Isolating:

The boy will ask the girl

Synthetic:

The biggest boys have been asking

Agglutinative:

anti-dis-establish-ment-arian-ism

Position of German

- Synthesis index
  - Somewhere in the middle, but closer towards the synthetic languages
- Fusion index
  - Strong tendency to fusional language type

- **Exercises**
  - Name examples for agglutinative and for fusional aspects of your native language or some other language you know well.
  - English is largely, but not exclusively isolating. Where would you locate it on the fusion scale?
  - Classify further languages that you know.
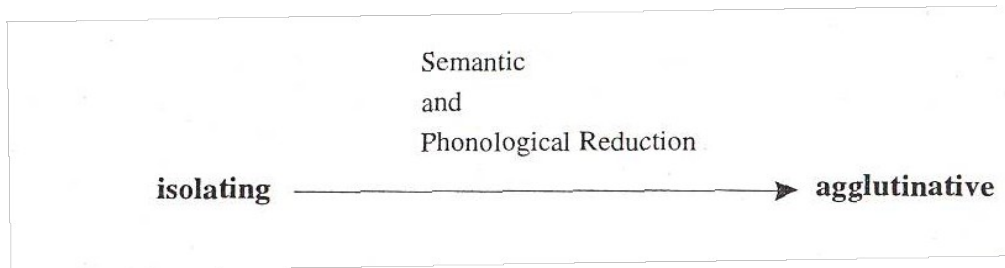
Morphological types and language change

- Language change usually involves phonological reduction
- Effect is strongest for most frequent phoneme sequences
  - *zu dem > zum*
  - *hat er es > hat ers*
  - *laufen > lauf'n*
  - *let us > let's*
  - *(ahd) brenjan > (nhd) brennen*

Morphological types and language change

- Phonological reduction results in
  - Reduction of independent words to affixes
  - Fusion of neighboring morphemes
  - Complete loss of morphemes

Morphological types and language change

- Reduction of independent words to affixes

Semantic
and
Phonological Reduction

isolating ——————————→ agglutinative

- Eg: Melanesian Pidging

(12) a. aus   bloŋmi → aus   blo-mi   "my house"
          house   of   me   house   of-me
      b. loŋ   aus →   l-aus   "at home"
          at   house   at-house

Morphological types and language change

- Phonological reduction results in
 - Fusion of neighboring morphemes
  - eg. Paamese (Austronesian language)
    (in historical linguistics, an asterisk does not denote „ungrammatical", but „this form is not documented, but reconstructed")

(13) a. *na-i-lesi-ø →   ni-lesi-ø   "I will see it."
        I-FUT-see-it   I:FUT-see-it

     b. *ko-i-lesi-nau →   ki-lesi-nau   "You will see me."
        you-FUT-see-me   you:FUT-see-me

Morphological types and language change

- Phonological reduction results in
  - Fusion of neighboring morphmes

fusional

Morphological Fusion

isolating ——— Reduction ——→ agglutinative
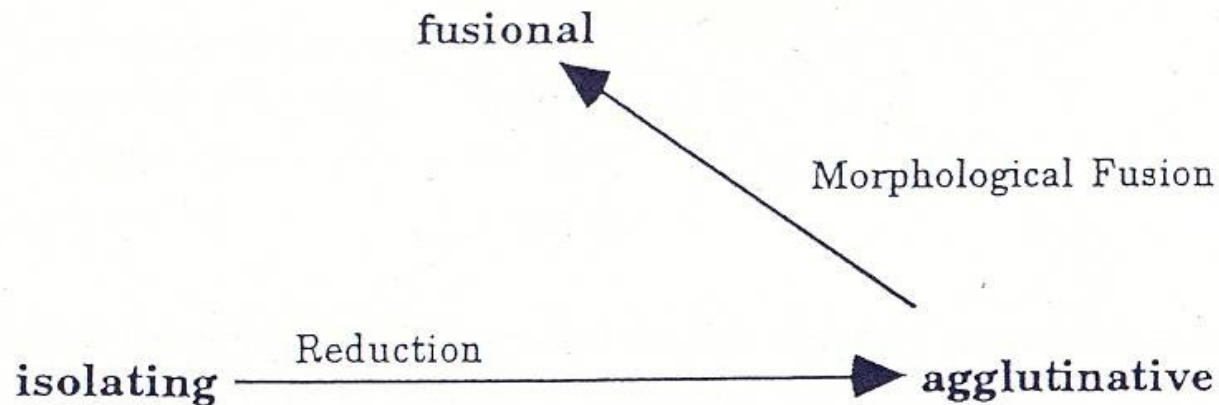
Morphological types and language change

Phonological reduction results in

- – Complete loss of morphemes
- – eg. in modern German

am Tische > am Tisch