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. mi^{4} ran^{1} tua^{4} ŋwa^{1} lew^{6}
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 parameters 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)

Edward Sapir's morphological Typology

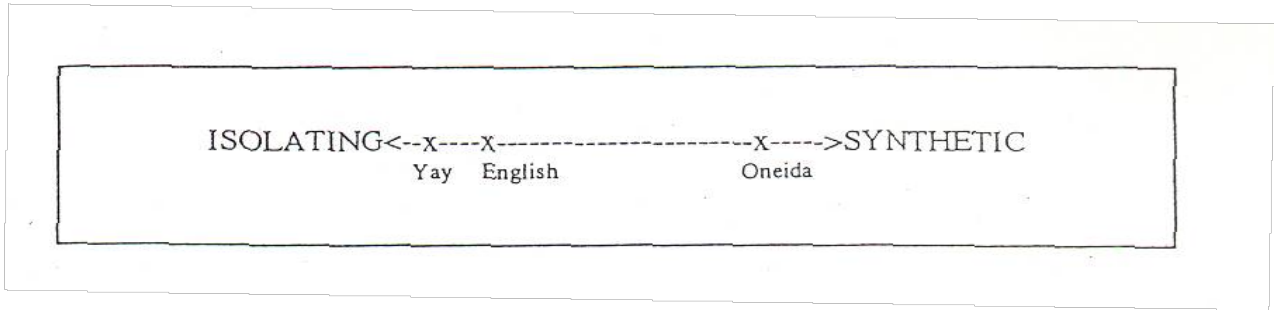
Sapir (1921, esp. Kap. V) reduces morphological typology to two parameters:

- 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



- 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 yi ge yóutiáo
he ate PFV one CLASS fritter
He ate one fritter.

(Data adapted from Li and T

Properties of isolating languages

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

(3)

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

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

(4)

may^{6}faay^{4}	koŋ^{2}	ma^{1}	rop^{1}	caw^{3}	hauɥ^{3}	ku^{1}
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 bî 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

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

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

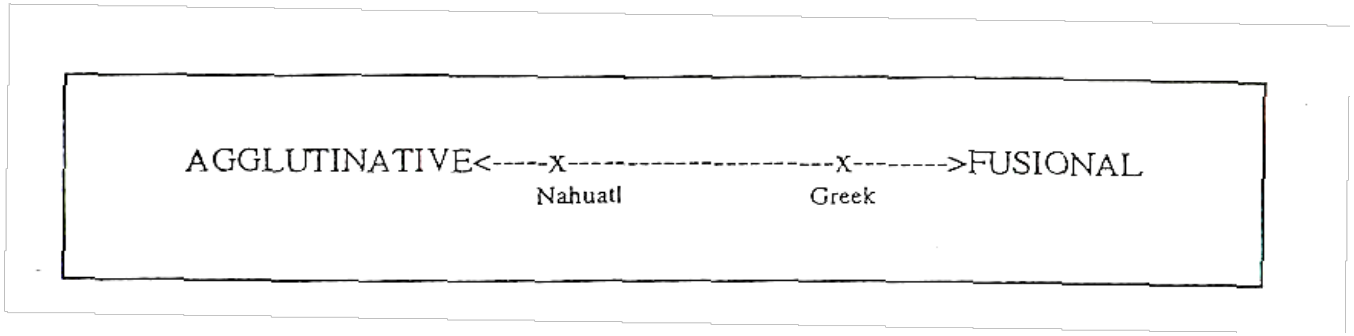
(8) 'U-ide **tam**-musa-wia-ban
child-A 1S:B:A-cat-give-PST
I gave the cats to the child.

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



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	→ house (nom. sg.)
ev-ler	→ houses (nom. pl.)
ev-i	→ his/her house (sg.+poss.)
ev-ler-i	→ his/her houses (pl.+poss.)
ev-den	→ in front of the house (sg.+abl.)
ev-ler-den	→ in front of the houses (pl.+abl.)

Aztecan

nikita	→ I see it
kita	→ he sees it
kinita	→ he sees them
kitas	→ he will see it
kitak	→ he saw it
tikinita	→ you(pl.) see them
nikitak	→ I saw it
kitakeh	→ they saw it
kinitakeh	→ they saw them

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

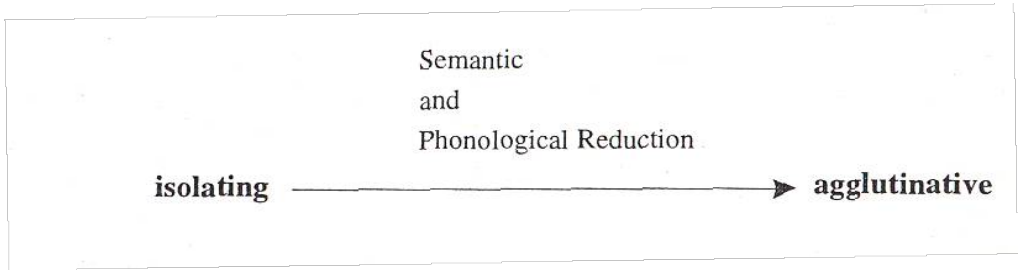
- Language change usually involves phonological reduction
- Effect is strongest for most frequent phoneme sequences
  - *zu dem > zum*
  - *hat er es > hat ers*
  - *laufen > lauf‘n*
  - *let us > let‘s*
  - *(ahd) brenjan > (nhd) brennen*

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



- Eg: Melanesian Pidging

(12)	a.	aus	blonmi →	aus	blo-mi	"my house"
		house	of	me	house	of-me
	b.	lon	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
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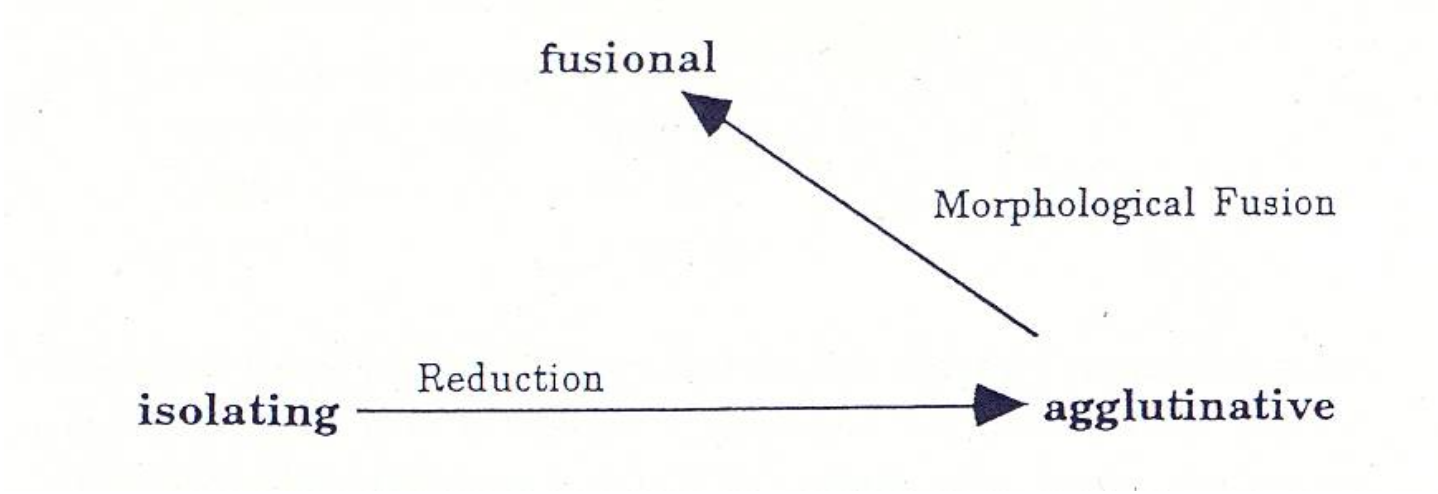
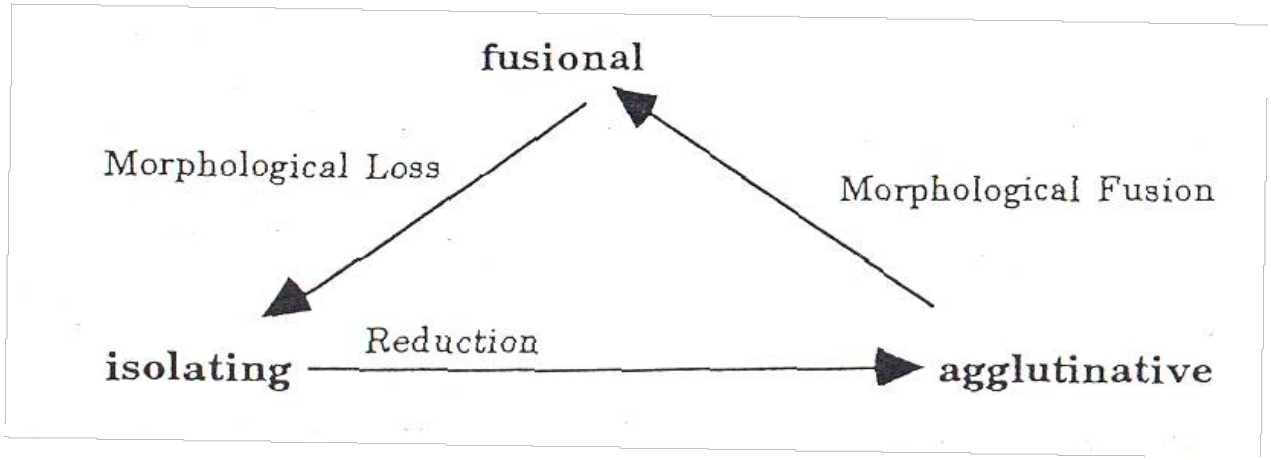


Morphological types and language change

Phonological reduction results in

- Complete loss of morphemes
- eg. in modern German

am Tische > am Tisch



Geographical distribution of morphological types

- Fusion of TAM/case:
  - WALS feature description
  - WALS map
- Inflectional synthesis of verb
  - WALS feature description
  - WALS map