An Introduction to Typology

Part I: Morphological Typology

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Typology & Universals

What is typology?

- Study of similarities across languages
- Study of differences across languages
- Unifying feature: interest in *universals*
  - What features are common to all languages?
  - How do we explain commonalities and differences?

- Ways to be a universal
  - Biological: A feature of language is universal if it is part of our genetically-endowed language faculty
  - Emergent: Language conventions and universals are epiphenomena which emerge from social interactions
  - Interaction of the two – e.g., universal metaphors

An Example of Universals: Color Terms

- Chukchi (Siberia)
  - *nidlikin* 'white'
  - *nukin* 'black'
  - *tschetlju* 'red'
- Murray Island (Torres Straits)
  - *kakekakek* 'white'
  - *golegole* 'black' < *gole* 'cuttlefish'
  - *mamamamam* 'red' < *mam* 'blood'
  - *bambam* 'yellow/orange' < *bam* 'tumeric'
  - *siusiu* 'yellow/orange' < *siu* 'ocher'
  - *soskepusoskep* 'green' < *soskep* 'bile'; others used 'leaf color'

- Swahili (East Africa)
  - *nyeupe* 'white'
  - *nyeusi* 'black'
  - *nyekundu* 'red'
  - Other colors all require *ya* …
    - *ya machungwa* 'orange' < 'an orange'
    - *ya buluu* 'blue' < English
- Japanese (Japan)
  - *ao* 'blue/green'
  - *midori* 'green' (only since 1000 AD)
- Russian (Russia)
  - *goluboy* 'light blue'
  - *siniy* 'dark blue'
  - No single word for just 'blue'

An Example of Universals: Color Terms

Ancient Greek	black				white	
Chukchi	black			red		white
Tarahumara	black	grue			red	white
Early Japanese	black	grue		yellow	red	white
English	black	blue	green	yellow	red	white
Russian	black	dark blue	light blue	green	yellow	red	white

- Universal color sequence (Geiger sequence):
  - Black and white > red > yellow and green > blue
- Languages develop from distinguishing light/dark to different hues
- Uniformity in diversity

Morphology

Basic Concepts in Morphology

- **Morphology** – (the study of) form-meaning relationships in words

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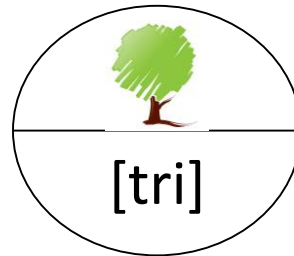
- **Morpheme** – minimal unit of meaning; the pieces of a word
  - *anti-dis-establish-ment-ari-an-ism*
  - *habl-ando-me*   'speaking to me'
  - *zhào-xiàng-jī*   'camera' (lit. take-picture machine)
  - *Un-kamerad-schaft-lich-keit*   'uncompanionshipliness'
  - *precipitevol-issima-mente*   'like someone who acts very hastily'

- What about *receive*? *Raspberry*?

Types of Morphemes: Bound v. Free; Roots

Bound v. free

- Bound:
  - *ship*-**ment**, **un**-*cover,* **re-ceive**, **cran**-*berry*
  - Italian: *parl*-**avo** 'I was speaking'
  - Spanish: *habl*-**ara** 'they might speak'
- Free:
  - **dog**s (cf. *dog*)
  - **establish**ed (cf. *establish*)

Roots

- Single morpheme
- Bound or unbound
- Core meaning of word

- English: *unfriendliness > friend*
- French: *donn-er-ions* 'we would give' *> donn-*
- German: *Mann-es > Mann*

Verb Roots in Different Languages

- English, Chinese verb roots – free
  - *eat*, *eats*, *eating*, *eatery*
  - Chinese: *chī*
- Spanish, French, German, Japanese, Italian verb roots – bound
  - *continuo*, *continuará*, *continuaba*, *continuar* – but not **continu*
  - Japanese ('swim'): *oyogu*, *oyoganai*, *oyoida*, *oyogeru* – but not **oyog*
- German verbs – mostly bound
  - 'buy' – *kaufe*, *kaufst*, *kauft*, *gekauft* – but also just *kauf* 'buy!'

Noun Roots in Different Languages

- Noun roots in English, Chinese, Japanese – free
  - *house* and *zhuōzi* 'table' are complete words
- Noun roots in Romance and German – (mostly) bound
  - Spanish: *amigos* and *amigas* but not *amig
  - German: *Mann, Mann-e, Mann-es*
- Latin case marking – nouns are bound roots

serv-us	*aqu-am*	*porta-t*
slave-NOM	water-ACC	carry.3SG

  'the slave is carrying water'
- Japanese case marking – nouns are free roots?

zō	*wa*	*hana*	*ga*	*nagai*
elephant	TOPIC	nose	COMMENT	is.long

  'as for the elephant, its nose is long'

Case marker – A morpheme which indicates what role a noun is playing in the sentence, e.g., subject, object, possessor, topic, etc.

Types of Morphemes: Inflection

- Inflection – Variations in a word which express different categories, such as tense, number, case, person, etc.
- Spanish nouns *inflect for* gender and number

	Singular	Plural
Masculine	gato	gatos
Feminine	gata	gatas

- Japanese verbs *inflect for* aspect (among other things)
  - *tabe-ru* '(I) eat'   *tabe-ta* '(I) ate'
- Verb inflection = ***conjugation***   Noun inflection = ***declension***
- Inflection is obligatory for the environment in which it appears
  - French: *ils dorm-ent* 'they are sleeping' but not **ils dorm*

Aspect – The 'boundedness' or 'temporal flow' of action, e.g., whether the action has a start and/or endpoint, whether it's habitual, ongoing, happens at a single point in time, etc.

Tense – The time an action happened in relation to some other point of time.

Tense and aspect are usually combined into what we think of as 'tense'

An Inflectional Paradigm

Latin Noun Endings	Singular	Plural
Nominative	-us	-ī
Genitive	-ī	-ōrum
Dative	-ō	-īs
Accusative	-um	-ōs
Ablative	-ō	-īs
Vocative	-ē	-ī

The Declension of a Latin Noun	Singular	Plural
Nominative	servus	servī
Genitive	servī	servōrum
Dative	servō	servīs
Accusative	servum	servōs
Ablative	servō	servīs
Vocative	servē	servī

Nominative	Subject
Genitive	Possessor
Dative	Recipient
Accusative	Object
Ablative	Time/Location
Vocative	Addressee

Types of Morphemes: Derivation

- Creates new words (as opposed to inflection, which creates different forms of the same word)
  - *institute > institution*
  - *write > rewrite*
- Often changes the category of the word
  - *convíct* v. *cónvict*; *permít* v. *pérmit*(zero derivation/conversion)
- But not always (*category-preserving*)
  - *boy > boyhood*
  - *lion > lioness*
- ROOT + DERIVATION > STEM + INFLECTION > WORD
  - [$_{DERIVATION}$ de-] + [$_{ROOT}$ friend] > [$_{STEM}$ defriend] + [$_{INFLECTION}$ –ed] > *defriended*
- Can be recursive: *[[friend + ly] + est] > friendliest*

Types of Morphemes: Stems

- What inflection attaches to
  - **wait**   **waiter**
  - **wait**s   **waiter**s
  - **wait**ed   **waitress**
  - **wait**ing   **waitress**es
- Consists minimally of a root
  - Japanese: *tabe-* 'eat'
- Can be multi-morphemic (usually ROOT + DERIVATION)
- Bound or unbound
  - Japanese: *tabe-mono* 'food'
  - German: *komm-en* 'come'
    - *ab-komm-en* 'digress'   *be-komm-en* 'get'
    - *an-komm-en* 'arrive'   *ent-komm-en* 'escape'

Examples of Derivation

- English: *en-rich*, *en-able*, *en-tangle*
- English: *final-ize*, *social-ize*, *critic-ize*, *subsid-ize*
- English: *telephone* [someone] v. *a telephone*; *I run* v. *a run*
- Chinese: *zhòng   shuǐguǒ   de*
                 grow   fruit   NOMINALIZER
                 'fruit-grower'
- Chinese: *chī   zhě*
                 eat   NOMINALIZER
                 'he who eats'

- German: *lach-en*   'laughing'
                 ge-läch-ter   'laughter'
                 lach-haft   'laughable'

Types of Morphemes: Clitics

- The English -*'s* possessive (genitive)
  - *[Matt]'s dog*
  - *[The man]'s dog*
  - *[The man and the woman]'s dog*
  - *[The man who I saw at the restaurant]'s dog*
- Compare: the German genitive case
  - *Claudia**s** Buch*   'Claudia's book'
  - *der Hund d**es** Mann**es***   'the man's dog'
  - *der Hund d**es** Mann**es** und d**er** Frau*   'the man and woman's dog'
- Clitics operate at the phrase level
- Another example: English *the* and *a*

Types of Morphemes: Affixes & Modification

- Prefix: *constitutional* > ***un**-constitutional*
- Suffix: *manteca* 'lard' > *mantequ**ero*** 'dairyman' (Sp.)
- Infix: *bili* 'buy' > *b**um**ili* 'bought' (Tag.)
- Circumfix: *rauchen* 'smoke' > ***ge**-rauch-**t*** (Ger.)
- Reduplication: *rén* 'human being' > ***rénrén*** 'everybody' (Chi.)
- Internal modification:
  - Suprafix: *pró**duce*** v. *prod**úce***; tonal shift
  - Introflection / Transfix/   *k**a**t**a**b* 'he wrote' < **k-t-b* 'writing' (ROOT)
    Root & Pattern: *k**ita**ab* 'book'
         *k**aa**tib* 'clerk'
  - Vowel Mutation: *f**oo**t* > *f**ee**t*   *f**u**ß* > *f**ü**ße* (Ger.)
    *s**i**ng, s**a**ng, s**u**ng*   *s**i**ngen, s**a**ng, ges**u**ngen*
  - Consonant Mutation: *sheath* /ʃiθ/ v. *sheathe* /ʃið/

Types of Morphemes: Suppletives

- "Irregular paradigm" – when there is no apparent pattern between two related forms
  - English: *go ~ went, good ~ better ~ best*
  - French: *aller* (inf.) *~ vais* (pres.) *~ irai* (fut.) *~ allai* (pret.)
  - Russian: *rebenok* 'child' *~ deti* 'children'
- One or more forms is "supplied" historically from a different word (*suppletion*)
- Inflectional (*am ~ are ~ is*) or derivational (*bad ~ worse*)

Morphological Typology

Morphological Typology

- How do we classify different languages according to the type of morphology it uses?
- Typology – "a division of a range of phenomena into types"
  - Allows us to make predictions about characteristics of languages of that particular type
- Ways of classifying languages according to morphology:
  1. Number of morphemes per word (*index of synthesis*)
  2. Morpheme-to-feature correspondence (*index of fusion*)
  3. How morphemes mark word dependencies *(locus of marking)*

Index of Synthesis

- **Analytic** – 1-to-1 correspondence between words and morphemes
  - Chinese: *wǒ*   *mén*   *hē*   *chá*

    I   PL   drink   tea

- **Synthetic** – A word consists of several morphemes, many of which are bound
  - Latin: *addūcētur*

    ad-   *dūc-*   *-ē-*   *-tur*

    to   lead   FUT   3S.PASS

    'he will be influenced'

  - Japanese: *miseraregatai*

    mi-   *-su-*   *-rare*   *katai*

    see   CAUS   PASS   difficult

    'it's difficult to be shown (this)'

- ***Derivational synthesis*** – multi-morphemic words are derivational
  - English: *deinstitutionalization*

- ***Relational synthesis*** – multi-morphemic words are inflectional
  - Spanish: *escribi-éndo-me-lo* 'writing it to me'

> By the way, this is not infixing. Infixing literally goes in the middle of a complete morpheme.

Index of Synthesis

- **Polysynthesis** – really, really synthetic

  savaqatigiiguugaluaqtuaguk (Iñupiaq)

  savak- -qatigi- -guu-   -galuaq--tu- -a-   -guk

  work   with   HABITUALbut   IND   PAST-1PL

  'we used to work together but…'

- *Noun incorporation*

  Retuarã (West Tucano, Colombia)

  sa-   -ki-   -terĩ-   -hãã-   -rãyũ

  3.INAN.SG.O   3.MASC.SG.A   seat   put.it
  FUT

  'he will seat-put it'

Index of Fusion

- **Isolating** – 1-to-1 correspondence between morphemes and words
  - Each word is invariable – does not inflect or change
  - Vietnamese: *Chị ẩy   đã   quên*
    s/he ANAPHOR   ANTERIOR   forget
    'He/she forgot'
- **Agglutinating** – Word consists of several morphemes, but the boundaries between them are clear-cut
  - Swahili: *a-li-ye-pig-an-iw-a*
    3S.Subj-PAST-REL-hit-RECIP-PASS-IND
    'he who was fought over'
- **Fusional** – No clear boundary between morphemes
  - One morpheme represents multiple features
  - Spanish: *com-íeramos*
    eat-1PL.IMPERF.SUBJ