Psychology of Language

22 Diversity & multilingualism

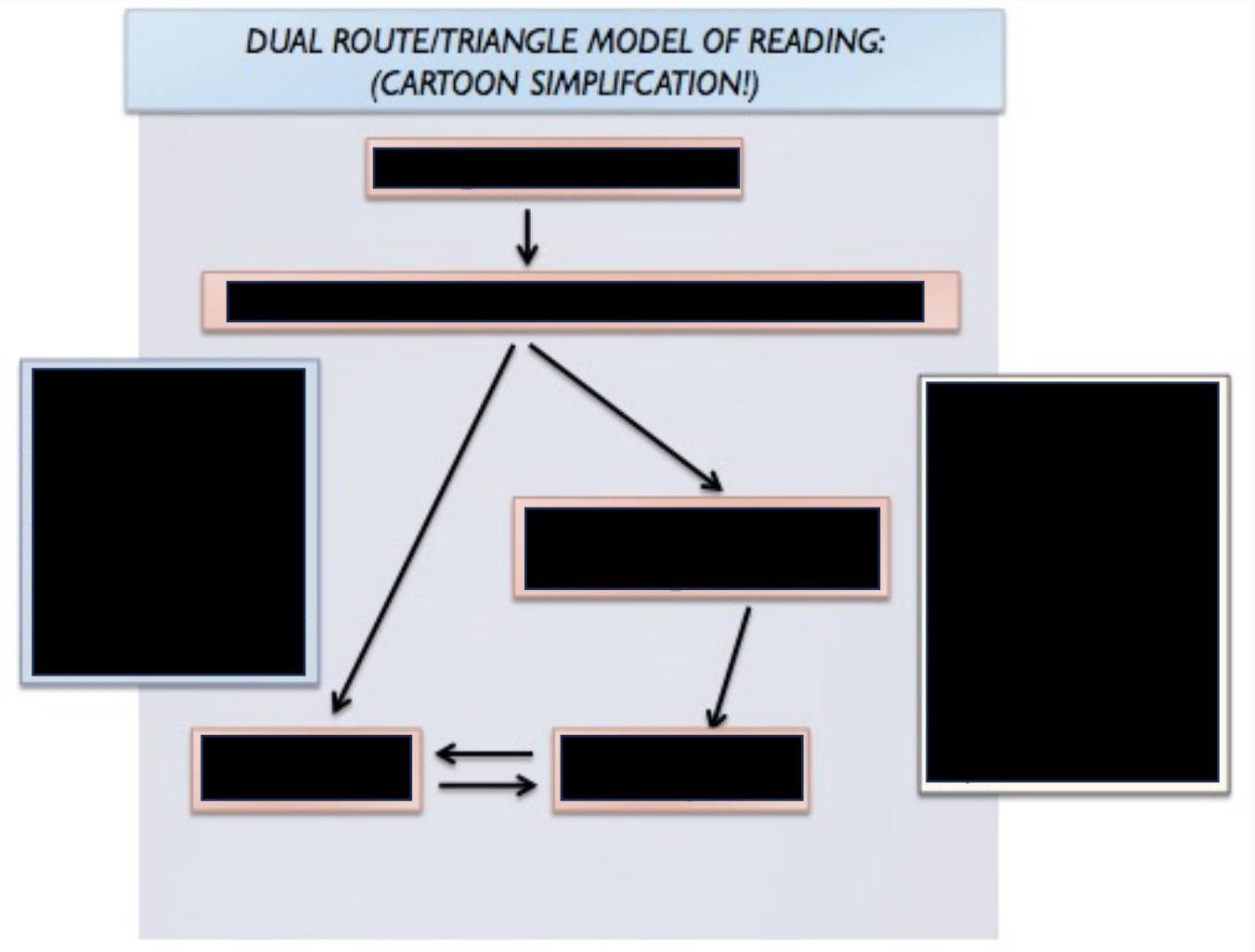
Fall 2023
Tues/Thur 5:00-6:15pm

Emma Wing
Drop-in hours:
Wednesdays 3-4pm
& by appointment
Webex link

Road map

- Unit 3: Language, Brain, & Diversity
  - 21 Acquired dyslexia (review)
  - 22 Diversity & multilingualism

The dual-route model



Review

- Dehaene suggests that when learning to read, humans co-opted (recycled) a brain area that was already good at recognizing the visual features that make up writing systems. It's called the visual word form area.
- Becoming literate increases VWFA's response to words and decreases its response to faces.
- Types of acquired reading disorders:
  - deep dyslexia: Can't read non-words, makes semantic substitutions
  - alexia: Can't read
  - surface dyslexia: Can't read non-words
  - phonological dyslexia: Can't read irregular words
- Dual route model can account for some of symptoms of acquired reading disorders

Learning objectives

- Name at least two ways languages can vary
- Name 4 types of bilingualism
- Name at least one difference between knowledge of a first language and knowledge of a second language
- State the difference between analytic and synthetic languages
- Describe a piece of evidence that supports the idea that a bilingual's languages are not totally separate during processing
- Define transfer error
- Define marked and unmarked

Menti

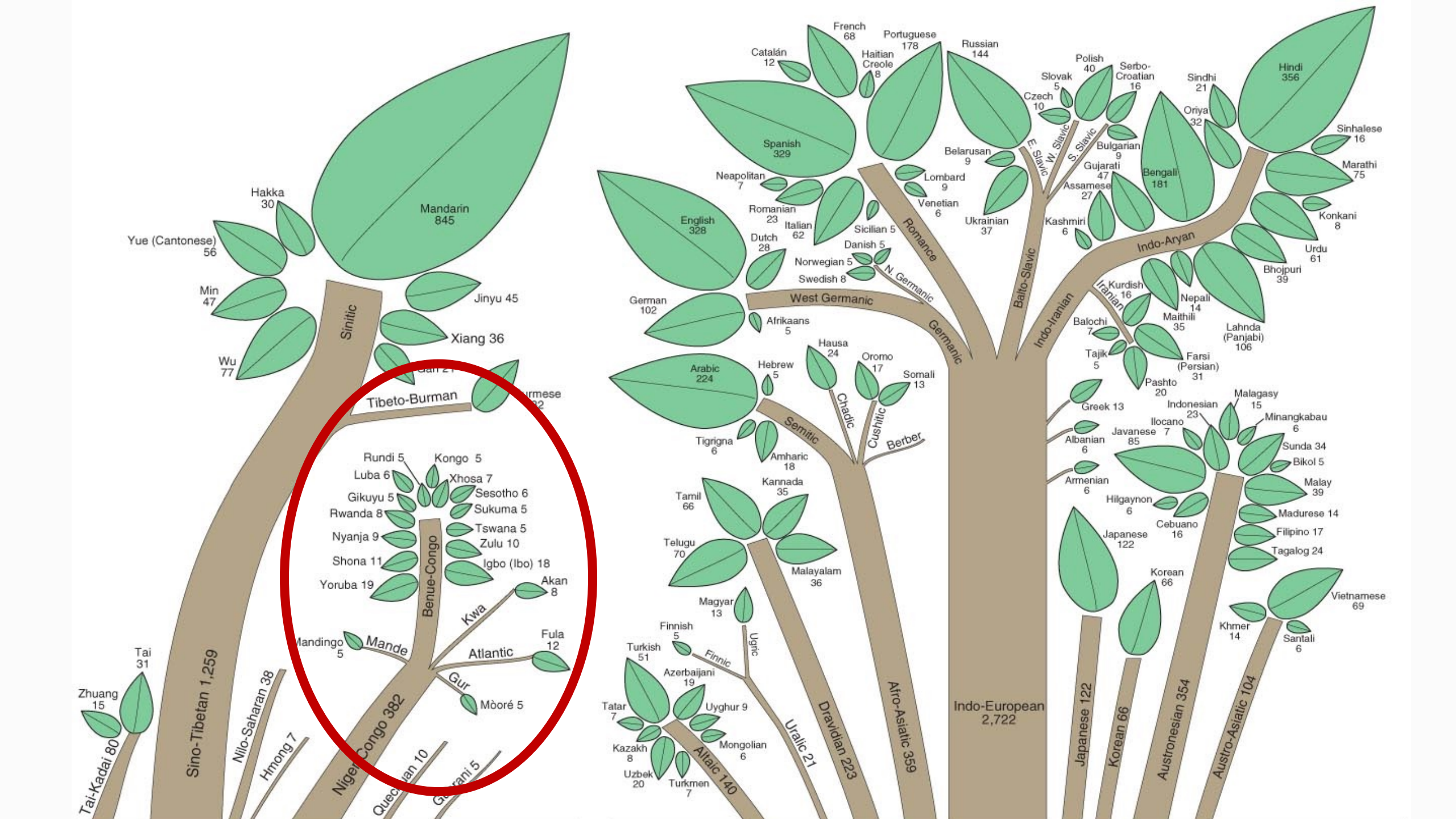
- What languages do you speak or understand **fluently**?
  - Fluently here meaning you can get by in a conversation
- What languages have you studied?

Group chat or think alone

- What do languages have in common?
- What do languages differ on?
  - Try to come up with at least one example between two languages that you/your group knows
- What ratio of people in the world are multilingual vs. monolingual?
- How does learning more than one language affect the language acquisition process?
- How does knowing more than one language affect speaking/comprehension?
- Do multilinguals have different semantic representations for the words they know?

Similarities and differences between languages

- What are some languages that you know that are closely related?
  - How do you know they are related?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Germanic
West Germanic
English 328
German 102
Afrikaans 5
Dutch 28
N. Germanic
Danish 5
Norwegian 5
Swedish 8
Romance
French 68
Catalán 12
Haitian Creole 8
Portuguese 178
Spanish 329
Italian 62
Sicilian 5
Neapolitan 7
Romanian 23
Lombard 9
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Russian 144
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Indo-Iranian
Indo-Aryan
Hindi 356
Bengali 181
Gujarati 47
Assamese 27
Kashmiri 6
Sindhi 21
Oriya 32
Sinhalese 16
Marathi 75
Konkani 8
Urdu 61
Bhojpuri 39
Lahnda (Panjabi) 106
Iranian
Kurdish 16
Nepali 14
Maithili 35
Balochi 7
Tajik 5
Farsi (Persian) 31
Pashto 20
Semitic
Arabic 224
Hebrew 5
Tigrigna 6
Amharic 18
Chadic
Hausa 24
Cushitic
Oromo 17
Somali 13
Berber
Afro-Asiatic 359
Dravidian 223
Tamil 66
Kannada 35
Telugu 70
Malayalam 36
Uralic 21
Finnic
Finnish 5
Turkish 51
Azerbaijani 19
Ugric
Magyar 13
Altaic 140
Tatar 7
Uyghur 9
Kazakh 8
Mongolian 6
Uzbek 20
Turkmen 7
Japanese 122
Korean 66
Austronesian 354
Austro-Asiatic 104
Greek 13
Albanian 6
Armenian 6
Indonesian 23
Malagasy 15
Javanese 85
Ilocano 7
Minangkabau 6
Sunda 34
Bikol 5
Malay 39
Hilgaynon 6
Cebuano 16
Madurese 14
Filipino 17
Tagalog 24
Vietnamese 69
Khmer 14
Santali 6
Sino-Tibetan 1,259
Sinitic
Mandarin 845
Hakka 30
Yue (Cantonese) 56
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Wu 77
Jinyu 45
Xiang 36
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Niger-Congo 382
Benue-Congo
Rundi 5
Kongo 5
Luba 6
Xhosa 7
Gikuyu 5
Sesotho 6
Rwanda 8
Sukuma 5
Nyanja 9
Tswana 5
Zulu 10
Shona 11
Igbo (Ibo) 18
Yoruba 19
Kwa
Akan 8
Mande
Mandingo 5
Atlantic
Fula 12
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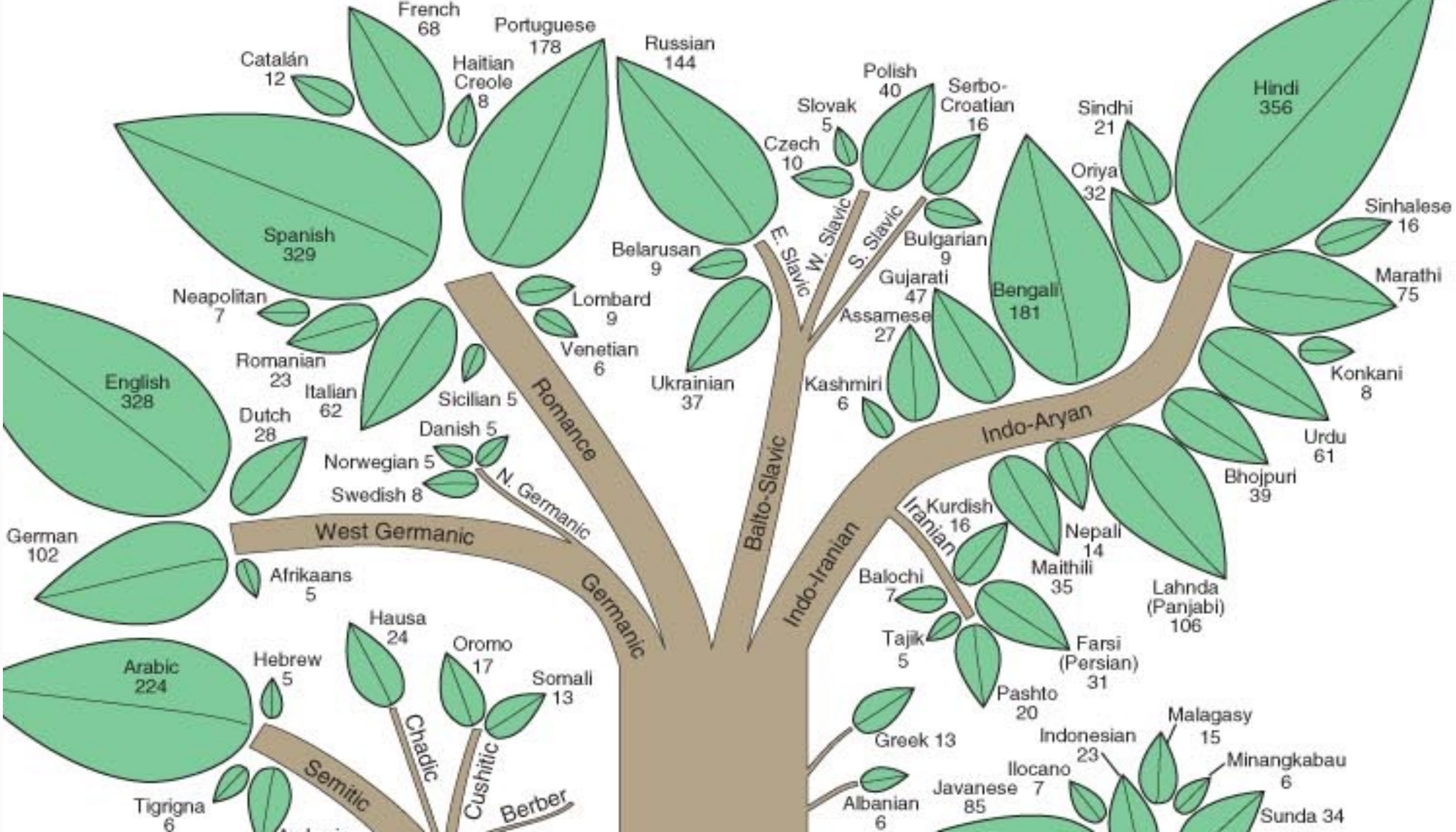
Tai-Kadai 80
Tai 31
Zhuang 15
Nilo-Saharan 38
Hmong 7
Quechuan 10
Guaraní 5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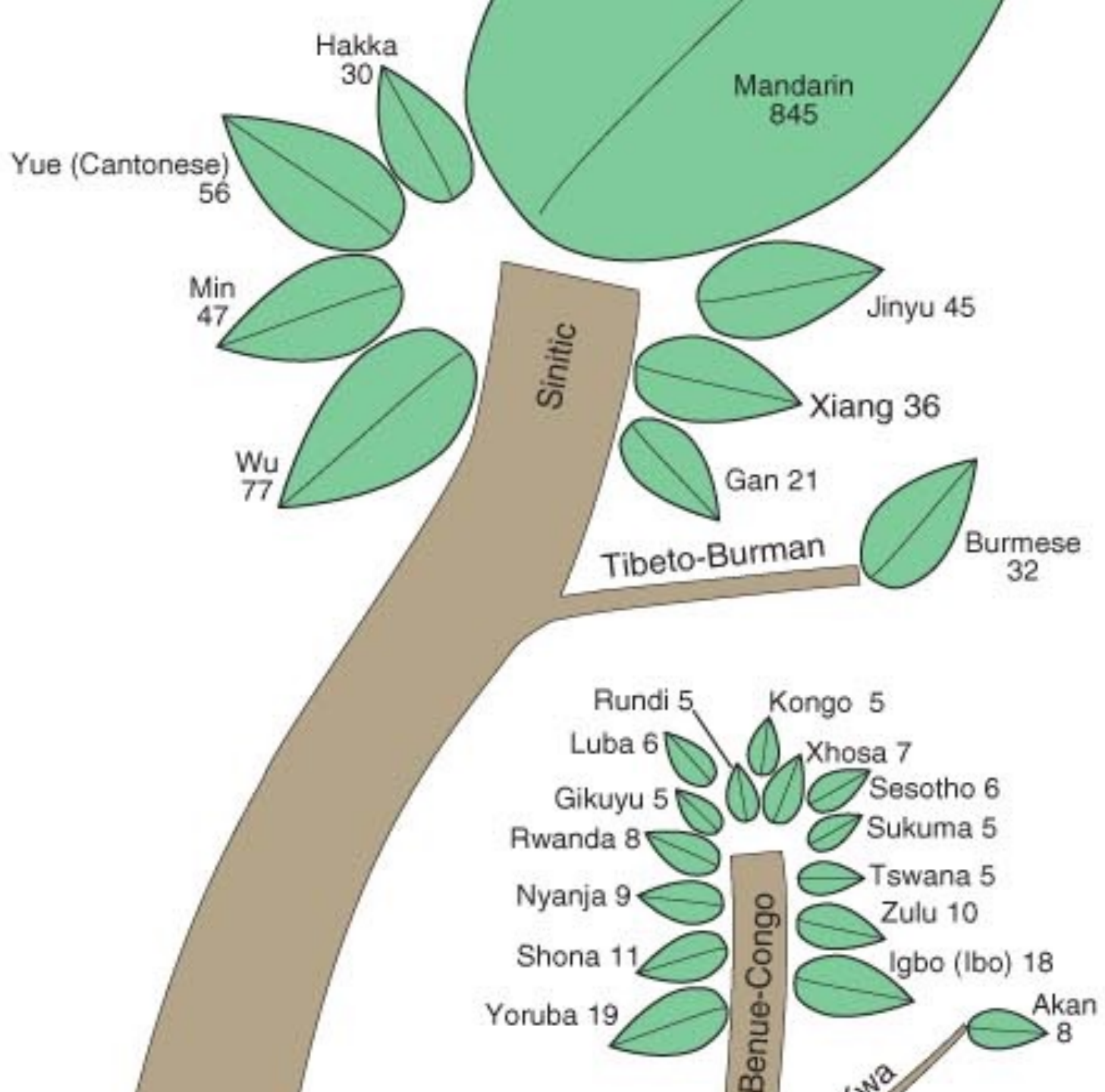
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Akan
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Similarities and differences between languages

- Vocabulary
- Word order (e.g., SVO like English vs. SOV like Japanese)
- Synthetic vs. analytic languages
  - Synthetic: morphemes adding onto each other
  - Analytic: separate words for syntactic information
- Case marking
- Gender
- Phoneme inventories
- Lots more!

Similarities and differences between languages

- Vocabulary
  - Examples you know of?

Similarities and differences between languages

- Word order
  - SUBJECT VERB OBJECT (English)
  - SUBJECT OBJECT VERB (Japanese)

Similarities and differences between languages

- Synthetic vs. analytic languages
  - Analytic: separate words
  - Synthetic: morphemes adding onto each other

1. You truly made me feel comforted. **English**
2. Shoqaskatsimaruykicha. **Quechua**

Hintz, 2011

Similarities and differences between languages

- Synthetic vs. analytic languages
  - Analytic: separate words
  - Synthetic: morphemes adding onto each other (e.g., agglutinative)

Shoqa ska tsi ma ru yki cha

comfort-PERFECTIVE-CAUSATIVE-1OBJECT-PAST.PERFECTIVE-2SUBJECT-MUTUAL.KNOWLEDGE

Hintz, 2011

Similarities and differences between languages

- Case marking
  - Marking, for example, relationships between event participants

1. Jazzy loves Oliver.
2. Jazzy loves him.
3. *Jazzy loves he.

Similarities and differences between languages

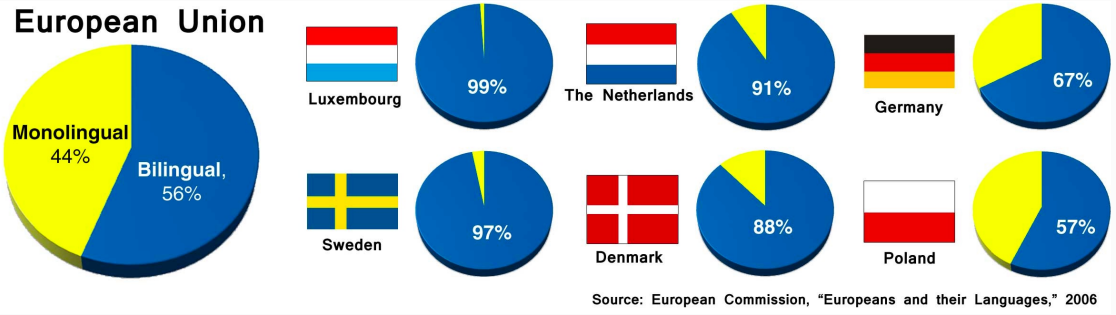
- (Grammatical) gender
  - La puerta; la gatita
  - el pueblo; el gatito

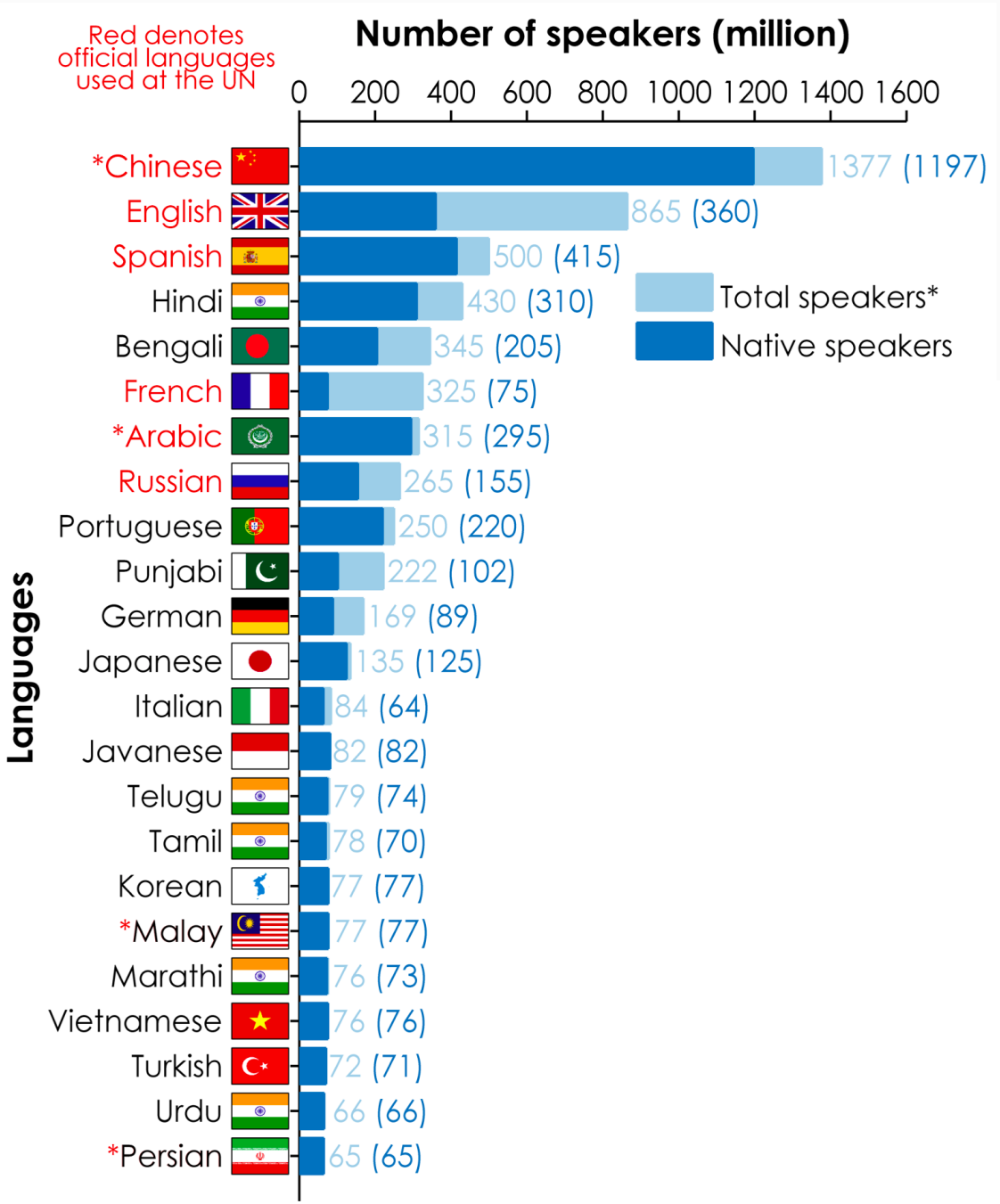
Similarities and differences between languages

- Phoneme inventories
  - Click languages: https://www.youtube.com/watch?v=KZlp-croVYw

Multilingualism in the world

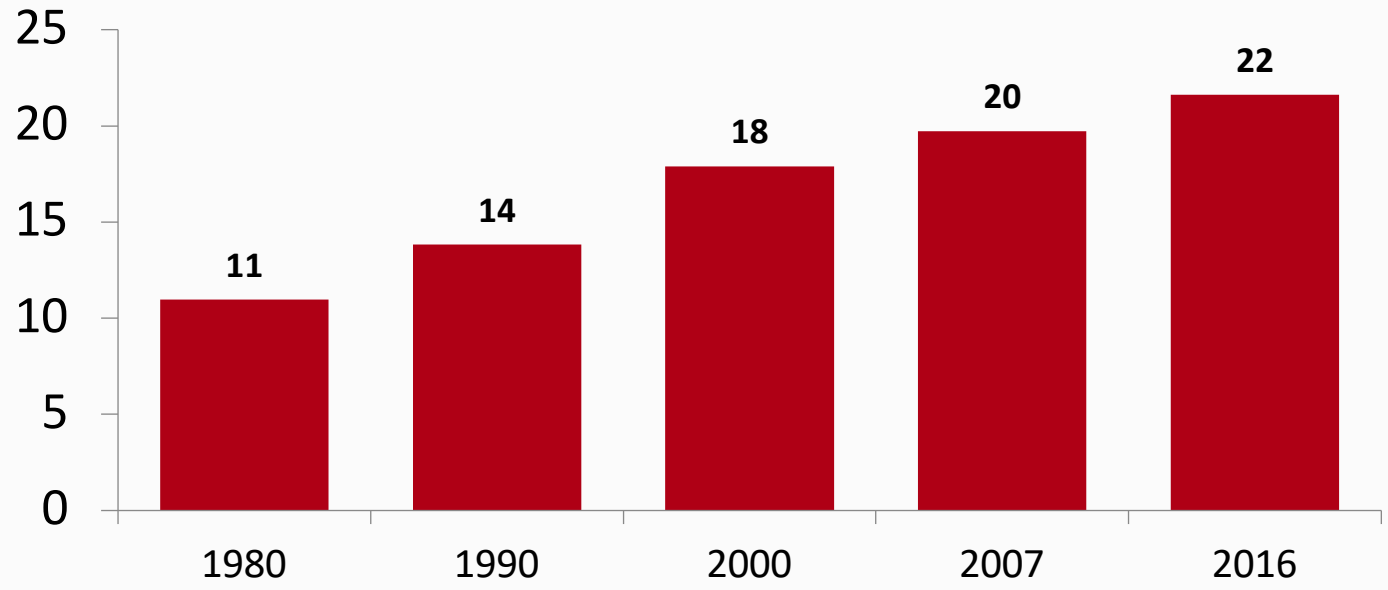
- More than 50% of the world uses 2 or more languages
- Percentage of bilingual speakers in EU:





Multilingualism in the world

- In the US, ~22% are at least bilingual
- Percentage of people in US who spoke a language other than English at home by year:



Diversity of multilingualism

- Types of bilinguals
  - Simultaneous
  - Sequential
  - Heritage language speakers
  - Second language speakers

Diversity of multilingualism

- Types of bilinguals
  - **Simultaneous**: 2+ languages learned at the same time
  - **Sequential**: one language learned immediately after the first
  - **Heritage language speakers**: children who learn a minority (not widely spoken in the region) language at home which is difficult to fully develop because of insufficient input from environment
  - **Second language speakers**: a second or other language learned after the critical period of language acquisition and after a first language has already been established

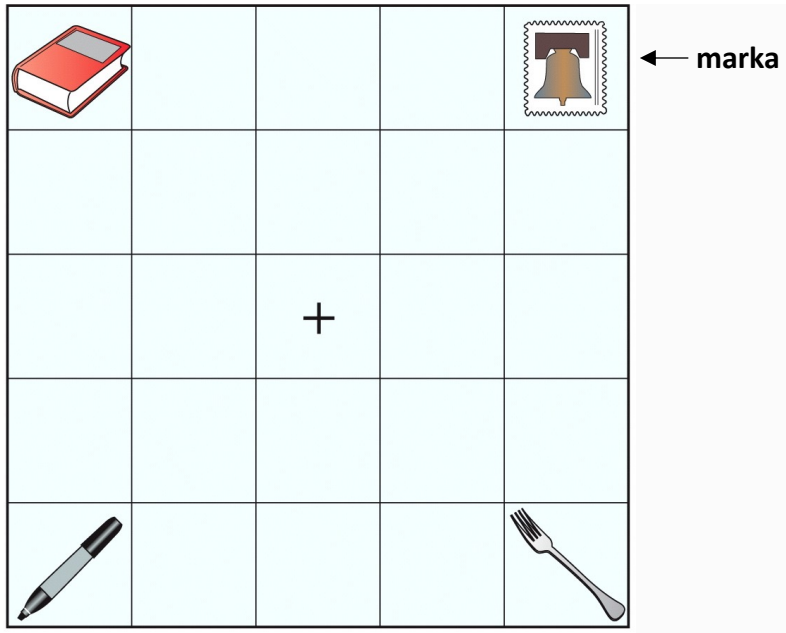
Bilingualism (/multilingualism)

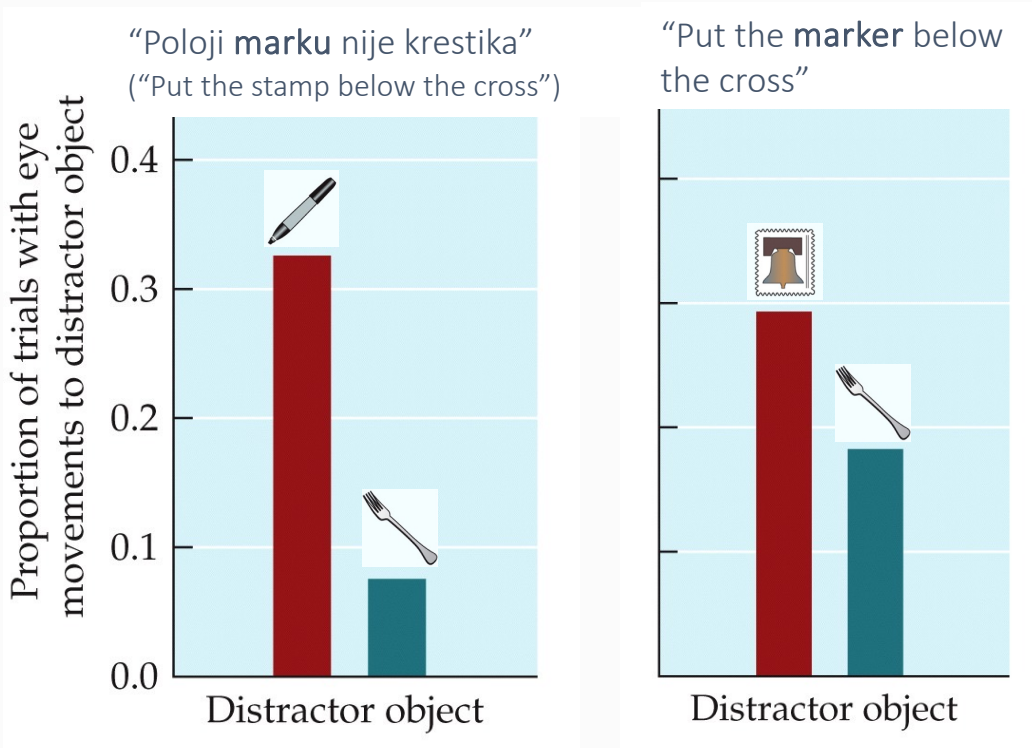
- Linguistic behaviors of bilinguals
  - Evidence from syntactic priming studies
    - Code-switching (Lecture 15)
    - Borrowing
    - Transfer
  - Suggests that the processing system has access to both languages (and it’s not completely separate!)
  - Note: priming typically stronger from the dominant language

Bilingualism (/multilingualism)

- Languages are not completely separate during processing
  - Russian-English bilinguals show interference

Sample visual display from eye-tracking experiment (Spivey and Marian, 1999)





Heritage language speakers

- Children who learn a minority (not widely spoken in the region) language at home which is difficult to fully develop because of insufficient input from environment
- **Attrition**: loss of some language function that is present in the adult language
  - A 6-case system (e.g., as in Russian) is reduced to a 3-case system
    - 6 cases: Nominative, accusative, genitive, instrumental, dative, prepositional
  - The cases that are retained substitute in for the cases lost
    - Typically retained: nominative, genitive, dative
    - Complete loss: American Russian heritage speakers lose all case marking except those present in English (nominative and accusative)

Heritage language speakers

Example of attrition

Russian heritage speaker:

1. papa rasskazal devočk-u istori-ja

   Daddy-NOM told girl-ACC story-NOM

   ‘Daddy told the girl a story’

Russian speaker:

2. papa rasskazal devočk-e istori-ju

   Daddy-NOM told girl-DAT story-ACC

   ‘Daddy told the girl a story’

(Polinsky 2007)

Second language acquisition

- Called **L2 acquisition** (regardless of what number language it is!)
- Differences between L1 and L2 acquisition
  - L2 rate of acquisition is slower (slower the older you get)
  - L2 acquisition is more difficult
    - practice is necessary
  - Outcomes are more variable than L1 acquisition
    - typically errors are **fossilized** (stuck)
    - there are many **transfer errors**

Second language acquisition

- There are typically L2 stages of acquisition, but they appear not to mirror the stages of L1 acquisition
  - L2 learners already have knowledge of a language
  - This knowledge can hinder or help
    - How could it help?
    - How could it hinder?

Ortega, 2009

Second language acquisition

- Transfer errors in L2 acquisition
  - **Transfer errors**: an error created by using a rule in the L1 while speaking in the L2

Ortega, 2009

Second language acquisition

- Markedness
  - **Unmarked**: the simplest and most frequent
    - English active voice: *John kicked the ball.*
    - Voiceless stops (/p/, /t/, /k/) cross-linguistically
  - **Marked**: more complex and less frequent
    - English passive voice: *The ball was kicked by John.*
    - Voiced stops (/b/, /d/, /g/) cross-linguistically

Ortega, 2009

Second language speakers

- Transfer errors & markedness
  - In English, you can end a word with a voiceless or a voiced consonant. In German, you can only end a word with a voiceless consonant.
  - What do learners do?
    - English speaking learners of German learn easily that to “sound more German”, they have to pronounce *Tag* (day) as /tak/
      - The voiced sound at the end of the word must be devoiced
    - German speaking learners of English often make the error of pronouncing *wave* as /waf/ and *tap* as /tab/

Ortega, 2009

Second language speakers

- Differences between languages do not necessarily result in difficulty learning
  - English learners of French pronoun position put the pronoun in the typical English spot:
    1. *Je vois les. ATTESTED ERROR OF ENGLISH-SPEAKING LEARNERS
    2. I see them.
  - French learners of English do not make the converse error
    1. Je les vois.
    2. *I them see. NOT ATTESTED IN FRENCH-SPEAKING LEARNERS

Ortega, 2009

Second language speakers

- Automaticity
  - L1 use is automatic; L2 use starts as a controlled process that requires cognitive labor
    - Analogy: automatic vs. standard shift car
- Proceduralization
  - L2 acquisition is more like acquiring a skill
  - It goes from explicit knowledge to implicit knowledge over time and use (and lots of exposure/practice)

Ortega, 2009

Second language acquisition

- https://www.state.gov/foreign-language-training/
  - US Department of State Foreign Service Programs ranking of language learning difficulty for native English speakers
    - The more different from English, the harder to learn

Ortega, 2009

Key concepts

- ✓Diversity across languages
- ✓Synthetic vs. analytic languages
- ✓Types of bilingualism
- ✓Connections between a bilingual’s languages during processing
- ✓Attrition
- ✓L1 vs. L2
- ✓Markedness
- ✓Transfer error