Language and Cognition

In cross-cultural perspective

Sapir-Whorf hypothesis

The strong version of S-W hyp. says that language *determines* our thought and that linguistic categories limit and determine cognitive categories. = linguistic determinism

Whereas the *weak* version of S-W hyp. says that linguistic categories and usage only *influence* thought and decisions.

ENGLISH

"CLEAN"

"WITH"

"RAMROD"

THE THREE ISOLATES FROM EXPERIENCE OR NATURE USED IN ENGLISH TO SAY "I CLEAN IT (GUN) WITH THE RAMROD."
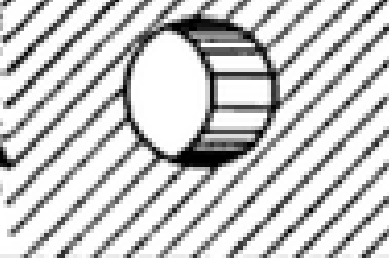
SHAWNEE

"PĒKW"
(DRY SPACE)

"ĀLAK"
(INTERIOR OF HOLE)

"H"
(BY MOTION OF TOOL, INSTRUMENT)

THE THREE ISOLATES FROM EXPERIENCE OR NATURE USED IN SHAWNEE TO SAY "NIPĒKWĀLAKHA", MEANING "I CLEAN IT (GUN) WITH THE RAMROD."

What is language?

There are several levels of meaning articulation in languages:

1. Phonological level
2. Nominal or categorical level
3. Sentential or propositional level
4. Narrative level (J. Bruner)

Every level (except the phonological) uses the elements of previous level.

These levels also represent developmental levels.

There are several levels in languages

1. Phonological

elements: **phonemes** = smallest units of speech in a language that distinguish one word from another.

English: g-lue and b-lue

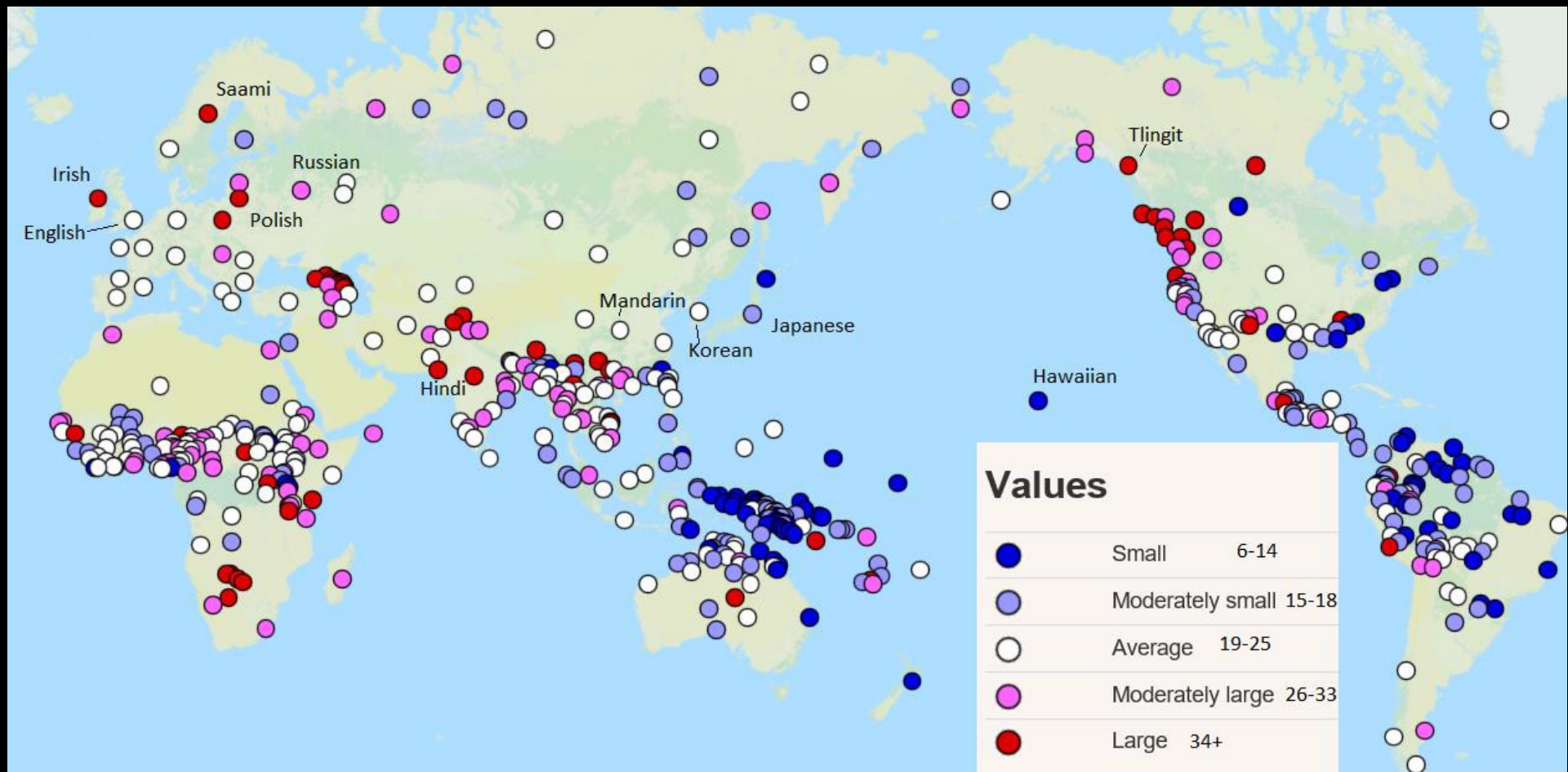Czech: ‚p-es' and ‚l-es' (b-ez, m-ez, n-es, v-ez…)

Consonants and vowels.

They differ from graphemes.

There is usually specific phoneme in every language.

? In English? In Czech

+ nereflektované rozlišování i/y: být/bejt, ale nikoli bít/bejt!

Number of phonemes in different languages

Extrémy v možném počtu fonémů:

- Např. jazyk Rotokas z Papui-Nové Guinei, který pracuje jen s 11 fonémy. S 11 fonémy si vystačí i jazyk z melanéského ostrova Bougainville.

- Čeština disponuje s 37 fonémy.

- Naopak vysoký počet fonémů mají kavkazské jazyky (Klégr, Zima a kol., 1989, s. 20). Např. jazyk !xoo, který pracuje se 112 fonémy. Jazyk !xoo patří mezi Khojsanské jazyky vyznačující se různými klikavými a mlaskavými zvuky (https://en.wikipedia.org/wiki/Click_consonant).

2. Nominal or categorical

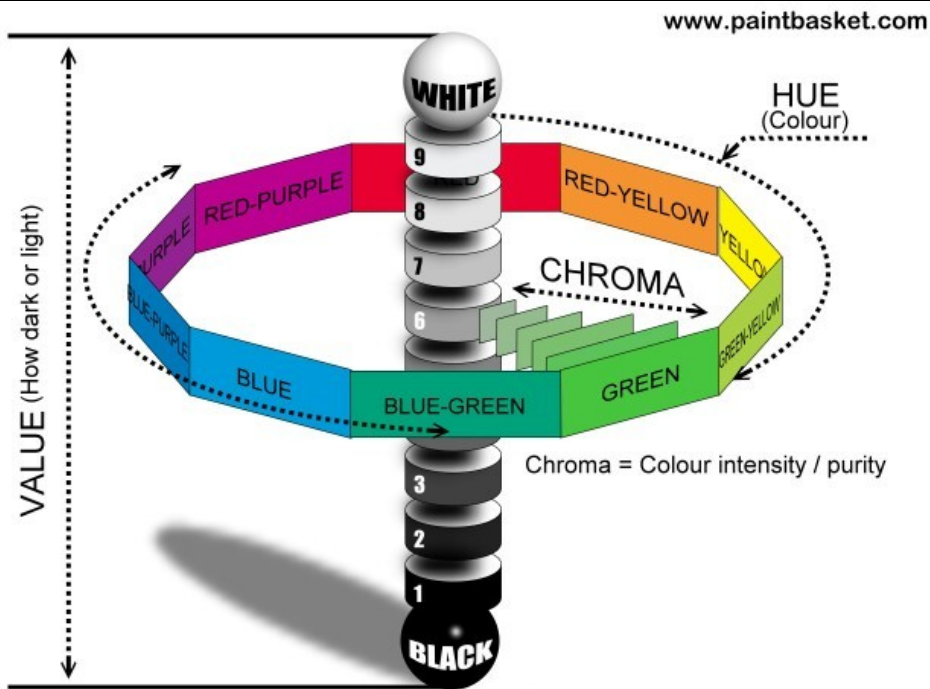the level of *words* and *names* and categories.
Elements: **morphemes**.

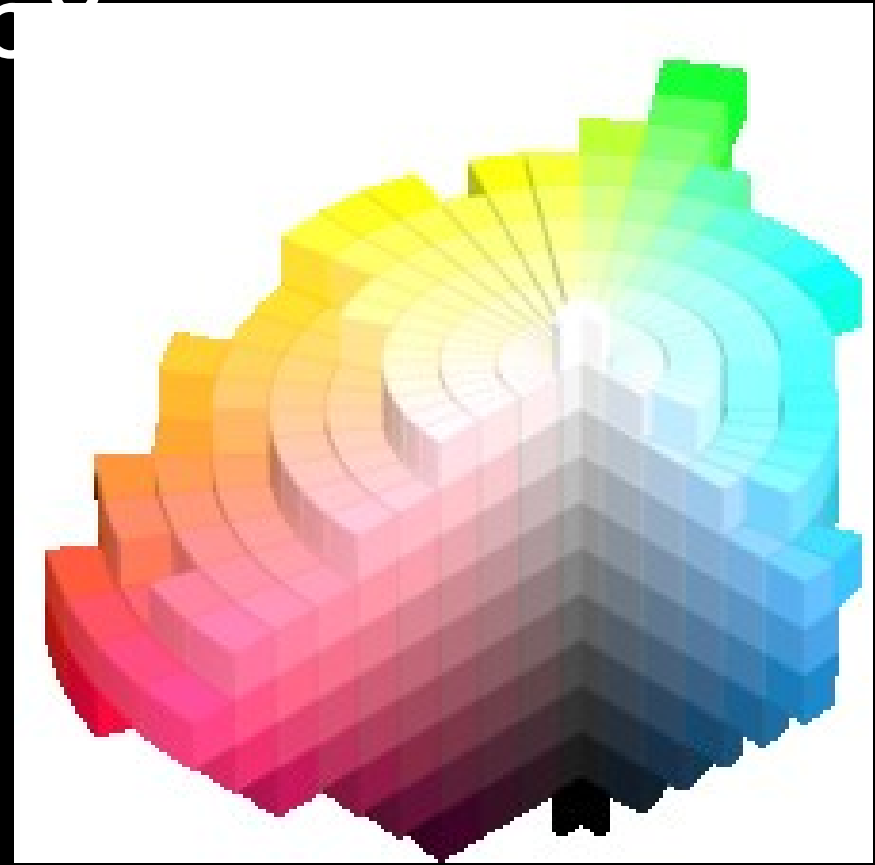This level comprises not only the morphemes but also what we denote by them.

Color perception and color labelling.

Berlin & Kay, 1969
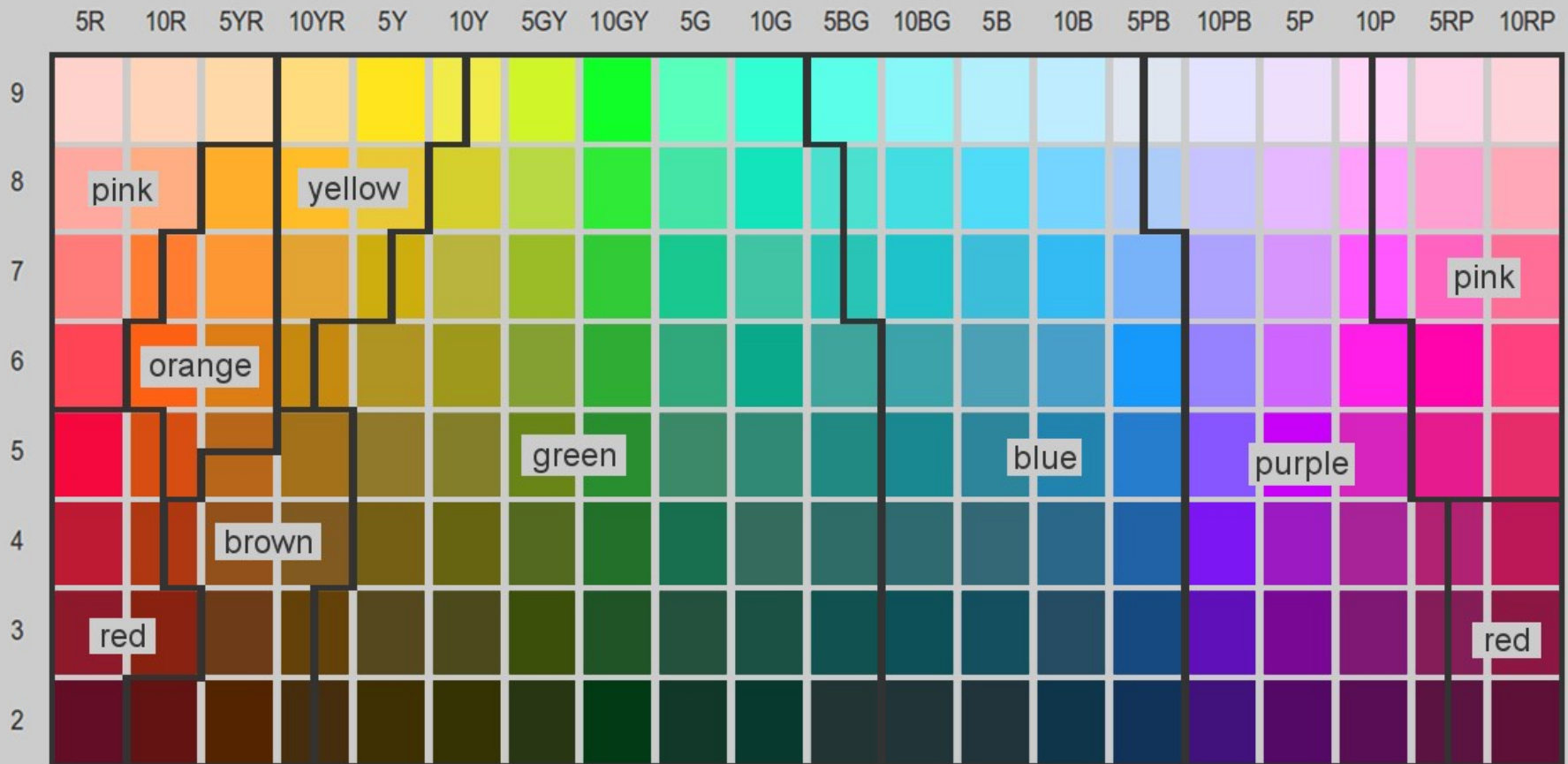

www.paintbasket.com

HUE
(Colour)

VALUE (How dark or light)

WHITE

9
8
7
6
3
2
1

BLACK

RED-PURPLE
RED-YELLOW
PURPLE
YELLOW
BLUE-PURPLE
GREEN-YELLOW
BLUE
GREEN
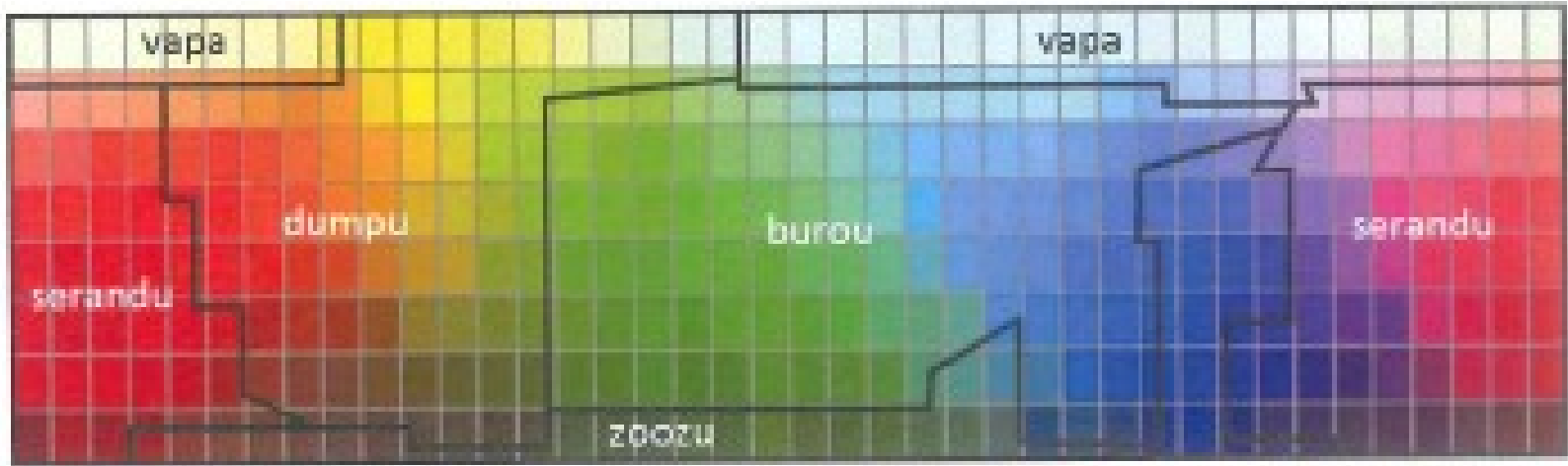BLUE-GREEN

CHROMA

Chroma = Colour intensity / purity

Munsell Colour System

Lexicalisation = categorization


This is how English speakers define colors

Obrázek I Pořadí shora: Munsellův systém barev, názvy barev v jazyce himba (jihozápadní Afrika) a barev v jazyce berinmo (Papua Nová Guinea)

Munsell color system, (above) names of colors in Himba language from SW Africa; (below) names of color in Berinmo from Papua-New Guinea.

- https://www.youtube.com/watch?v=gMqZR3pqMjg

Containers- English and Chinese categorization: **Classifiers**
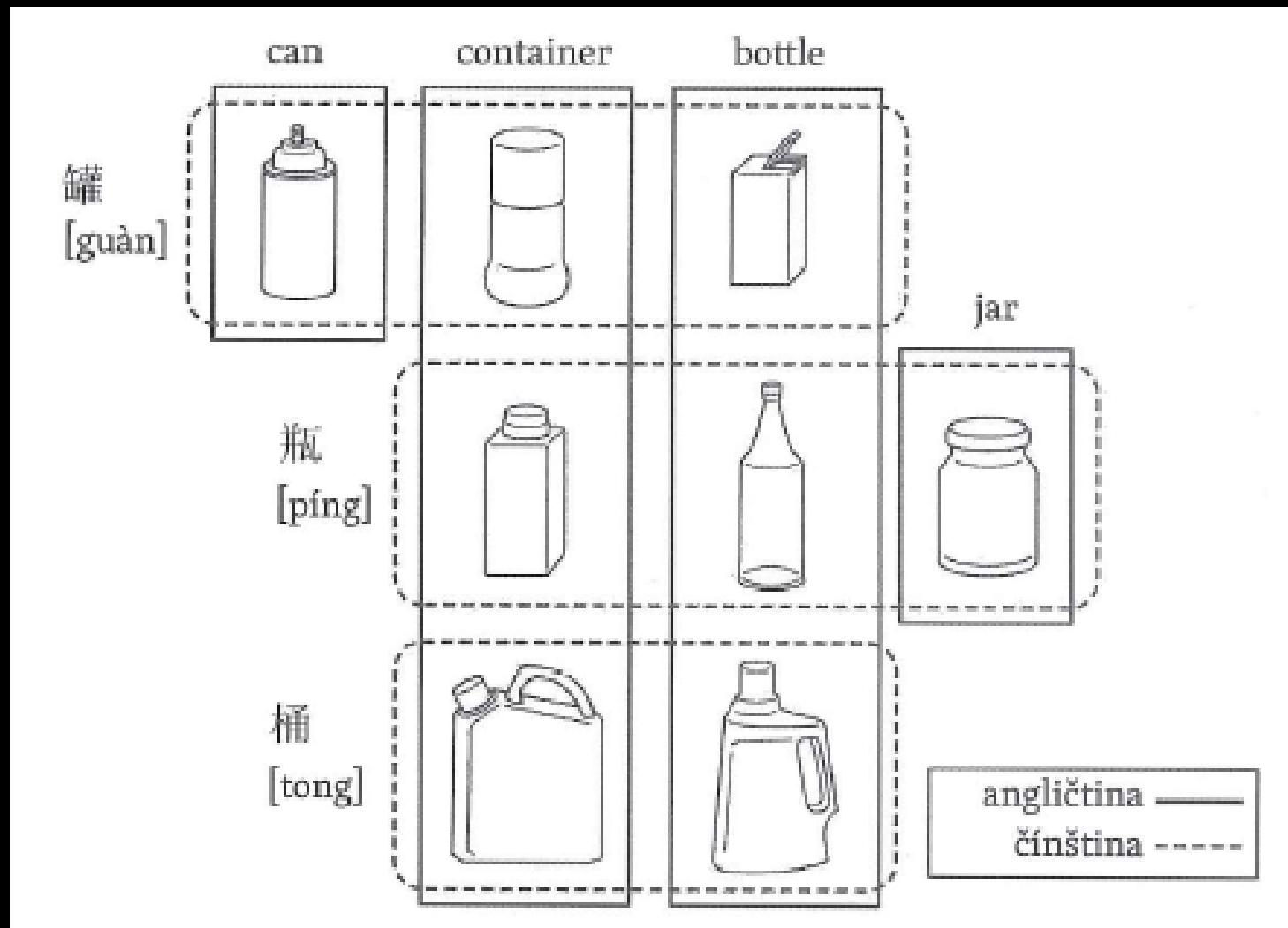
Verbs
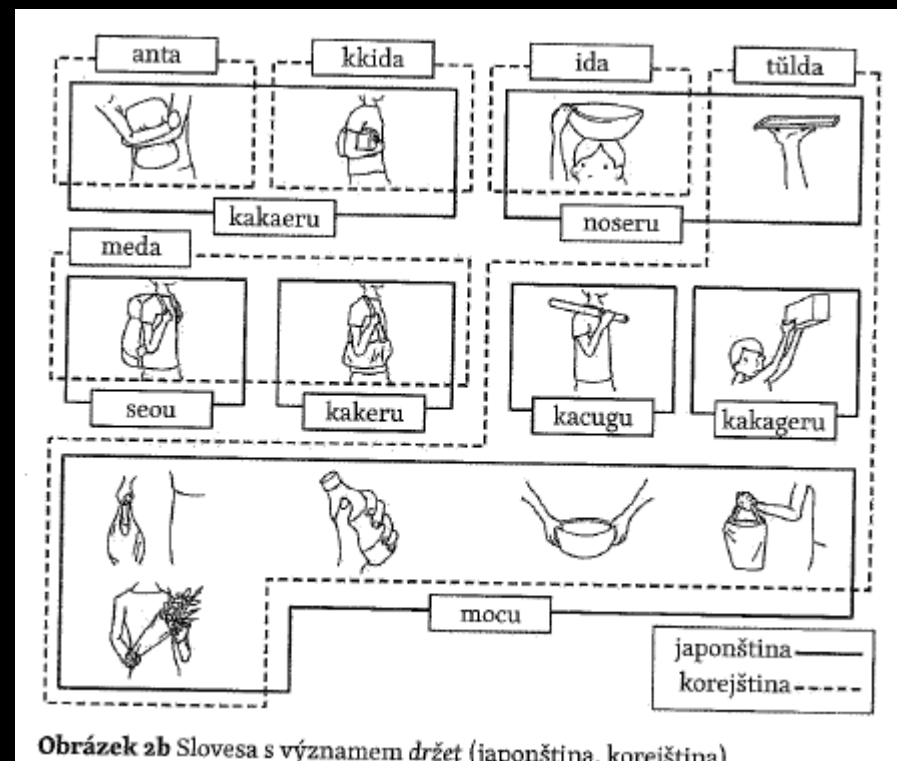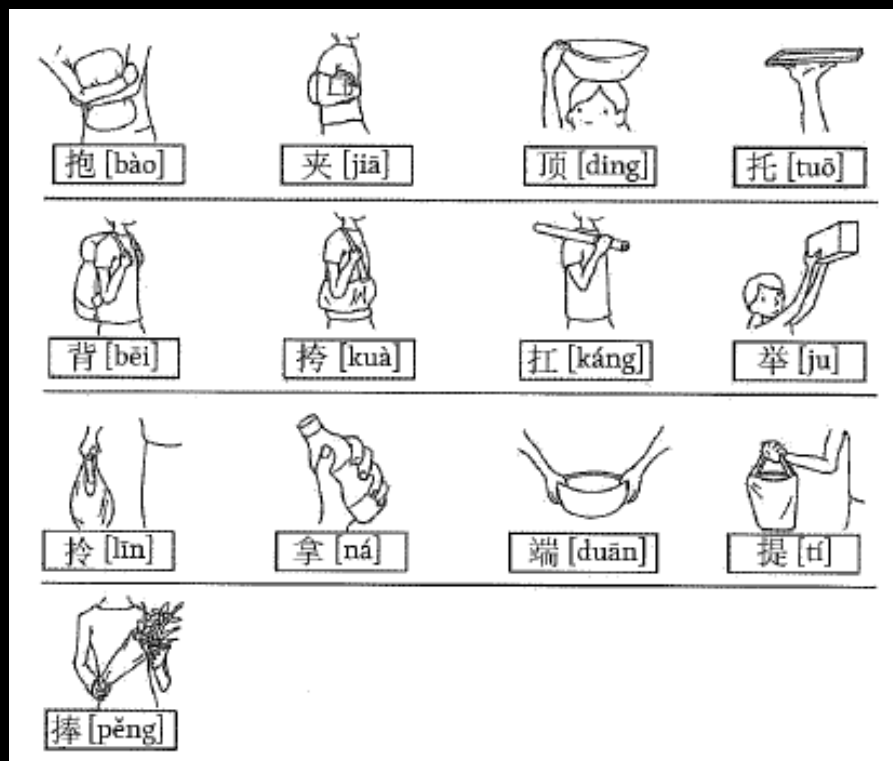
Chinese verbs with a meaning *to hold*

Japanese and Korean categorization of verbs with a meaning *to hold*

Prepositional system in Mexican mixtec
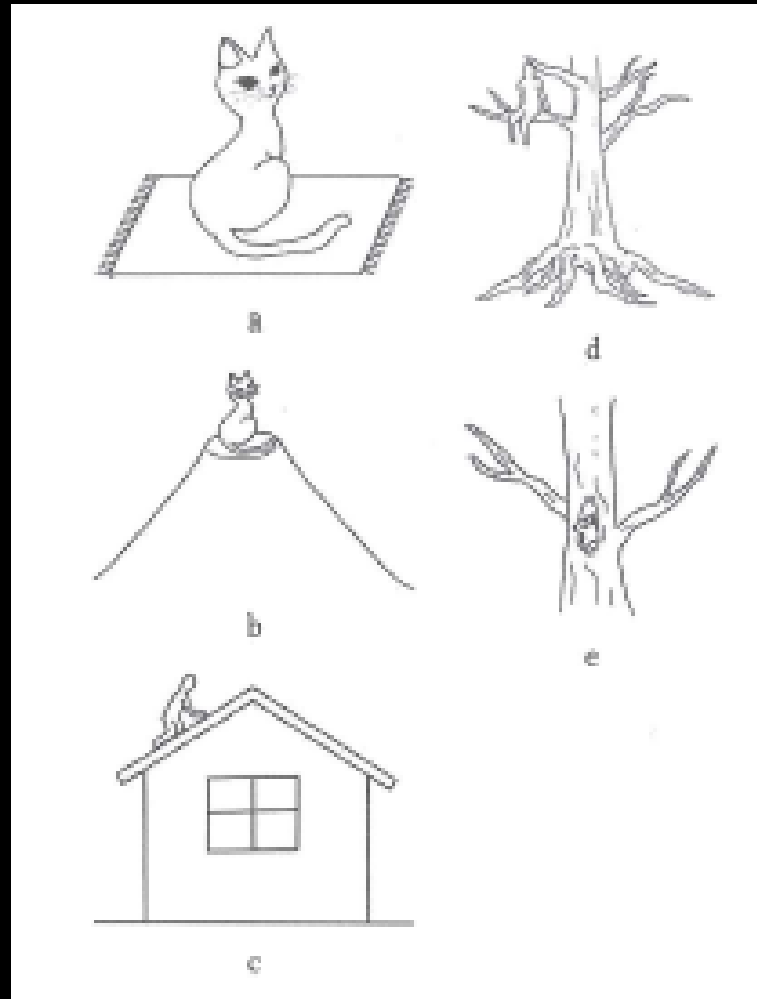
Classifiers and Grammatical gender

Masculine & feminine + neuter

Animate & inanimate

Australian Dyirbal: 4 categories of gr. gender:

- **Bayi**: men, most fish, snakes, birds, insects, moon…

- **Balan**: **women**, water, **fire**, violence, **and other dangerous things**, exceptional animals, stars.

- **Balam**: edible fruit and vegetables

- **Bala** – stones, trees, body parts, wind, miscellaneous (includes things not classifiable in the first three)

Hungarian hasn't genders.

- Borgesova citace „jedné staré čínské encyklopedie", která, máme-li jejímu autorovi věřit, dělí zvířata na:
a) patřící císaři
b) nabalzamovaná
c) zdomácnělá
d) prasátka
e) sirény
f) bájná
g) toulavé psy
h) zvířata zahrnutá do této kategorie
i) co jsou jako bláznivá
j) nespočitatelná
k) nakreslená tenoučkým štětcem z velbloudí srsti
l) a podobně
m) ta, co právě rozbila džbán
n) ta, co z dálky připomínají mouchy.

Systém číslovek:

- Kmen Piraha zná jen 1, 2 a „mnoho".
- V úkolech počítání mají problém spočítat více než tři prvky.
- Nedokážou říci, v čem je rozdíl mezi:
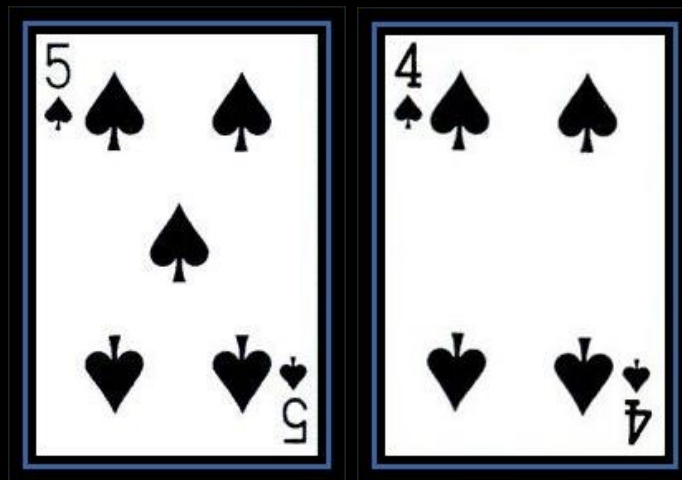
Směry:

- Někde : vpravo-vlevo (egocentrické)
- Jinde: sever-jih-východ-západ (absolutní; lepší schopnost orientace v prostoru!)
- Jinde: po proudu-proti proudu řeky, k moři-od moře, dolů-nahoru atd.
- Srov.: Pokorný, J. (2009). Lingvistická antropologie.

Systém času:

- Dřív (vzadu, vlevo), později (vepředu, vpravo): čeština, angličtina
- Dřív (nahoře), později (dole) : mandarínská čínština (jsou více citliví na vertikální vodítka).
- Ajmarština má budoucnost vzadu.

Existují tzv. bezčasé (*tenseless*) jazyky: Ajmarština, Hopi, mayština, Bororo, mandarínská čínština, Sango, Tiwi aj.

- Mayština nezná navíc ani slova pro: před a po (časově).

- in English it is necessary to mark the verb to indicate the time of occurrence of an event you are speaking about: It's raining; It rained; and so forth. In Turkish, however, it is impossible to simply say, 'It rained last night'. This language, like many American Indian languages, has more than one past tense, depending on one's source of knowledge of the event. In Turkish, there are two past tenses—one to report direct experience and the other to report events that you know about only by inference or hearsay.

Perception of time

- People from different cultures treat time differently: some are punctual, some are not.
- Differences caused by different perception of time.
  - **Western world**: precise measures of time (clock time)
    - 1h, 1m, 1s
  - **Arab cultures:** 3 sets of time
    - No time at all, now (of varying duration), forever (too long)
    - Time measured by duration of events (event time)
  - **Africa:** individual vs. tribal time
    - In Swahili
      - *Sasa*: Now, sense of immediacy
      - *Zamani*: Past, connector of individual souls

Consequences of different time perception

- Western world
  - Time is a commodity (can be bought and sold)
- Arab cultures
  - More attention is put on „now" than to events in the future
  - Time and money are separated
  - You can´t arrange a meeting at a certain time.
- African cultures
  - Can´t arrange a meeting at a certain time.

- Tykání a vykání: člověk musí rozlišovat sociální vztah a status toho, s kým mluví. Anglicky mluvící všem říkají *you*. (– rozdíly v sociální oblasti)

3. Level of sentence

Grammatical level (morphemes and their syntax). In a sentence we say something about something.

Elements: syntactic categories (subject, verb, object, attributes).

Propositions in logic.

Linguistic typology: according to *subject–verb–object positioning* or *word order*:

Word order	English equivalent	Proportion of languages		Example languages
SOV	"She him loves."	45%		Proto-Indo-European, Sanskrit, Hindi, Ancient Greek, Latin, Japanese, Korean
SVO	"She loves him."	42%		Cantonese, English, French, Hausa, Italian, Malay, Mandarin, Russian, Spanish
VSO	"Loves she him."	9%		Biblical Hebrew, Classical Arabic, Irish, Filipino, Tuareg-Berber, Welsh
VOS	"Loves him she."	3%		Malagasy, Baure, Proto-Austronesian
OVS	"Him loves she."	1%		Apalaí, Hixkaryana
OSV	"Him she loves."	0%		Warao

Frequency distribution of word order in languages surveyed by Russell S. Tomlin in 1980s[1][2]

Morphological Typology (Manker, 2016)

- Languages have a wide variety of morphological processes available for creating words and word forms (e.g. different types of affixation etc.).

- However, languages vary with respect to what morphological processes are available, how frequently they are used, and what types of information can be encoded in these processes.

Analytical / Isolating — Synthetic — Agglutinative, Fusional, Polysynthetic
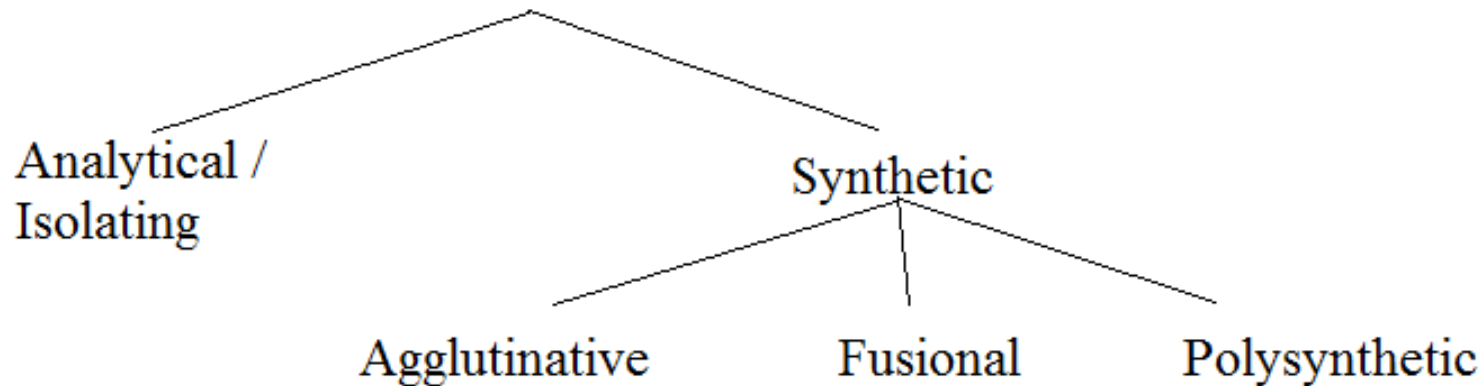
- But languages often show elements of different morphological types – they are mixed.

Analytical and isolating languages

- Analytical languages have sentences composed entirely of free morphemes, where each word consists of *only one morpheme*.

- A canonically analytic language is Mandarin Chinese. Note that properties such as "plural" and "past" comprise their own **morphemes** and their own words.

- [wɔ   mən   tan   tçin   lə]

- 1st PLR play piano PST

- 'we played the piano'

- English

Synthetic languages

- Synthetic languages allow affixation such that words may (though are not required to) include two or more morphemes.

Agglutinative languages

Agglutinative languages have words which may consist of more than one, and possibly many, morphemes.

morphemes within words are easily parsed. There is 1:1 morpheme to meaning ratio – like "beads on a string".

Turkish, Swahili, Hungarian...

el-ler-imiz-in (Turkish)

hand-plr.-1st plr.-genitive case = 'of our hands'

ni-na-soma (Swahili)

I-present-read = 'I am reading'

Fusional languages

Fusional languages may have morphemes that combine multiple pieces of grammatical information; that is, there is not a clear 1 to 1 relationship between grammatical information and morphemes.
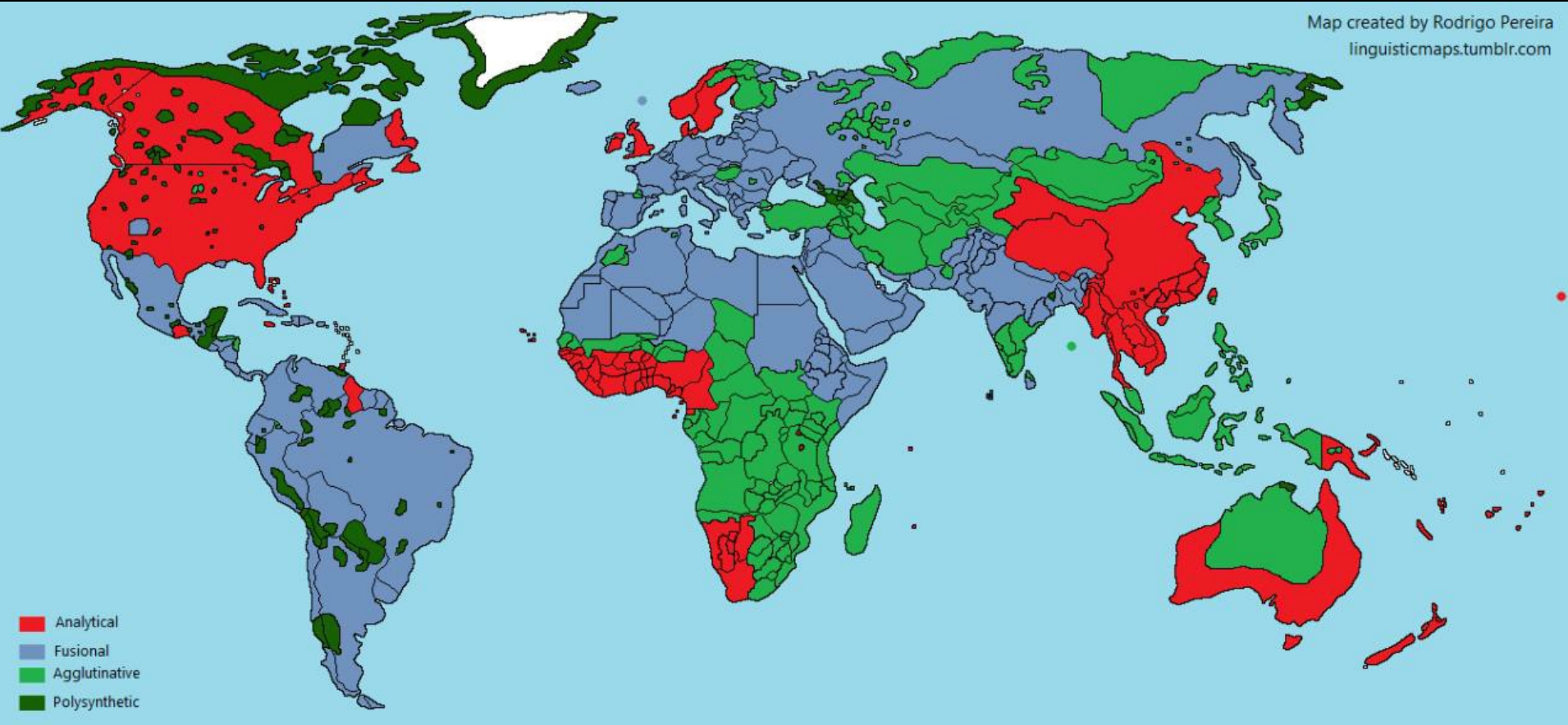
Czech:

Děl-á-m-e

VERB stem – thematic suffix – both 1st person & present tense – plural

Muž-ovi a Muž-i (dative) …

English: He works, works + work's (plural, 3rd person, possesive)

Map created by Rodrigo Pereira
linguisticmaps.tumblr.com

Analytical
Fusional
Agglutinative
Polysynthetic

Polysynthetic languages

typically have long "sentence-words" such as in Eskimo languages (West Greenlandic):

tusaa-nngit-su-usaar-tuaannar-sinnaa-nngi-vip-putit

'hear'-neg.-intrans.participle-'pretend'-'all the time'-'can'-neg.-'really'-2nd.sng.indicative

'You simply cannot pretend not to be hearing all the time'

- Španělština preferuje více výroky v trpném rodě (oproti angličtině). Při posuzování např. nehody vede pouhý popis činu k mírně rozdílnému pojetí celé situace a tedy k odlišné penalizaci nehody.

4. Narrative level

- Elements: characters, setting, events, goal-directed actions, background, outcomes, genres etc.

- We remember and understand our lives as narratives.

- Some psychologist (mostly psychoanalists and those working with term *archetype*) would say that the general frames of stories of all nations are very similar.

Argumenty proti lingvistickému relativismu:

1. S. Pinker (*Language instinct*): Hopiové ve skutečnosti dokážou o čase hovořit velmi sofistikovaně.

2. Pinker: Někteří lidé po mrtvici nedokážou mluvit, ale dokážou i přes to myslet. Tzn. neschopnost mluvit zde nenarušuje jiné kognitivní funkce.

3. Pinker: Hluchoněmý jedinec Ildefonso se naučil ASL v 27 letech. Poté sděloval zážitky ze svého předchozího života, což by teoreticky neměl být schopen, když neznal jazyk, který determinuje vědomí.

4. Chandler (1995): básně většinou využívají zcela jiná slova s jinými asonancemi atd., ale i přesto je význam básně zachován.

ALE!: Pinker jen dokazuje, že myšlení existuje mimo řeč, což se zase nijak nedotýká lingvistického relativismu.

Boroditsky: "Simply showing that speakers of different languages think differently doesn't tell us whether it's language that shapes thought or the other way around."

How culture influences our perception? – Values and needs

- Example: Bruner & Goodman (1947). *Value and needs as organizing factors in perception.*
  - N = 30, 10 year old, normal intelligence
  - 3 groups
    - 2 experimental: poor and rich families – coins (1x according to memory, 1x after presentation)
    - 1 control: cardboard discs of the same size

How culture influences our perception?

- Results:

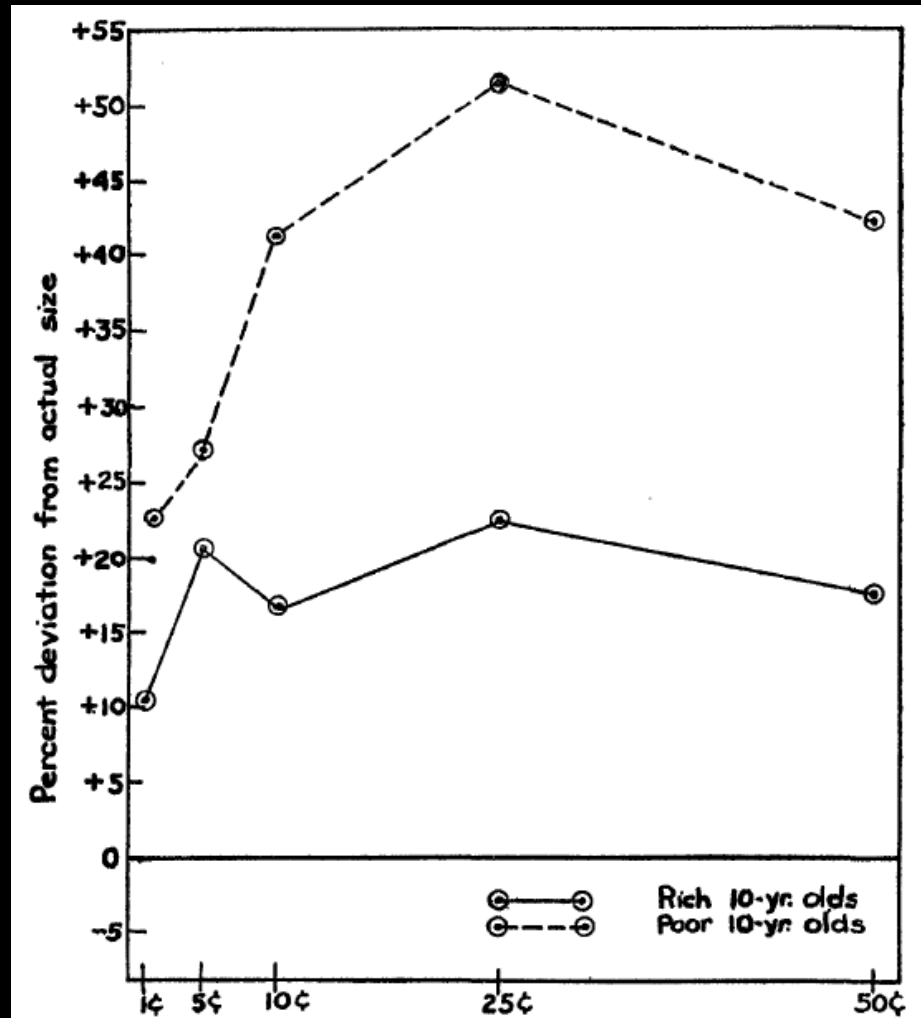 Poor overestimate size of the coins considerably more than the rich.

FIG. 2. SIZE ESTIMATIONS OF COINS MADE BY WELL-TO-DO AND POOR TEN-YEAR-OLDS
(Method of average error)

How culture influences our perception? – Values and needs

- Bruner & Goodman conclusion:
    - Need for money among the children from poor families (Boston slums) influenced their perception of the coins.
    - Replicated in Hong Kong with similar results.