Variability of languages in time and space - IV

Linguistic Typology – Phonology and Morphology

Anja Nedoluzhko

Vowels

- stress
- length
- tones

Vowels – length

Vowel length

Estonian

saada /sa:ta/ – ‘to get’
saada /sa·ta/ – ‘send!’
sada /sata/ – ‘hundred’

Czech

šipka – ‘arrow’
šípka – ‘rosehip’ (Gen, SG)

Arabic, Sanskrit, Japanese, Hebrew, Finnish, Hungarian, Kannada, Italian, etc.

Vowels – tones

tones:

Thai

/k^{h}áá/ - ‘to trade’

/ k^{h} āā/ - ‘to get stuck’

/kàà/ - ‘galangal’

/kàá/ - ‘leg’

/káà/ - ‘leg’

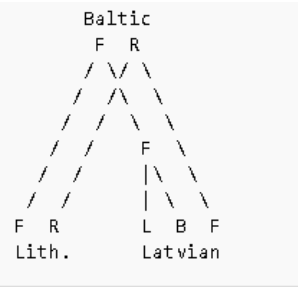
Neoštokavian idiom used for the basis of standard **Bosnian**, **Croatian** and **Serbian**

Pitch accent:

short falling ⟨ȉ⟩,
short rising ⟨ì⟩;
long falling ⟨î⟩
long rising ⟨í⟩

+ length,
+variable stress

ne znam = /nèznām/ - ‘I don’t know’;.

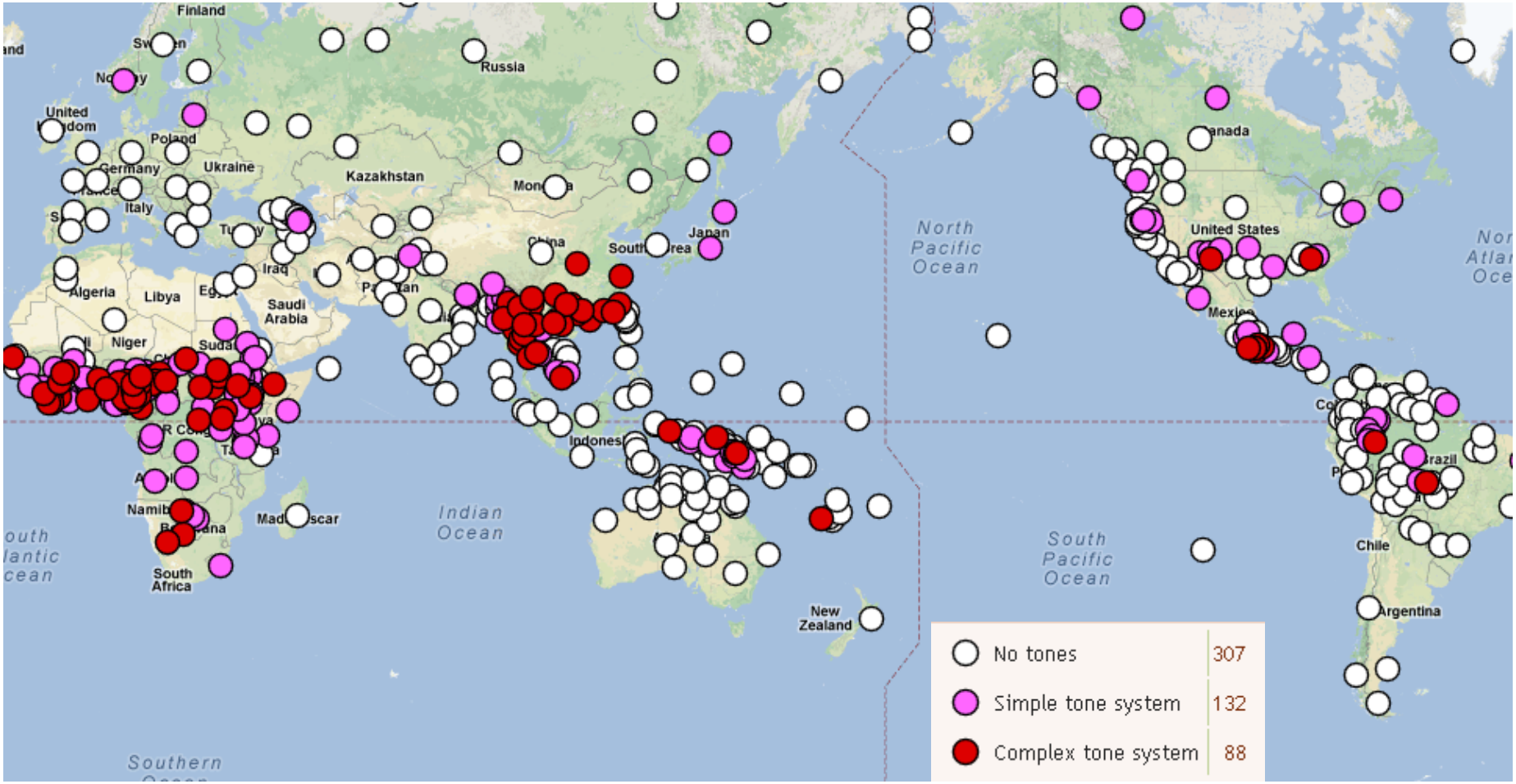


F – falling (acute)
R – rising (circumflex)
L – level
B – broken

Lithuanian, Latvian

"acute" or "circumflex"

Tones in languages



Serbian – Russian accents and tones

говòрити	говорить [govoriti] ‘speak’
мухòловка	мухоловка [mucholovka] ‘flytrap’
мȇд	мёд [mjed] ‘honey’
брȏд	брод [brod] ‘ford’
брȍда	брода [broda] ‘ford’, GSg
брáда	борода [boroda] ‘beard’
брâв	боров [borov] ‘hog’
красòта	красота [krasota] ‘beauty’
блâто	болото [boloto] ‘bog’
злâто	золото [zoloto] ‘gold’

Sebian ⇔ Russian

беспòвратно	бесповоротно [bespovorotno] ‘irreversibly’
мрâз	мороз [moroz] ‘frost’
крȍтки	короткий [krotkij] ‘gentle’
седòбради	седобородый [sedoborodyj] ‘grey-bearded’
бèзумни	безумный [bezumnyj] ‘mad’
вȕчица	волчица [volčica] ‘she-wolf’
бȕха	блоха [blocha] ‘flea’
тȕсти	толстый [tolstyj] ‘fat’
влáкно	волокно [volokno] ‘fibre’
слàби	слабый [slabyj] ‘weak’

Sebian ⇔ Russian

1. Translate from Russian into Serbian: город [gorod] ‘town’, голова [golova] ‘head’, колода [koloda] ‘block’, безголовый [bezgolovyj] ‘headless’, голорукий [golorukij] ‘barehanded’ , золоторогий [zolotorogij] ‘gold-horned’, волк [volk] ‘he-wolf’, грех [grech] ‘sin’, вера [vera] ‘belief’, сестра [sestra] ‘sister’, глотать [glotat’] ‘swallow’
2. Translate from Serbian into Russian:

врâна вèдро зâмка òбрезати
нёбо вёдро нòски

Syllable Structure

- **syllable -** well-recognized unit in linguistic analysis which explains quite well the number of rhythmic units that will be perceived in a word or longer utterance. This number is usually equal to the number of vowels in the utterance
- Easy concept – if listeners differ in syllabifying particular words, it is generally the case that both possible syllabifications can be permitted

pastry = past.ry or *pas.try*

Canonical syllable pattern

- which syllable types are permitted in a language, sequencing of segments within syllables
- **C** - consonant **V** - vowel

Simple syllable structure

only CV

Mba

Congo

(C)V

it is permitted not to have an initial consonant

Fijian

Papua New Guinea

Yareba

Moderately complex syllable structure

(C)V, CVC, CCV

strict limits on what kinds of combinations are permitted: The second of two consonants is commonly limited to being one of a small set belonging to either “liquids” (*r, l*) or “glides” ([w] in en. *wet*)

Darai Nepal

the most elaborate syllable permitted is CCVC

/bwak/ ‘(his) father’

the only possible second consonant in a sequence of two is /w/

Complex syllable structure

- English - (C)(C)(C)V(C)(C)(C)(C) –

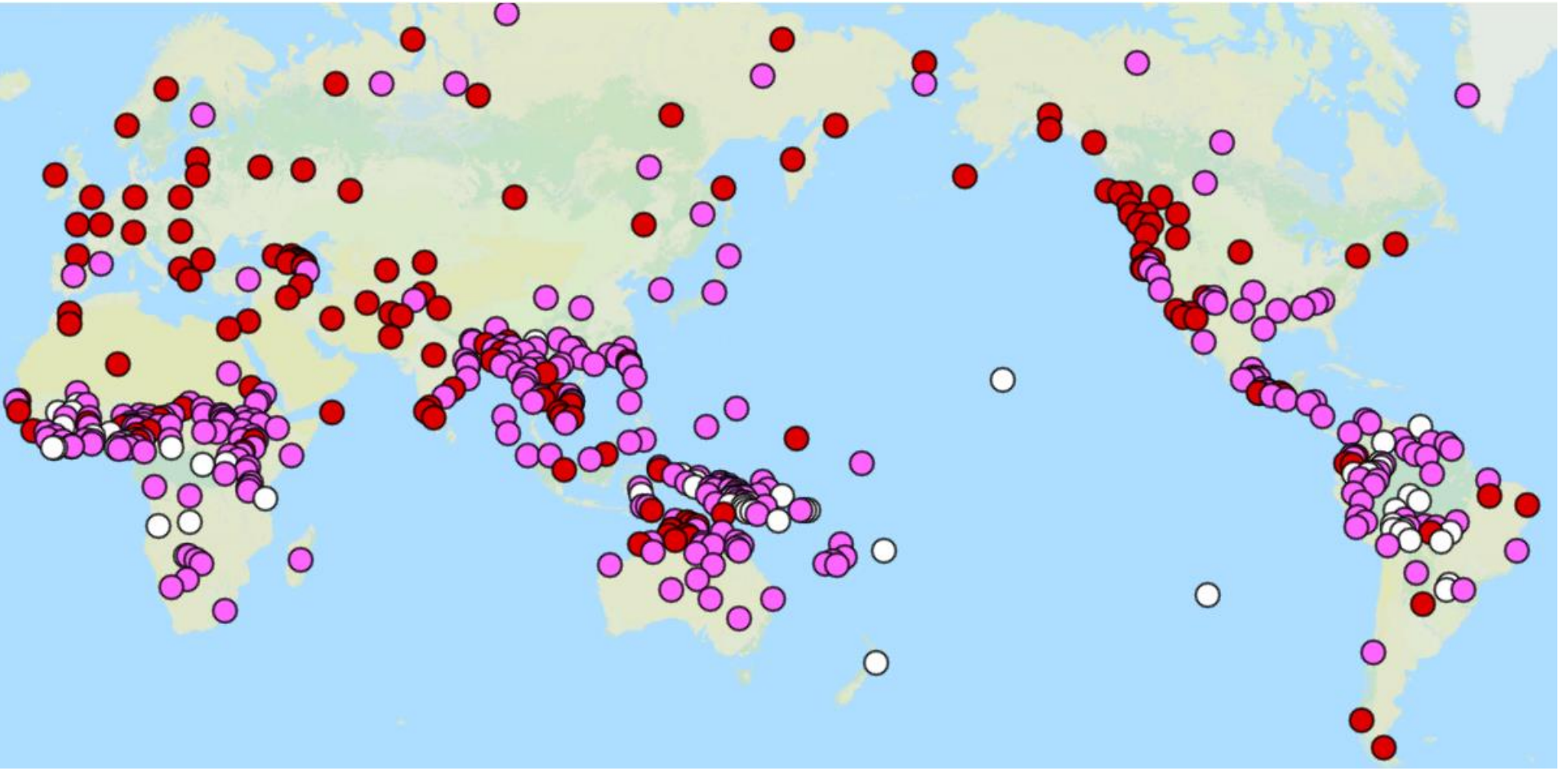
  strengths /stɹɛŋkθs/

  texts /tɛksts/

Distribution in WALS

Value	Representation
Simple syllable structure	61
Moderately complex syllable structure	274
Complex syllable structure	151
Total:	486

http://wals.info/feature/12A#2/16.6/153.1



Correlations

- small consonant inventories <-> simple syllable structure
- large consonant inventories <-> complex syllable structures

Given word in Japan borrowed from English:

redzonansu, oputimisuto, pen, endzin, medo in dz'apan, janki, noto-bukku, cupu, n'ujoku-tajmudzu, sekus'on, mota, dokuta, dzigudzagu, tikketto, indakus'on, s'okku, s'oppu, burokku, baransu, uisuki, majru, ojru, surogan, rajburari, ibuningu, bandaridzumu, intab'u, pasento, massadzi, ba, suta, atorakus'on, oba-koto, supido, dz'anaridzumu

1. *Find their English equivalents.*
2. *Translate to Japan:*

elevator, seal, yard, bolt, cook, trust, crane, knob, viktor, clerk, lucky, colour, supper, error

Note: dz – a single phoneme [dz], like c [ts] in Czech

Japan

MORPHOLOGY

Typology in Morphology

1. How grammatical meanings are built in languages (partly connected to word formation) – *structural typology*
2. Which grammatical meanings are possible, and which realizations they have in different languages – *typology of grammatical categories and meanings*

Structural typology

How morphemes in a word are connected to each other?

Agglutination

Fusion

Agglutinating morphology

a word may consist of more than one morpheme, but the boundaries between morphemes in the word are always clear-cut

	Singular	Plural
Nominative	*adam*	*adam-lar*
Accusative	*adam-ı*	*adam-lar-ı*
Genitive	*adam-ın*	*adam-lar-ın*
Dative	*adam-a*	*adam-lar-a*
Locative	*adam-da*	*adam-lar-da*
Ablative	*adam-dam*	*adam-lar-dam*

Turkish *adam ‘man’*

Turkish, Indonesian, Eskimo, Hungarian, Japanese, Basque...

Fusional morphology

(flective, inflective)

no clear-cut boundary between morphemes, alternations, restrictions to morpheme combinations

the expression of different categories within the same word is fused together to give a single unsegmentable morph

ruk-a ‘hand’

ruč-n-í ‘hand’ (adj.)

ruc-e ‘hand’
(N.Pl, Lok&Dat. Sg)

*přátel-**é***
‘friends’

*politic-**i***
‘politicians’

*vítěz-**ové***
‘winners’

Nom+Plural

Marie *sp - **í***
‘Mary’ ‘sleep’ – 3.pers.+SG+present
‘Mary is sleeping.’

Isolating

has no morphology, one-to-one correspondence between words and morphemes

Agglutinating

Fusional

Polysynthetic

(incorporating): combining lexical morphemes together into a single word

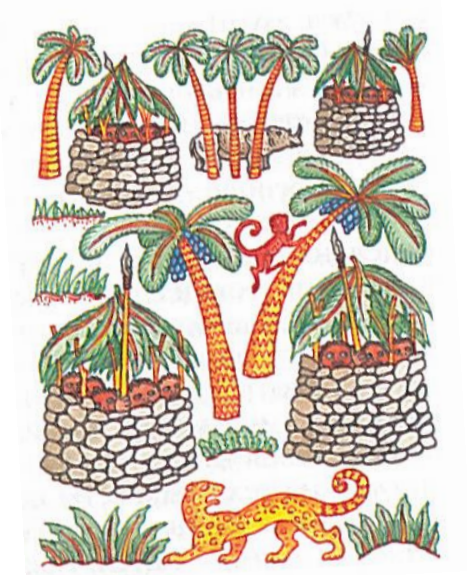
Analytical

grammatical meanings are expressed with function words

Isolating | Agglutinating | Fusional | Polysynthetic

Isolating morphology

- has no morphology (ideally), one-to-one correspondence between words and morphemes



- each morpheme is a separate word
- many compound words
- very important word order

English: *sweemcoat,*
German: *Heimweg*

Vietnamese

Khi tôi đèn nhà ban tôi, chúng tôi bắt đầu làm bài.

when I come house friend I plural I begin do lesson

"When I came to my friend's house, we began to do lessons."

Isolating ← Agglutinating — Fusional → Polysynthetic

Isolating morphology

Classical Chinese

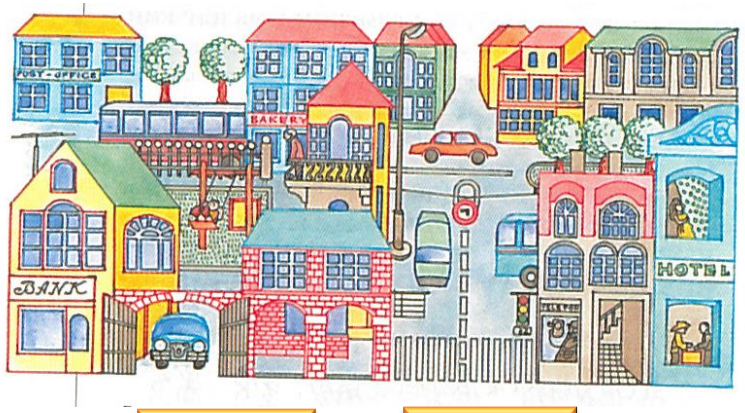
明天	我	的	朋友	會	爲	我	做	一	個	生日	蛋糕
明天	我	的	朋友	会	为	我	做	一	个	生日	蛋糕
míngtiān	wǒ	de	péngyou	huì	wèi	wǒ	zuò	yí	ge	shēngri	dàn'gāo
tomorrow	I	poss. part.	friend	will[1]	for	I	make	one	count.word	birthday[2]	cake

Tomorrow my friend (my friends) will make me a birthday cake.

Isolating ← Agglutinating — Fusional → Polysynthetic

Isolating morphology – Analytical

- Most grammatical meanings are expressed with function words
- To convey their meaning analytic languages rely on the use of definite and indefinite articles, strict word order, various prepositions, particles and modifiers.



English French

en. The dog of my father is barking.

def. Gen. poss. praes. actual

č. Tatínkův pes štěká.

also in Polinesian languages: *Thai, Hawaiian, Maori, ...*

Isolating ← Agglutinating — Fusional → Polysynthetic

Polysynthetic morphology

words are composed of many morphemes that have independent meaning. Polysynthetic languages typically have long "sentence-words"

- noun incorporation
- high morpheme-to-word ratio
- morpheme and word boundaries are not clear cut
- subject sometimes divided but the rest stays very close

təmeyŋəlevtəpəɣtərkən

tə|meyŋə|levtə|pəɣt|ərkən
1.SG -'big'-'head'-'ache'-IMPF
'I have a fierce headache'

Yupik *tuntussuqatarniksaitengqiggtuq*

'He had not yet said again that he was going to hunt reindeer.'

Paleosiberian languages

Isolating ← Agglutinating — Fusional → Polysynthetic

Polysynthetic morphology

Greenlandic

Aliikusersuillammassuaanerartassagaluarpaalli.

aliiku-sersu-i-llammas-sua-a-nerar-ta-ssa-galuar-paal-li

entertainment-provide-SEMITRANS-one.good.at-COP-say.that-REP-FUT-sure.but-3.PL.SUBJ/3SG.OBJ-but

'However, they will say that he is a great entertainer, but ...'

Structural typology -- Languages

- Languages differ in how they form grammatical forms
- Languages have tendencies to some structures (but not exclusively one)
- Finding and correlations according to language types

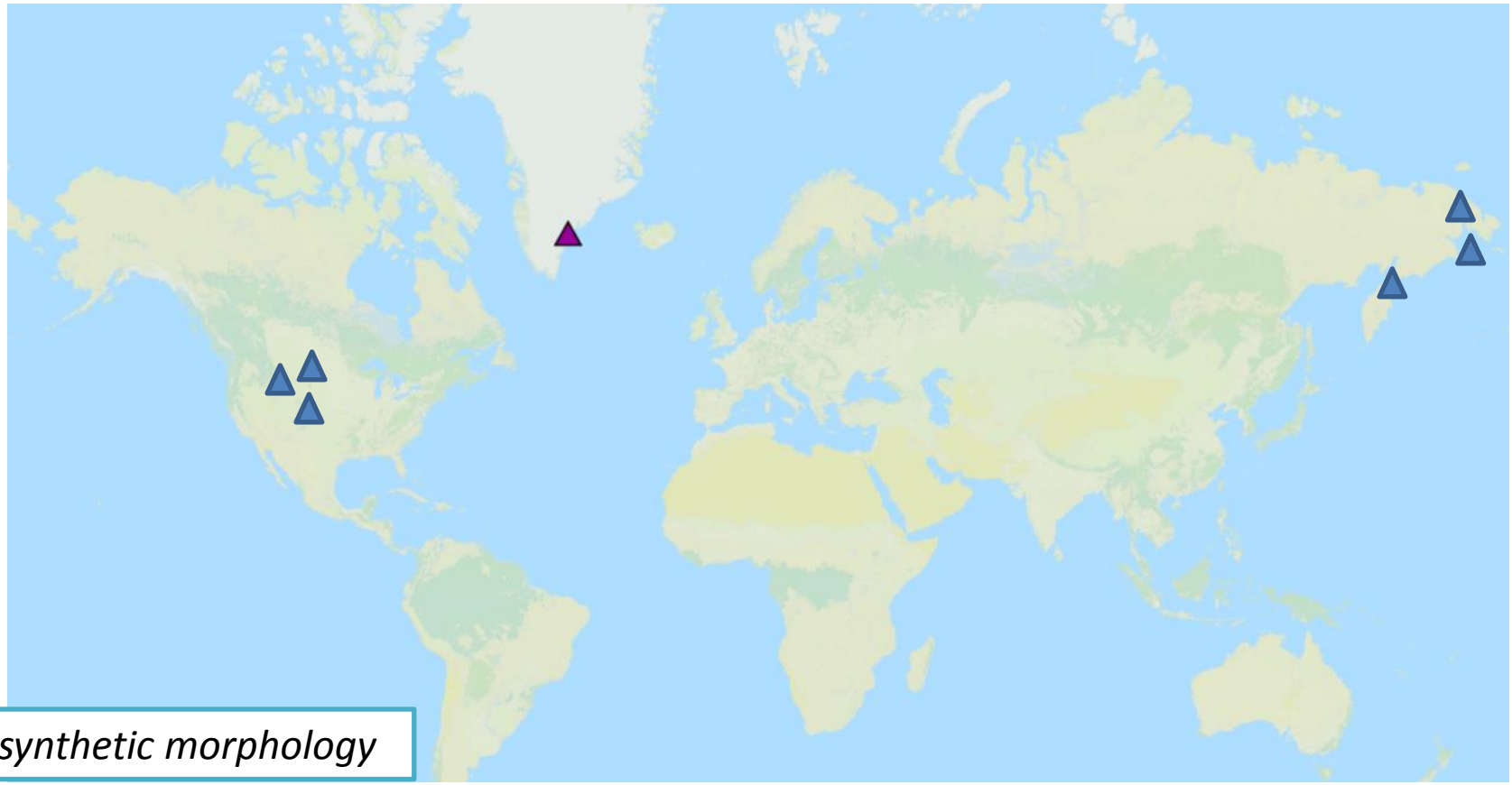
Finding and Correlations

- agglutinative languages – long words: why?
- fusional (in/flective languages) – short words: why?
- isolating – very short words and many compounds
- analytical – also very short words but less compounds

Isolating ← Agglutinating — Fusional → Polysynthetic

Finding and Correlations

no geographical and genealogical dependency



Polysynthetic morphology

Comfortable or Uncomfortable?

- principle of compensation
- agglutination – easy to combine affixes, easy rules, no alternation BUT long and fragile word, wage word boundaries, weak boundaries *[bayan ve bay]lar*
- fusional (inflected) languages – "strong" words, word boundaries are very clear, words are shorter, easy to remember BUT many alternations, many morphemes for the same maening
- isolating – no alternations, no long words BUT few words/roots, → one word has many meanings (lexical and grammatical + word formation). → instead of learning grammar, one has to learn the whole dictionary
- Polysynthetic (incorporating) – good for thought, but hard to interprete

Turkish – Latin – English

yazmışım	—	I've probably written
yazmışsın	—	You$_{sg}$ have probably written
yazmış	—	He has probably written
yazmışsınız	—	You$_{pl}$ have probably written
yazar	—	(he) writes
yazarlar	—	(they) write

Translate:
into Turkish: scribo, They have probably written
into Latin: (he) writes, yazarsınız
into English: scribitis, yazmışlar

çalışırım	—	laboro
çalışır	—	laborat
çalışırsın	—	laboras
çalışırlar	—	laborant
çalışırsınız	—	laboratis
yazarsın	—	scribis

Fusional morphology

- Too many categories
- Recent research has shown that such a scale conflates many different typological variables and incorrectly assumes that these parameters co-vary universally (Plank 1999, Bickel and Nichols 2005).
- In WALS, divided into fusion, exponence and flectivity (allomorphy, inflectional classes)

Fusion in morphology - isolating

- **Isolating** formatives are full-fledged phonological words of their own.

Fijian

Au aa soli-a a=niu vei ira.

1SG PST give-TR ART=coconut to 3PL

'I gave the coconut to them.'

Other regions:

- Sahel Belt of West Africa
- Southeast Asia and the Pacific
- outliers in southern Africa (Khoekhoe), Australia (Gooniyandi), and the Americas (several instances).

Fusion in morphology - concatenative

- phonologically bound.
- need some other host word for their pronunciation and form one single phonological word together with that host

effects:

- usually, concatenative formatives cannot be individually stressed
- combination of formative and host undergoes various phonological adjustments

!!! Once the phonological alternations are properly analyzed, strings of concatenative formatives can be segmented into clear-cut morphemes.

Agglutinating morphology

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Turkish *adam 'man'*

BUT *kediler 'cats'*

past tense formative *–ti:*

- unrounded front vowels and a voiceless final consonant (e.g. *git-ti* 'go-past')
- vowels and a voiceless final consonant (e.g. *yap-tı* 'do-past')
- *-di* after a stem with unrounded front vowels and a voiced final consonant (e.g. *gel-di* 'come-past') , …

Fusional morphology

(flective, inflective)

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‘winners’

Nom+Plural

Marie *sp - **í***
‘Mary’ ‘sleep’ – 3.pers.+SG+present
‘Mary is sleeping.’

Fusion in morphology - nonlinear

- realized not in linear sequence but by direct modification of their host: **ablaut** and **tonal**

Modern Hebrew

a. *šamar-ti*
guard.PST-1SG.PST
'I guarded'

b. *ʔe-šmor*
1SG.FUT-guard.FUT
'I will guard'

The past vs. future is expressed by
(i) the choice of a stem template (e.g. CaCVC in the past, CCVC in the future)
(ii) the choice of agreement affixes (entirely suffixes in the past, mostly prefixes in the future)

Kisi

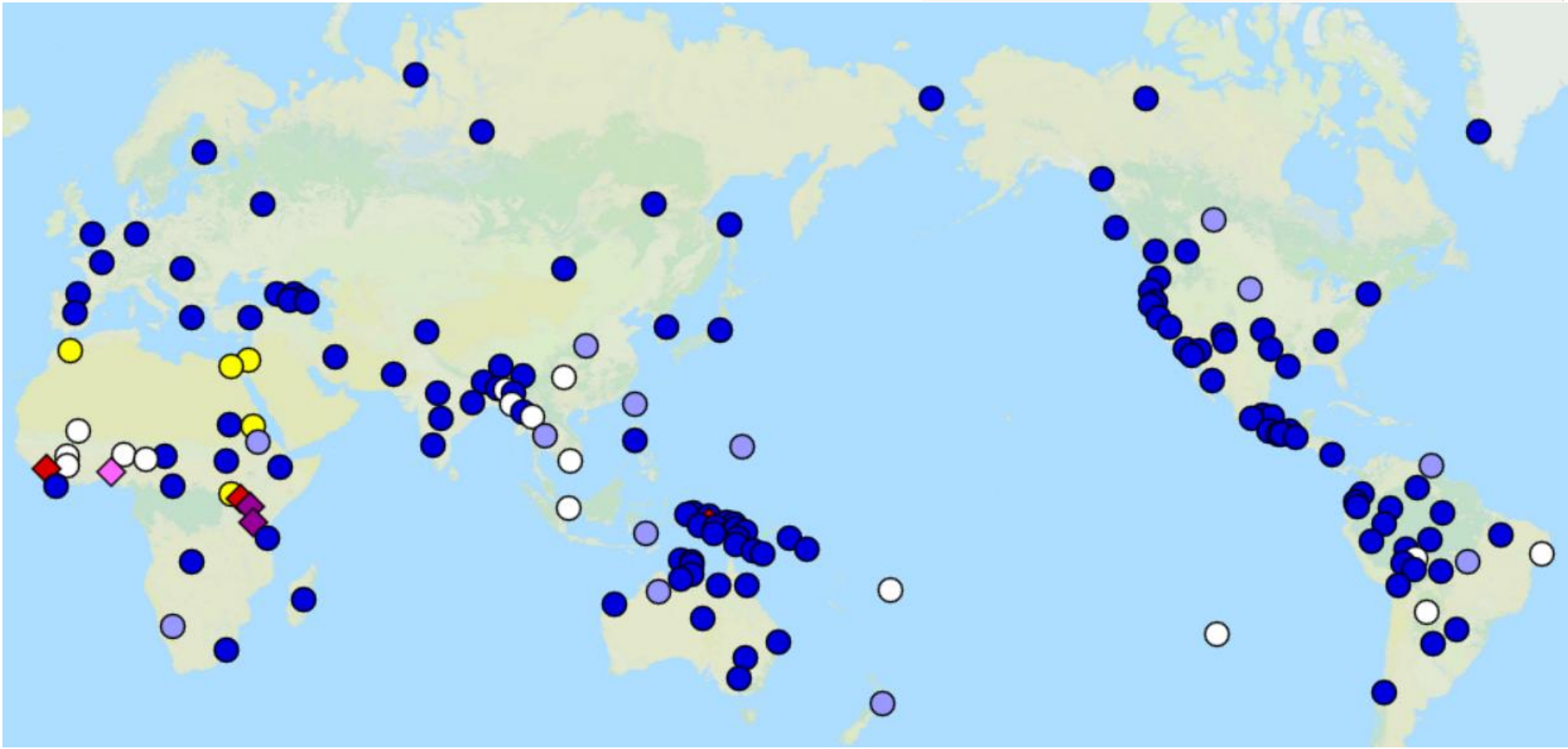
a. *Ò cìmbù.*
3SG leave.PRES.HABITUAL
'She (usually) leaves.'

b. *Ò cìmbú.*
3SG leave.PST.PFV
'She left.'

tense-aspect opposition are expressed by tone alone

Fusion of Selected Inflectional Formatives

●	Exclusively concatenative	125
○	Exclusively isolating	16
◆	Exclusively tonal	3
◆	Tonal/isolating	1
◆	Tonal/concatenative	2
●	Ablaut/concatenative	5
●	Isolating/concatenative	13



Exponence of Selected Inflectional Formatives

Monoexponential case	71
Case + number	8
Case + referentiality	6
Case + TAM	2
No case	75