Basic linguistic theory / “typological theory”

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Course overview

- On theories and frameworks, typological theory/basic linguistic theory
- Whys and wherefores of modern linguistic typology
- Morphological typology
  - fusion, synthesis, flexivity
  - locus of marking (head vs. dependent)
  - position of marking
  - ...
- Syntactic typology
  - constituent order
  - grammatical relations and alignment
  - ...

On theories, frameworks, and metalanguages

What is a (linguistic) theory?

What is a theory? (Haspelmath 2010)

- '**Theory**' can be understood as
  - **Theory(1)**: a set of coherent hypotheses or claims about a particular phenomenon,
    e.g. a theory of what caused dinosaurs to die out,
    or a particular theory of restrictions on *wh*-movement
  - **Theory(2)**: used in a loose sense, referring to theoretical (i.e. non-applied) scientific work, or "theorizing"

What is a theory? (Haspelmath 2010)

- '**Theory**' can be understood as
  - **Theory(3)** (also called a descriptive/theoretical framework/model) is a sophisticated and complex **metalanguage for linguistic description** that is intended to work for any language

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– What is a metalanguage?

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  - **Theory(3)** (also called a descriptive/theoretical framework/model) is a sophisticated and complex **metalanguage for linguistic description** that is intended to work for any language
  - A reminder: **metalanguage** is a set of terms used for the description or analysis of another language (it includes notions like ‘phoneme’, ‘morpheme’, ‘clause’, ‘topic’, ‘prefix’, etc.)
  - the aspects that are not superficially evident in a language can be brought to light through the use of another language (metalanguage) where, on the contrary, they are present

What is a theory? (Haspelmath 2010)

- ‘**Theory**’ can be understood as
  - **Theory(3)** (also called a descriptive/theoretical framework/model) is a sophisticated and complex **metalanguage for linguistic description** that is intended to work for any language
  - Some of these frameworks have ‘theory’ in their name (e.g. Government-Binding Theory, Optimality Theory, Basic Linguistic Theory), others don’t

What is a description? (Haspelmath 2010)

- **Description:** characterization of **grammatical regularities** of particular languages

How can it be done?

What is a description? (Haspelmath 2010)

- **Description:** characterization of **grammatical regularities** of particular languages

  using abstract generalizations such as **rules**, **schemas** and **constraints**,

they are required because all languages allow an indefinitely large number of sentences and it is therefore not possible to describe a language by listing all its sentences

What is an analysis? (Haspelmath 2010)

- **Analysis(1)** is similar to description
  - **BUT:** some linguists understand it as a description with a **high level of generalization**
    this is a matter of degree: all linguistic description must involve generalizations (rules, schemas, constraints), and there is no distinction in principle between shallower and deeper generalizations

- **Analysis(2):** a 'description within a particular framework'
  - many papers in the generative tradition first provide a fairly theory-free description of the relevant phenomena ("the data") and then go on to provide a second, theory-bound description ("the analysis")

Two types of theories

- ‘**Theory’** (descriptive/theoretical framework) understood as a sophisticated **metalanguage for linguistic description**
- explanatory theories

  vs.
- descriptive theories

Explanatory theories

- **One position:** theories are not just convenient metalanguages for the explicit, formal(ized) description of any language, but as being **explanatory** as well
  - such theory-based explanation is derived from the understanding of theories as **restrictive**: A theory is intended to allow the description of only those languages that actually occur (‘descriptive power’)
  - In this view: a theory should be able to **describe all possible languages**, but **impossible languages should not be describable by it** (ultimately linked to Universal Grammar)

Explanatory theories

- **One position:** theories are not just convenient metalanguages for the explicit, formal(ized) description of any language, but as being **explanatory** as well
  - once a theory has been adopted, it is hard to free oneself from the perspective and the constraints imposed by it

Descriptive theories

- **Other position:** a theory is only a metalanguage and has no explanatory role (**a descriptive theory**)
- Also outside the field of linguistics, metalanguages do not have the role of excluding impossible phenomena (as ordinary languages can describe impossible things ("a rectangular triangle" or “fall upwards”), the language of arithmetics can describe impossible numbers ("33/0")

Descriptive theories

- Within the past decades, a single descriptive theoretical framework has emerged out of many descriptive grammars of lesser-known languages **“basic linguistic theory”** (Dixon 1997), **“typological theory”** (Nichols 2007
- “*traditional grammar, minus its bad features (such as a tendency to describe all languages in terms of concepts motivated for European languages), plus necessary concepts absent from traditional grammar*” (Dryer 2006)
- Most descriptive grammars written within the past 15-20 years employ basic linguistic theory/typological theory as their theoretical framework

Typological theory/basic linguistic theory

- basic linguistic theory/typological theory is not always recognized as a distinct theoretical framework
- publications within this framework are commonly described as atheoretical or as theoretically eclectic (mix of ideas and sources)

Typological theory/basic linguistic theory

- ***"There is no such thing as atheoretical description"*** (Dryer 2006)
- the analytical concepts one assumes necessarily constitute a set of theoretical assumptions
- if all work in the field shares the same set of assumptions, the notion of theory might be unnecessary ('typological theory' is hardly ever used),
- but it is still the case that all such work assumes the same/ similar theoretical framework

Typological theory/basic linguistic theory

- The idea that such descriptive and comparative work is theoretically eclectic is also inaccurate, since the **high degree of commonality** among recent descriptive work means that this work by and large shares **the same theoretical mix**
- But this theoretical mix simply reflects the historical eclecticism of typological theory:
  typological theory is traditional grammar modified in various ways by other theoretical traditions over the years (particularly by Role and Reference Grammar, Functional Grammar, and Construction Grammar)

What’s next?

- What is linguistic typology today?
- Major concepts of basic linguistic theory/typological theory
  - morphological concepts
  - syntactic concepts

Whys and wherefores:

Modern linguistic typology

Linguistic typology for beginners (Payne 2006)

- A typology
  - simply a categorization of some range of phenomena into various types
  - "typologize" something = group its parts into types
    - E.g. as in this joke:
      There are three kinds of people –
      those who can count, and those who can't.
- typological linguists are people who like to group languages into well-defined and useful types

But what makes a typology useful?

- A typology is useful when it makes **“predictions”** about multiple characteristics of the items being typologized, that is,
  if we know that a language is of type X,
  we also know that it has Y

But what makes a typology useful?

- E.g. let's typologize motorized vehicles.
  Which would be the most meaningful typology, A or B?:
  - Typology A: bus, van, automobile, tractor
  - Typology B: red ones, green ones, blue ones, black ones

But what makes a typology useful?

- E.g. let's typologize motorized vehicles.
  Which would be the most meaningful typology, A or B?:
  - Typology A: bus, van, automobile, tractor
  - Typology B: red ones, green ones, blue ones, black ones
- If you know that a motor vehicle is a bus, what else do you know about it?
- A lot: it's a large vehicle, with many seats, carries people,...
- If you know some motor vehicle is **blue** in color, what else can you guess about its characteristics? - Not much!

➡typology A is more useful, because it reflects **"clusters" of structural and functional characteristics** that go together, rather than simply indicating isolated properties

But what makes a typology useful?

- A linguistic example:
  e.g. there are two kinds of languages in the world:
  - those that have the sound [r] in their phonetic inventory
  - those that don’t
- BUT knowing whether a language has an [r] is not likely to have many repercussions in other parts of the language,
  → not a particularly interesting or useful typology
- However, there are many other linguistic typologies that have been very helpful to people interested in exploring the characteristics of the human mind
- These are typologies that identify clusters of characteristics that languages are likely to possess

But what makes a typology useful?

- The value of typologizing languages is that it helps linguists understand **the range and limits of possible variation among human languages**
- If logically possible types are found to be very rare or nonexistent, that may provide some insight into how the human mind works
- Thus language typology can give us a “window” on the mind and communication

But what makes a typology useful?

- Thus language typology can give us a “window” on the mind and communication
- Back to our non-linguistic example: if we typologized all the motorized vehicles in the world according to number of wheels, we might find that there are no, or extremely few, vehicles with five wheels
- Why motorized vehicles are restricted in exactly this respect? What is it about the origin, history, or function of motor vehicles that seems to rule out the existence of five-wheeled vehicles?

But what makes a typology useful?

- Several typologies of language have been proposed in the history of linguistic science and many more are appearing nowadays
- We will first discuss morphological and syntactic typology
- Later chapters we will discuss a typology of grammatical relations, voice and valence, and some other phenomena
- Syntactic typology has proven particularly fruitful in stimulating the subfields of typological linguistics, and functional linguistics

Modern trends in linguistic typology

- **Traditional goals of linguistic typology**

  “Universalist typology”: explore the limits of possible human languages / language universals

  ⇨

  Modern “Distributional Typology” (Bickel 2007, Nichols 2007)**:**

  - typology as a linguistic counterpart of population biology and population genetics (Nichols 1992 *“Linguistic Diversity in Space and Time”*)
  - explore principles governing the distribution of structural features among languages (frequency, interaction with other aspects of grammar, geographic and genealogical patterns, etc.)

  “what’s where why” (Bickel 2007)

Modern trends in linguistic typology

What typologists do (Nichols 2007)

- the typologist reads grammars,
- does at least some cross-linguistic research to study the variation of a phenomenon, its historical and geographic distribution,
- does some language description,
- usually does not identify with any particular named theoretical framework,
- works on the development of “typological theory” (a body of knowledge focusing on the building blocks),
- most journal publications and conference papers in typology are of this sort, often presenting a phenomenon from one or a few languages and laying out its implications for typological theory

Modern linguistic typology

- **Some common misunderstandings about typology** (Nichols 2007):

(i) uses large surveys of hundreds of languages → depends

- new ideas emerge in in-depth work on 1-2 languages (e.g. the field language and the contact language)
- basic typology is developed on a small sample
- typological hypothesis-testing requires larger samples to seek, e.g., statistically significant correlations between grammatical properties, between areas, etc.

Modern linguistic typology

- **Some common misunderstandings about typology** (Nichols 2007):

(ii) deals with only superficial grammatical phenomena, while formal grammar deals with deeper abstractions
→ by now no difference in analytic or theoretical profundity or abstraction between generative parameters and original contributions of typology

Modern linguistic typology

- **Some common misunderstandings about typology** (Nichols 2007):

(iii) explanations or theory are usually functionalist

(e.g., Baker & McCloskey 2007, Polinsky & Kluender 2007)

→ explanation and hypotheses come from

- function,
- processing,
- cognition,
- acquisition,
- neuroanatomy,
- sociolinguistics,
- history,
- language evolution, …

Modern linguistic typology

- **Some common misunderstandings about typology** (Nichols 2007):

(iv)the main theoretical constructs are the implicational correlation and the implicational hierarchy (e.g. if a language has X, it will also necessarily has Y)

→ provide convenient testable format for cross-linguistic surveys, but not an ultimate goal of typology

Modern linguistic typology

➡ **What's where why?**

- more comprehensive typological databases, e.g. WALS (Haspelmath et al. 2005)
- adjustment of statistical methods for the exploration of typological distributions (Cysouw 2005, Bickel 2007)
- modification of the methodology:
  from mass types of traditional typology (ergative alignment, agglutinating morphological system, SVO constituent order)
  to more **fine-grained variables** (Bickel 2010a)
  - allows to apply various clustering and scaling techniques (Cysouw 2007)

Morphological typology

Morphological typological parameters

- **Morphological typology:**
  since Sapir (1921)
  refer to internal word structure

  - traditionally: a universal scale of less vs. more tightly packed word forms

  - **isolating > agglutinative > flexive > introflexive**
    Chinese Turkish Latin Modern Arabic

  - Recent research: this scale conflates many different typological variables and incorrectly assumes that these parameters covary universally

Morphological typological parameters

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  - **~~isolating > agglutinative > flexive > introflexive~~**

    ✶**fusion**

    ✶**exponence**

    ✶**flexivity**

Fusion

- the degree to which grammatical markers (affixes and clitics) are **phonologically connected** to a host word or stem
- **types:**
  - ✴isolating
  - ✴concatenative (agglutinative/bound)
  - ✴nonlinear (ablaut or tone)

Fusion

- the degree to which grammatical markers (affixes and clitics) are phonologically connected to a host word or stem

- **types:**

  ✶**isolating:**
  every morpheme = an independent full-fledged phonological word

  e.g. **Emai** (Niger-Kordofanian)

ólì	òkpòsò	nwú	émà	yé	ólì	ònwìmè.
DEFINITE	woman	take	yam	to	DEFINITE	farmer

‘The woman took yam to the farmer.’

Fusion

- the degree to which grammatical markers (affixes and clitics) are phonologically connected to a host word or stem
- **types:**
  - ✶isolating
  - ✶**concatenative** (agglutinative/bound) markers are **phonologically bound** to some other word (affixes and clitics), readily **segmentable**

Eton (Bantu, Cameroon)

m-úŋá	á-h-sɔ́m	lə̀-sɔ̀ɛ́
1-child	I-PAST-find	5-hiding.place

‘The child has found the hiding place.’

Fusion

✷**nonlinear:** not segmentable into linear strings, instead realized by direct modification of the stem, e.g. by:

- ablaut
  e.g. **Modern Hebrew** (similar to Arabic)

consonantal skeleton: ***g-d-r* ‘enclose’**
superimpose various vocalisms:

a-a ‘active‘	→ *gadar* ‘he enclosed’
u-a ‘passive‘	→ *gudar* ‘he was enclosed’
-o- ‘future, imperative’	→ gdor ‘enclose it!’

Fusion

✷**nonlinear:** not segmentable into linear strings,
instead realized by direct modification of the stem, e.g. by:

- ablaut
- **tonal modification**
  e.g. **Kinyarwanda** (Overdulve (1987)
  - ‘conjunctive’ subordinate verb forms: high tone on the agreement-marking prefix:
    múkora ‘that you work’
  - ‘relative’ form: high tone on the last stem syllable:
    mukorá ‘which you work (at)’
  - indicative:
    mukora ‘you work’

Fusion

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Fusion

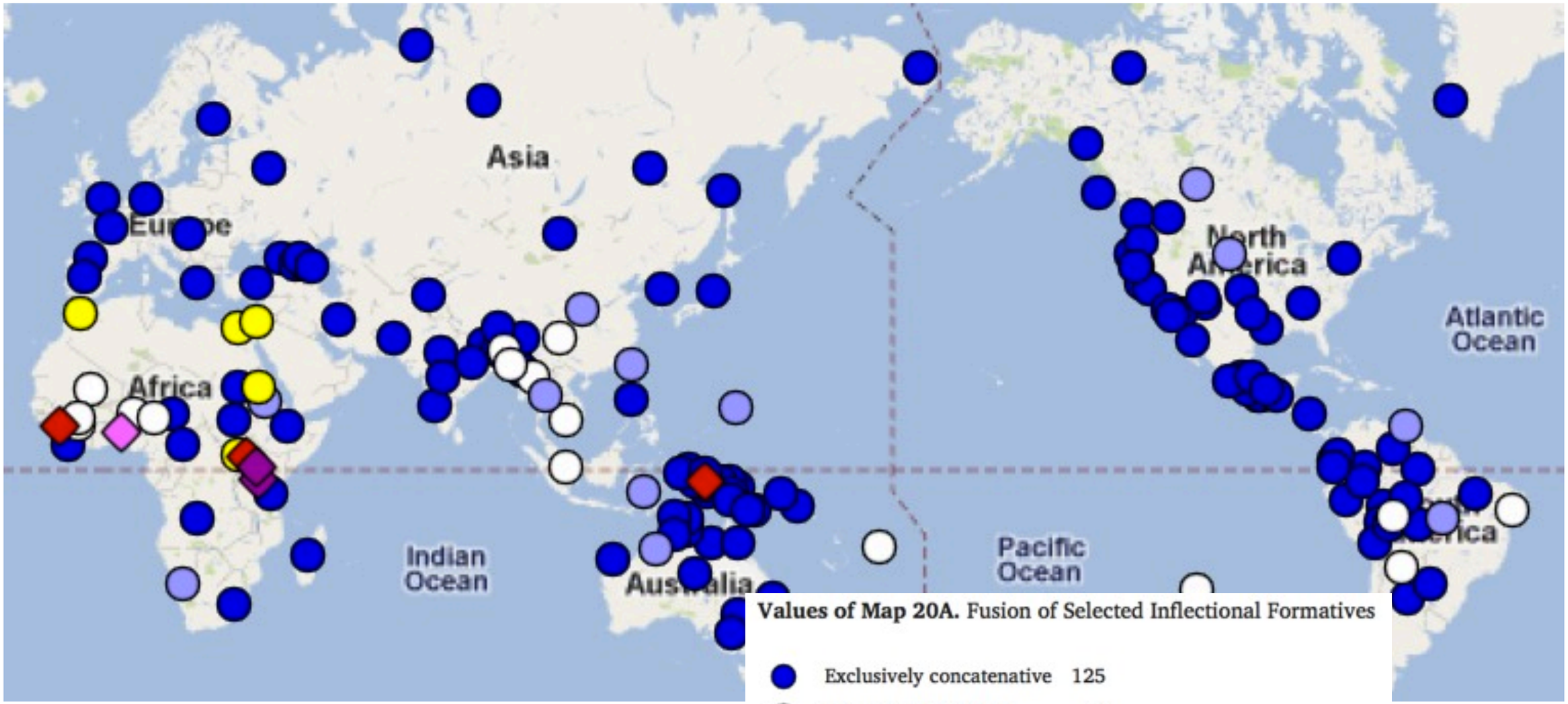
- At the outset of our discussion we assumed, very simplistically, that the typology would consist of three or four ideal types, among which we could distribute the languages of the world. In fact, however, although we can establish these **ideal types**, the majority (perhaps all) of the world's languages do not correspond exactly to one or other of these types, but rather fall between the two extremes on each of the indexes of synthesis and fusion. Thus instead of providing a **discrete typology**, morphological typology provides us with a **continuous typology**, i.e., for a given language we can assign that language a place along the continua defined by the index of synthesis and the index of fusion… (Comrie 1981: 43f.)

Fusion

Values of Map 20A. 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
	total:	165

Fusion (Bickel & Nichols 2005, WALS 20A)



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Flexivity

Flexivity

- Flexive formatives come in sets of variants called allomorphs
- Allomorphs are selected on **lexical, i.e. item-based**, principles.
- **Lango** (Lwo; Uganda; Noonan 1992):
  bùr-â ‘cat‘ - *bùr-ê* ‘cats’
  láŋ-ô ‘Lango’ - *ləŋ-í* ‘Langos’
- Conservative Indo-European languages have sets of case allomorphs which are selected depending on the declension class to which a noun belongs (e.g. Latin, Russian)

Morphological typological parameters

- traditionally: a universal scale of less vs. more tightly packed word forms

  - **isolating > agglutinative > flexive > introflexive**

    traditionally understood as whole-language typologies, with prototypical examples

    Chinese > Turkish > Latin > Modern Arabic

- Conflation of the concatenative/nonlinear and flexive/nonflexive parameters.

- From a broader typological perspective, flexivity is independent fusion, and all possible combinations of values are attested

Semantic density: synthesis and exponence

Semantic density: synthesis

- whether grammatical and semantic categories are realized through separate forms or whether they accumulate in a single form

- Two dimensions of semantic density:

  - **Synthesis:** density on the level of the word

  - **Exponence:** density on the level of the formative

Semantic density on the word level: synthesis

- **Synthesis:** internal complexity of grammatical words
  = **how many morphemes per word**
  In other words: to what extent a language permits morphemes to be combined to form polymorphemic words

- Traditional synthesis types:
  analytic: one word=one/few morphemes
  synthetic: one word=many morphemes
  polysynthetic: one word=very many morphemes

Semantic density on the word level: synthesis

- **Synthesis:** internal complexity of grammatical words
  = **how many morphemes per word**
  In other words: to what extent a language permits morphemes to be combined to form polymorphemic words

- Here: **WORD** = the smallest unit of syntax
  - the formatives of one grammatical word cannot be interrupted by phrasal constructions, e.g. **work he -ed*
  - parts involved are unable to appear on their own, e.g. **he -ed*
  - exhibit only morphological and phonological dependencies (allomorphy selection and phonological fusion), but no syntactic dependencies (agreement or government)
  - typically, grammatical words are also phonologically coherent, but there are exceptions

Semantic density on the word level: synthesis

- **Synthesis:** internal complexity of grammatical words
  = **how many morphemes per word**

  analytic: one word=one morpheme

- **English:** *I will show it to you.*

- **Emai** (Niger-Kordofanian)

ólì	òkpòsò	nwú	émà	yé	ólì	ònwìmè.
the	woman	take	yam	to	the	farmer

‘The woman took yam to the farmer.’

Semantic density on the word level: synthesis

- **Synthesis:** internal complexity of grammatical words
  = **how many morphemes per word**

synthetic: one word=many morpheme

e.g. **Runyoro-Rutooro**
ti-tu-ka-ba-teer-a-ho-ga
NEG-1SG.SBJ-FAR.PAST-3PL.OBJ-beat-VERB.FINAL
‘We have never beaten them at all.’

Semantic density on the word level: synthesis

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polysynthetic: one word=very many morpheme

e.g. **West Greenlandic** (Eskimo-Aleut, Greenland)

anigu-ga-ssa-a-junna-a-ngajal-luinnar-simassa-galuar-put

avoid-PASSIVE-PARTICIPLE-FUT-AUX-NEG-almost-really-must-however-3PL

‘They must really almost have become unavoidable but ...’

Semantic density on the word level: synthesis

- **Synthesis:** internal complexity of grammatical words
  = **how many morphemes per word**

- Traditional synthesis types:
  analytic > synthetic >polysynthetic

- **What about Runyoro-Rutooro?**
  ti-tu-ka-ba-teer-a-ho-ga
  NEG-1SG.SBJ-FAR.PAST-3PL.OBJ-beat-FINAL
  ‘We have never beaten them at all.’

  tu-ka-ba ni-tu-zin-a
  1SG.SBJ-PAST-AUX PRS.PROGR-1SG.SBJ-dance-FINAL
  ‘We were dancing’

Semantic density on the word level: synthesis

- **Synthesis:** internal complexity of grammatical words
  = **how many morphemes per word**

- Traditional synthesis types:
  analytic > synthetic >polysynthetic

- the difference between types is one of **degree**

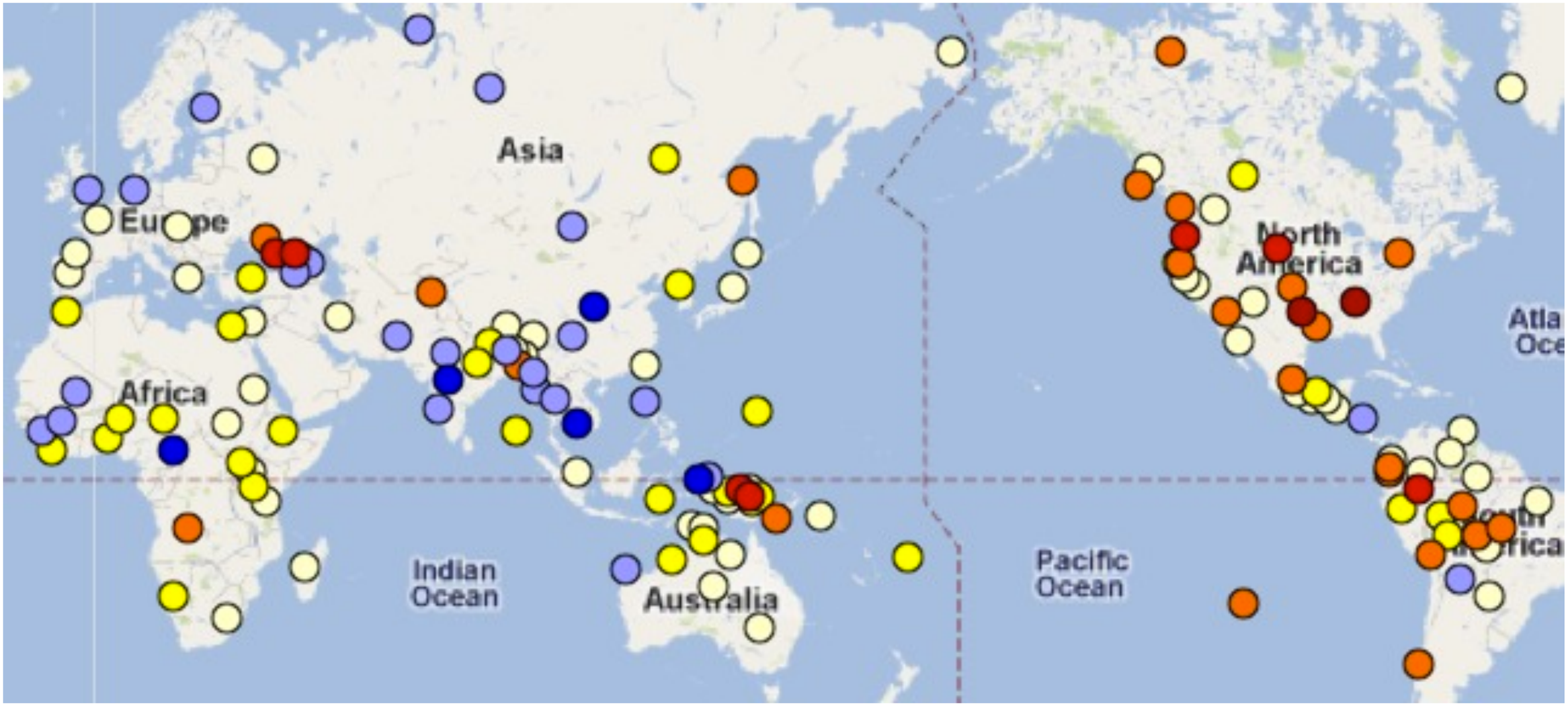
- any categorial distinction ultimately misses the point

- how do we typologize languages then?

Inflectional Synthesis of the Verb (Bickel & Nichols 2005)

- This survey concentrates on the synthesis of inflectional categories with verbs.
- The prime candidates for this are categories like
  - agreement,
  - tense/aspect/mood,
  - evidentials/miratives,
  - status (realis, irrealis, etc.),
  - polarity (negation),
  - illocution (interrogative, declarative, imperative), and
  - voice (pactive, passive)

Inflectional Synthesis of the Verb (Bickel & Nichols 2005)



Semantic density on the formative level: exponence

- whether grammatical and semantic categories are realized through separate forms or whether they accumulate in a single form
- Two dimensions of semantic density:
  - **Synthesis:** density on the level of the word
  - **Exponence:** density on the level of the formative
    degree to which different categories are grouped together in single, indivisible formatives (e.g. number & case, or person & tense)

Semantic density on the formative level: exponence

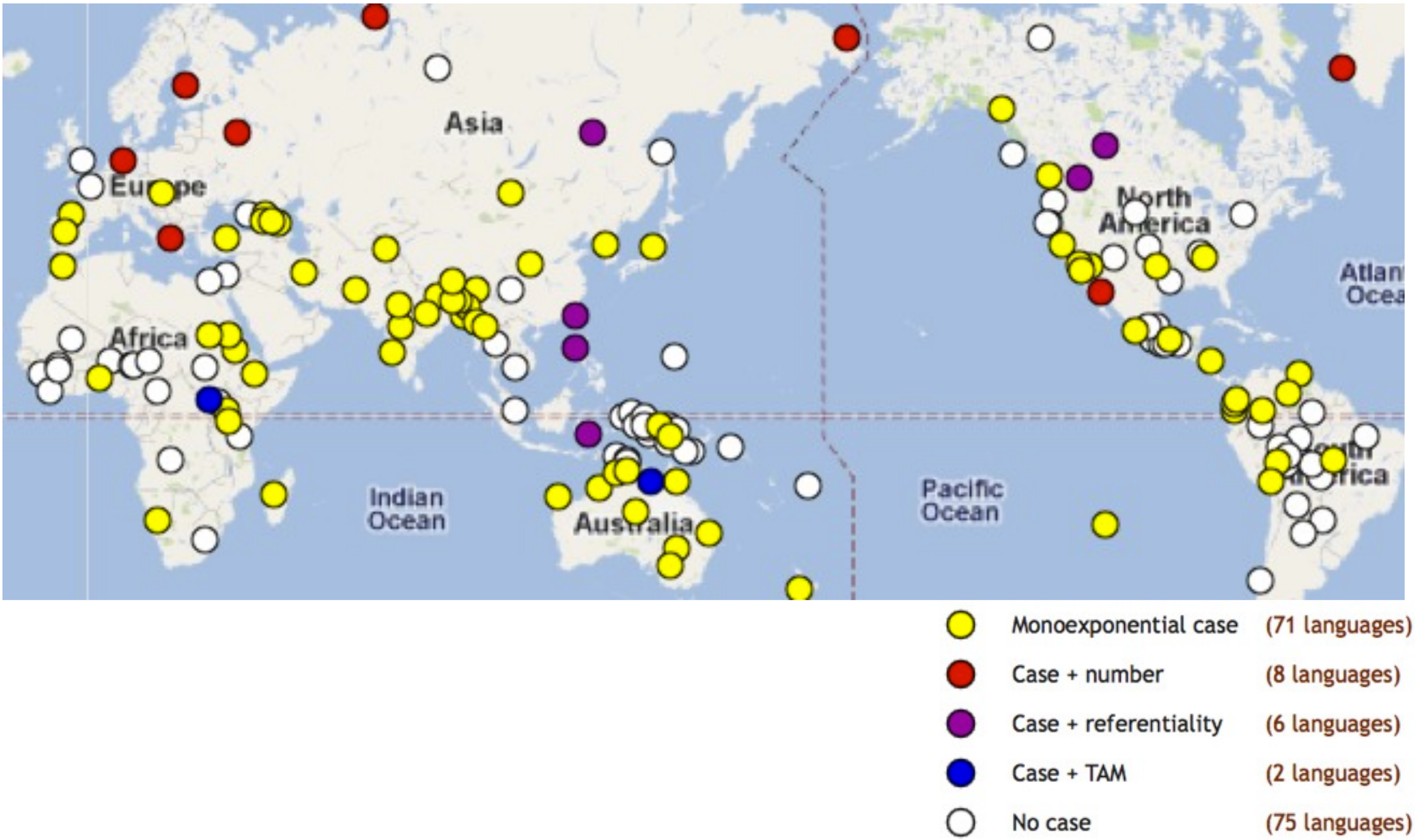
- Two prototypes:
  - **cumulative** formatives: several categories in one formative
    Russian: ‘cat’

	Singular	Plural
Nominative	*košk-a*	*košk-i*
Accusative	*košk-u*	*košek*
Dative	*košk-e*	*košk-am*
Instrumental	*košk-oj*	*košk-ami*

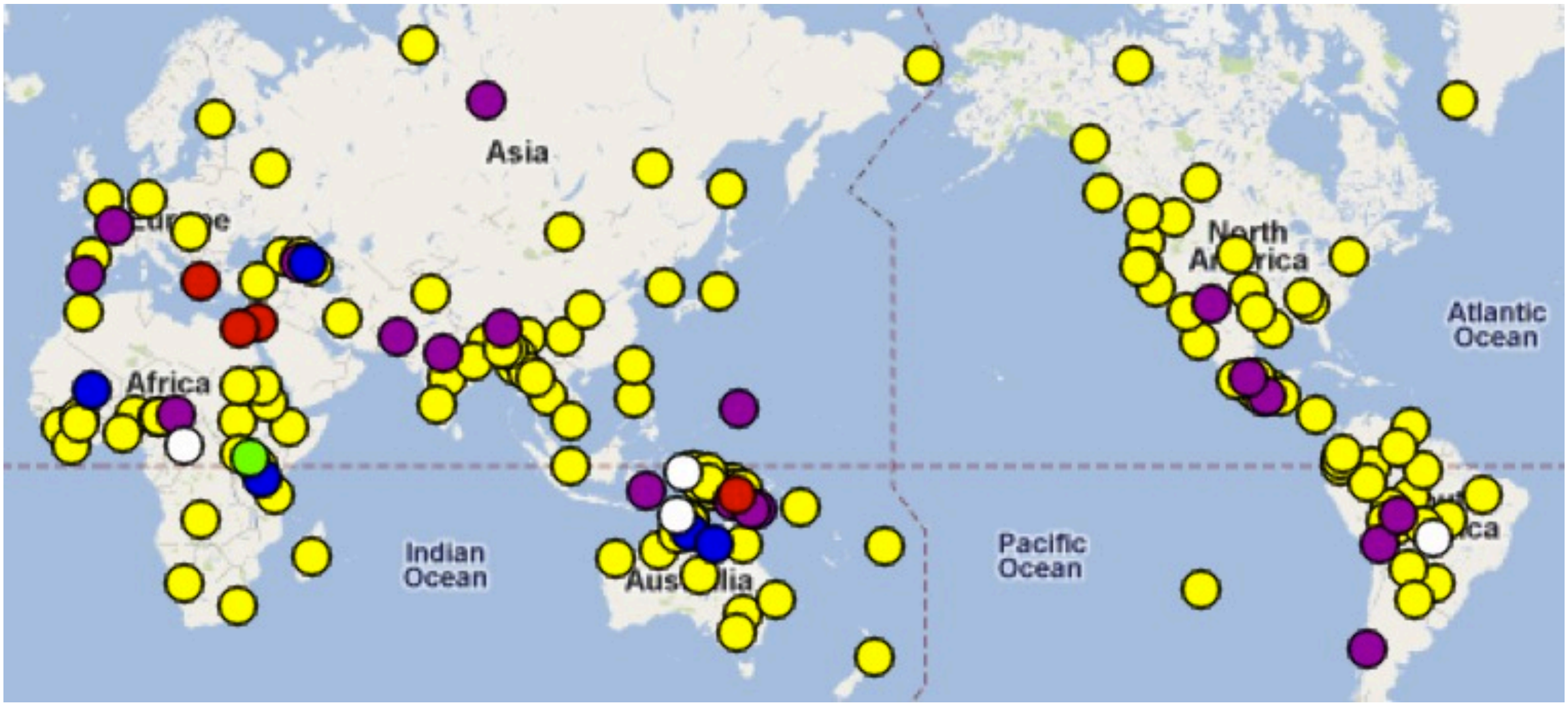
  - **separative** formatives: one category at a time
    Turkish: ‘man’

	Singular	Plural
Nominative	*ember*	*ember-ek*
Accusative	*ember-et*	*ember-ek-et*
Dative	*ember-nek*	*ember-ek-nek*
Locative	*ember-ben*	*ember-ek-ben*

Exponence of Selected Inflectional Formatives (Bickel & Nichols 2005)



Exponence (Bickel & Nichols 2005)



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    ✶fusion

    ✶semantic density (exponence and synthesis)

    ✶**flexivity**