Case in head-marking languages: towards a comprehensive typology

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Roadmap

- Disclaimer
- What it is all about
- Database and sample
- Some quantitative observations
- The typology
- Summary and outlook

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    - My FRIAS scholarship allowed me to finally resume this work and I plan to make some progress, both empirical and conceptual.
    - Your comments and advice will be most welcome!

What it is all about

- Dependent-marking (flagging, DM) is morphological marking of participants expressed by nominals for the grammatical and/or semantic role they play in the sentence.

- Head-marking (indexing, HM) is morphological indexation on the predicate of such properties of participants as person, number and gender, as well as their grammatical and/or semantic role.

Nichols 1986, 1992, Lander & Nichols 2020, Haspelmath 2013, 2019

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- They serve as typologically-grounded extensions of such notions as "case-marking" and "verbal agreement" or "cross-referencing", respectively.

- Both are grammatical mechanisms central for the encoding of syntactic and semantic relations in many languages of the world.

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- Dependent-marking (flagging)

(1) Japanese (Altaic; constructed)
    shōjo-ga   *shōnen-o*   *mi-ta*
    girl-NOM   boy-ACC   see-PST
    'The girl saw the boy.'

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a-phʷəspa   *a-čʼḳʷən*   *də-l-ba-ṭ*
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(3)   Gooniyandi (Bunaban, Australia; McGregor 1990: 322)
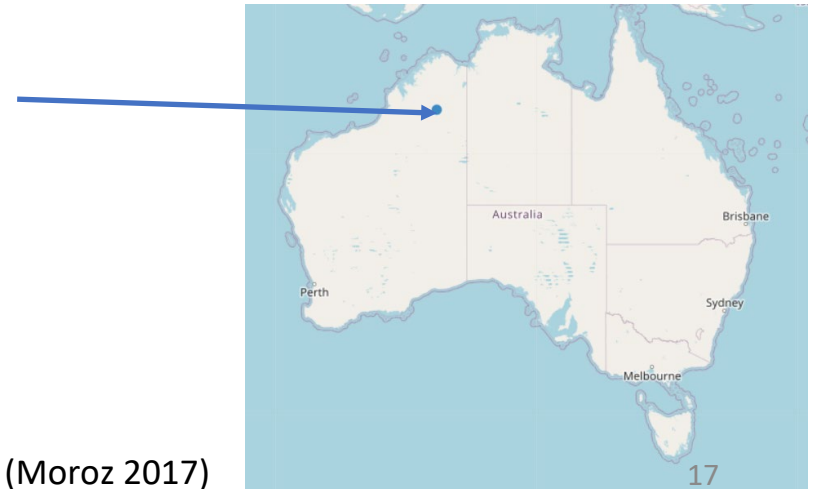   *nganyi-ngga mawoolyi-yoo   mila-limi-widdangi*
    1SG-ERG   children-LOC   see-1SG.SBJ-3PL.OBJ
    'I glanced at the children.'

Map created with Lingtypology (Moroz 2017)

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- E.g. Kibrik (2012: 213): "the head-marking technique of role-marking is functionally equivalent to nominal cases".

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  - inverse preferences of HM and DM with respect to core vs. peripheral semantic roles (Nichols 1986);
  - double-marking for agents, patients and recipients (Bakker & Siewierska 2009, qualified in Arkadiev 2013, 2016);
  - some rather bold claims within the generative framework, e.g. "NPs do not have grammatical Case in any polysynthetic language" (Baker 1996: 132) or "There is no true ergative agreement" (Woolford 2006: 304).

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  - To what extent and under which conditions do HM and DM match each other or function independently?
  - What (if anything) motivates rare patterns of interactions between HM and DM attested in individual languages and language families or areas?

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  - to arrive at a comprehensive typology of the interactions of DM and HM, with attention to both cross-linguistically recurring and rare patterns;
  - to try to uncover functional, diachronic and areal motivations behind these patterns and their distribution.

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  - However, most grammatical theorizing so far has been based on the European languages, which are predominantly DM.
  - At the same time, a whole line of research within both functionalist (e.g. Van Valin 1985, 2013; Kibrik 2012) and formalist (e.g. Jelinek 1984; Jelinek & Demers 1994; Baker 1996) traditions has emphasized the sharp contrast between DM- and HM-languages, downplaying the fact that DM and HM often co-occur.

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  - Both types of bias have to be overcome in order for an empirically adequate typology and theory of grammatical relations to be possible (cf. e.g. Witzlack-Makarevich & Bickel 2019).

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    - available, readable, sufficiently detailed and realiable sources are crucial.

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  - not limited to verbal affixes: e.g. Wackernagel clitics are also included ("construction-marking", Lander & Nichols 2020).

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  - all languages where any type of DM (including adpositions) is able to co-occur with HM, are included.

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    - distribution of HM and DM (complementarity vs. co-occurrence);
    - patterns of double-marking (e.g. which morphological cases allow simultaneous indexing);
    - presence of valency-changing mechanisms affecting HM and DM, in particular, applicatives.

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  - 190 entries, some of them just "placeholders";
  - 132 entries after revision and cleaning last week, for which I think I have sufficient reliable information;
  - all macroareas, 51 family (83 genera) + 14 isolates.

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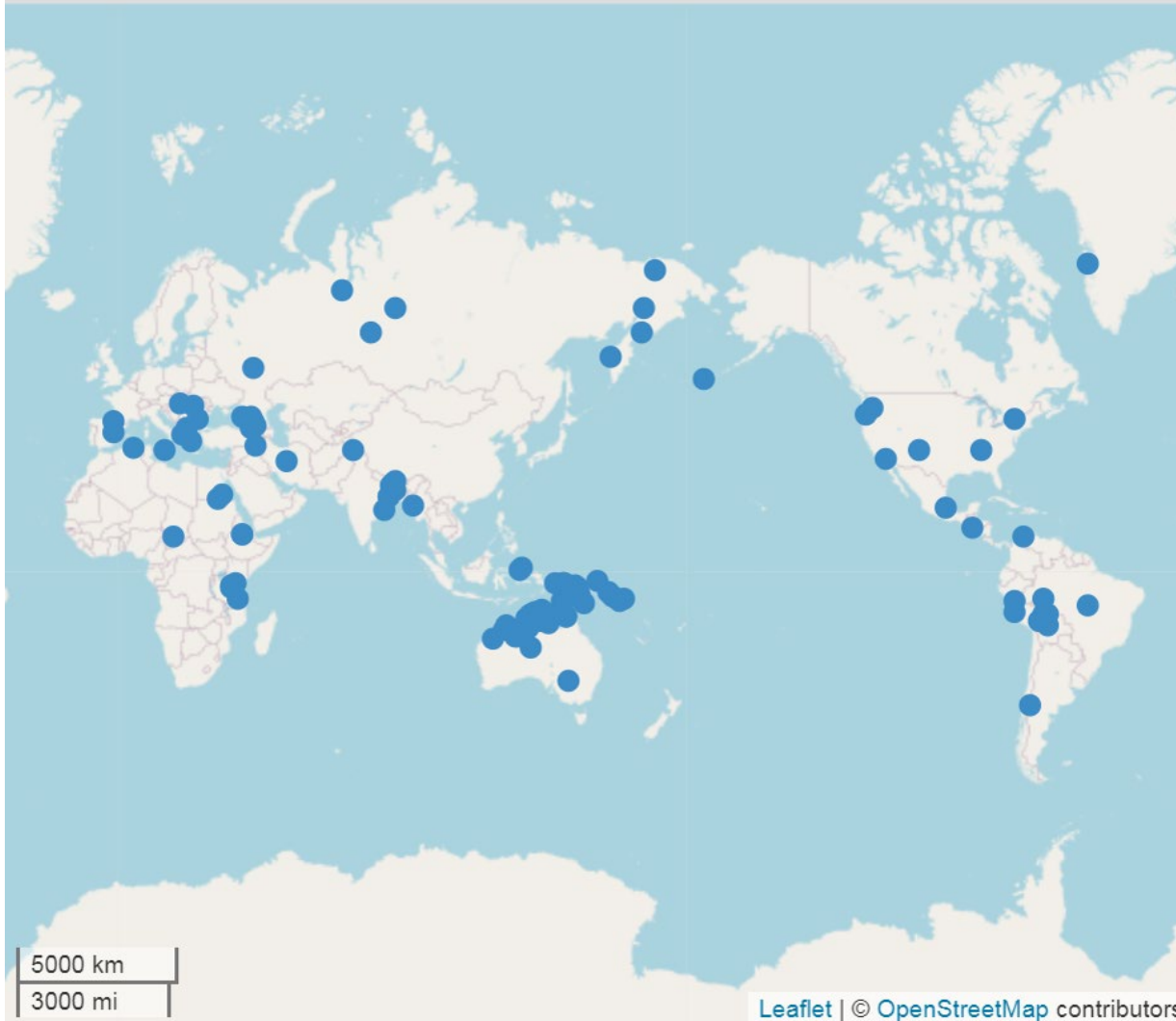
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Macroarea	No. languages	No. families (genera)
Africa	10	3 (7)
Eurasia	37	11 (22)
Australia	38	17 (27)
Oceania	26	16 (20)
North America	10	8 (10)
South America	11	11 (11)

NB Semitic (Afroasiatic) in both Africa and Eurasia

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- Clear bias towards (Northern) Australia and Papua

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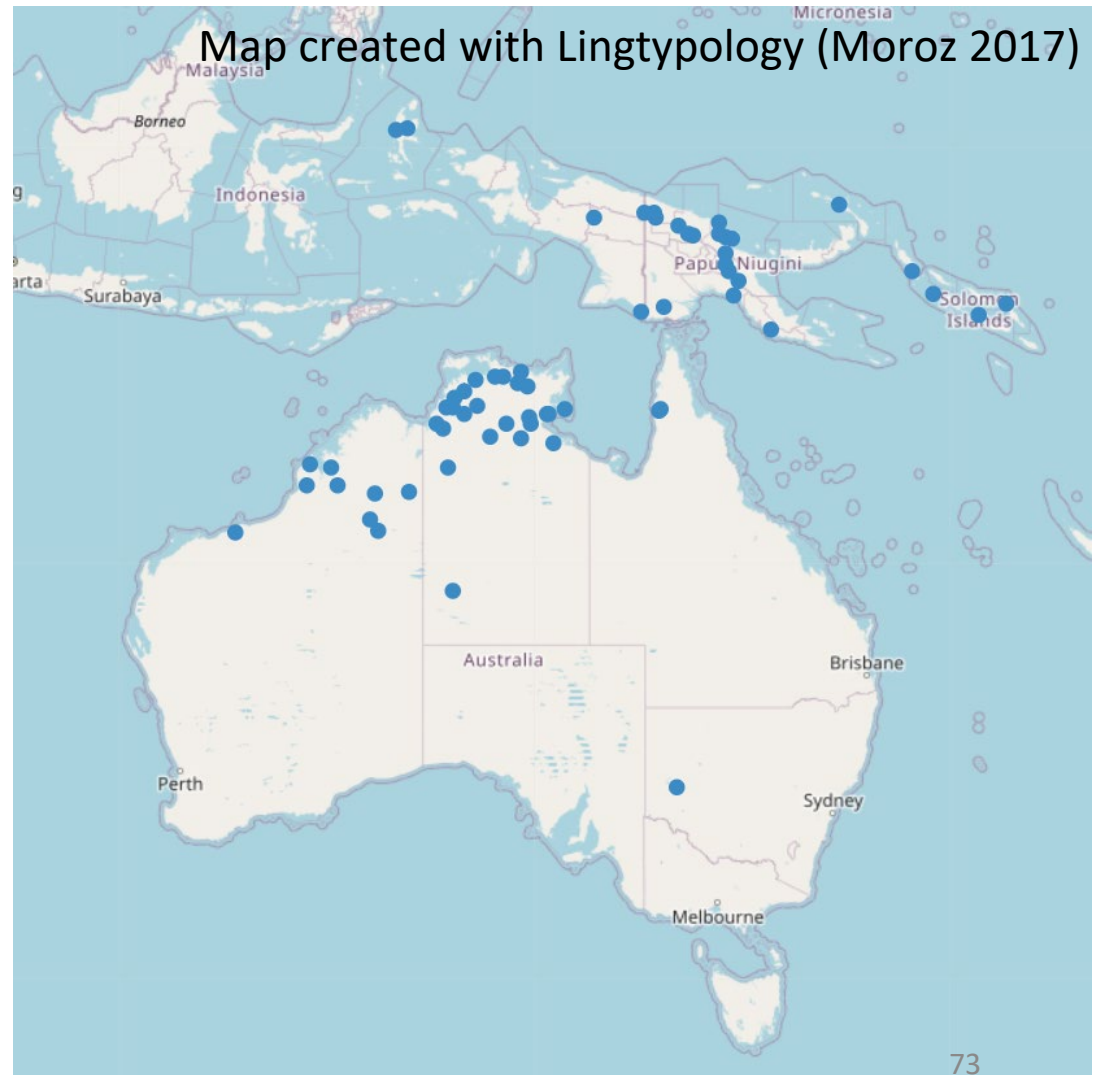
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- Some better-represented language families:
  - Afroasiatic   9
  - Pama-Nyungan   9
  - Indo-European   8
  - Nuclear Trans-New-Guinean   7
  - Gunwinyguan   6
  - Kartvelian   5

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No.	languages	families	genera	example
1-2	18	12	15	Yimas
3-4	17	13	15	Nobiin
5-6	25	16	22	Albanian
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unclear or n/a	19	11	12	Macedonian

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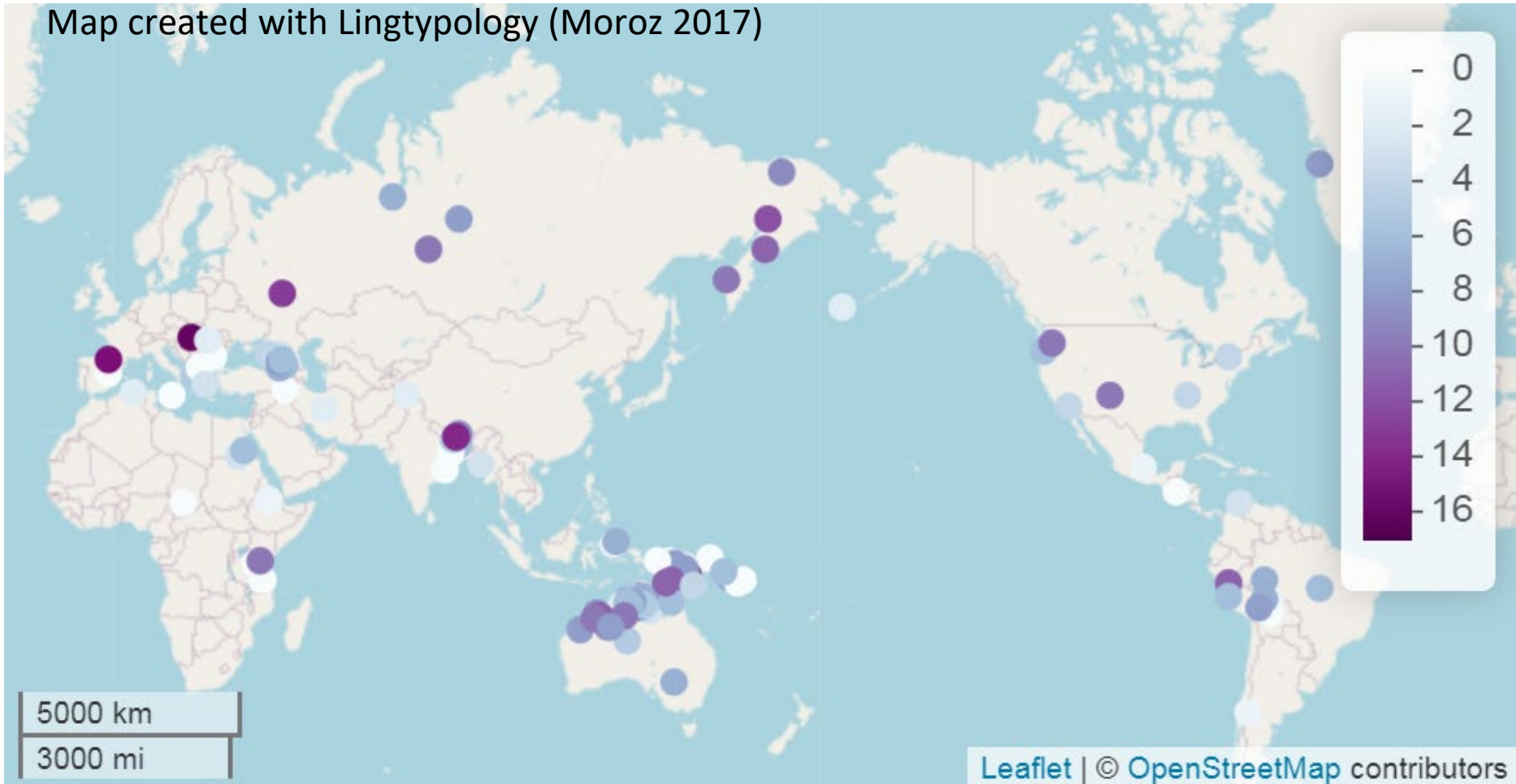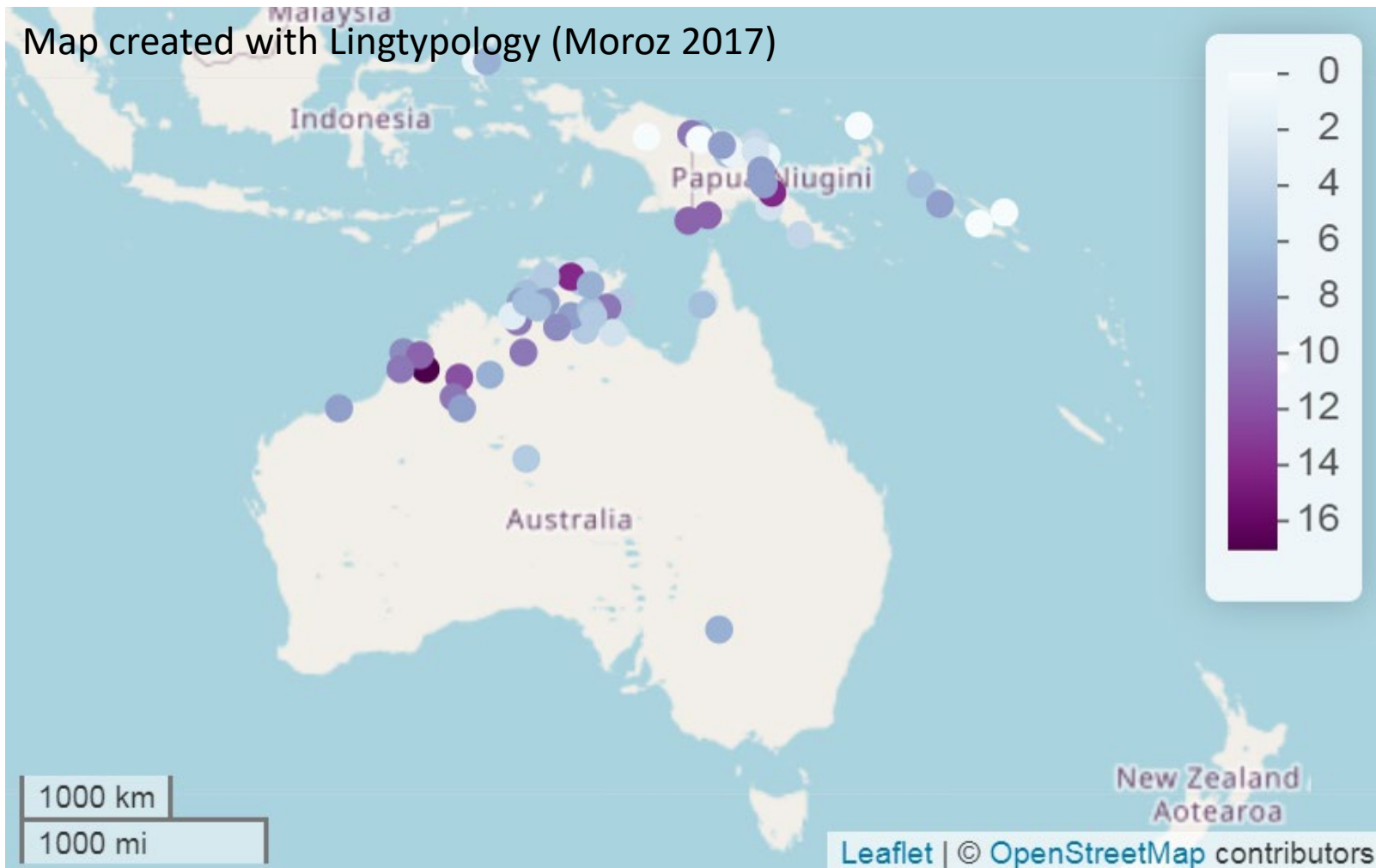
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- The world-wide data from WALS on number of cases (Iggesen 2013) combined with the data on verbal person marking (Siewierska 2013) is, unfortunately, not directly comparable due to diverging definitions of case.

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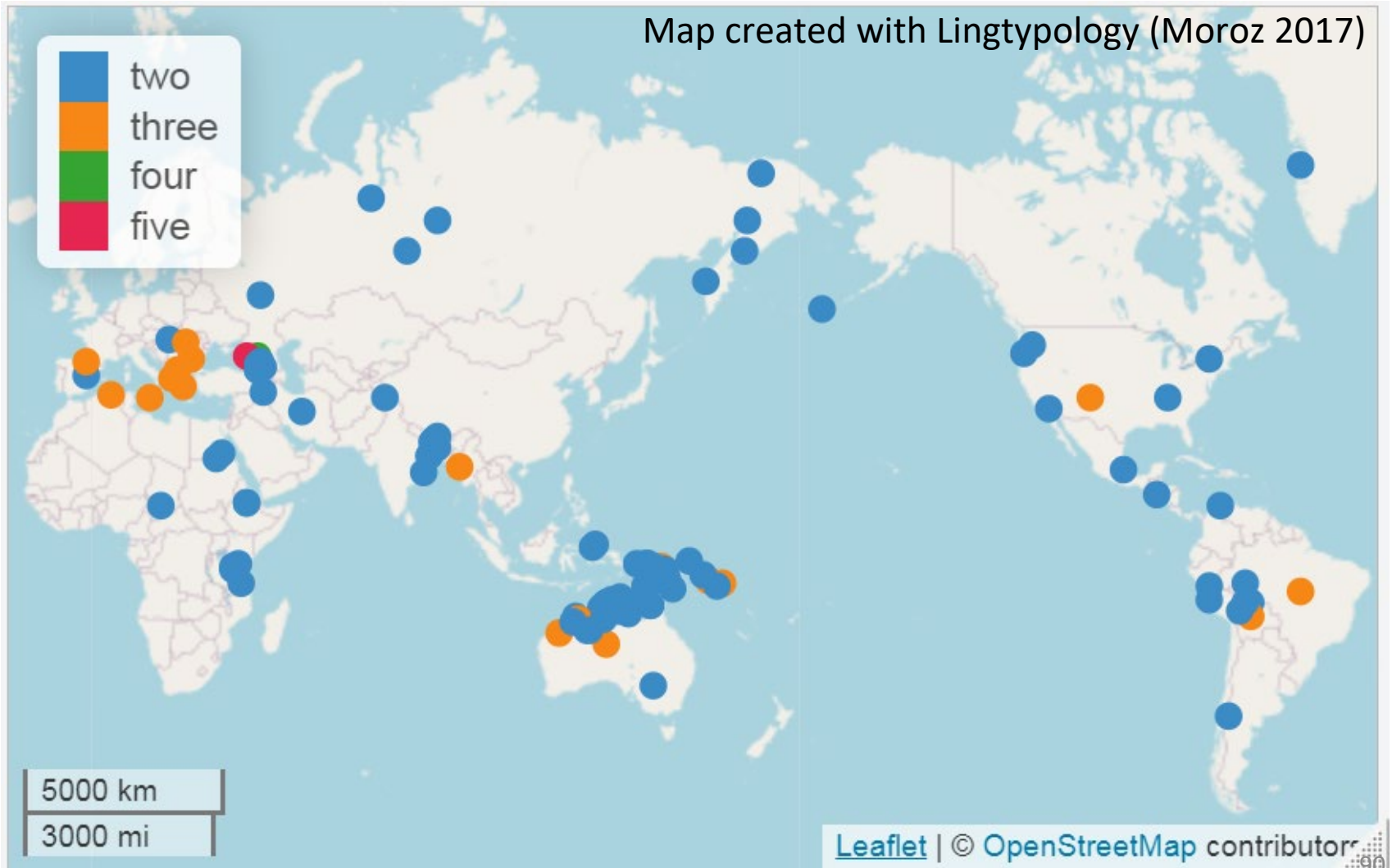| No.	languages	families	genera	example
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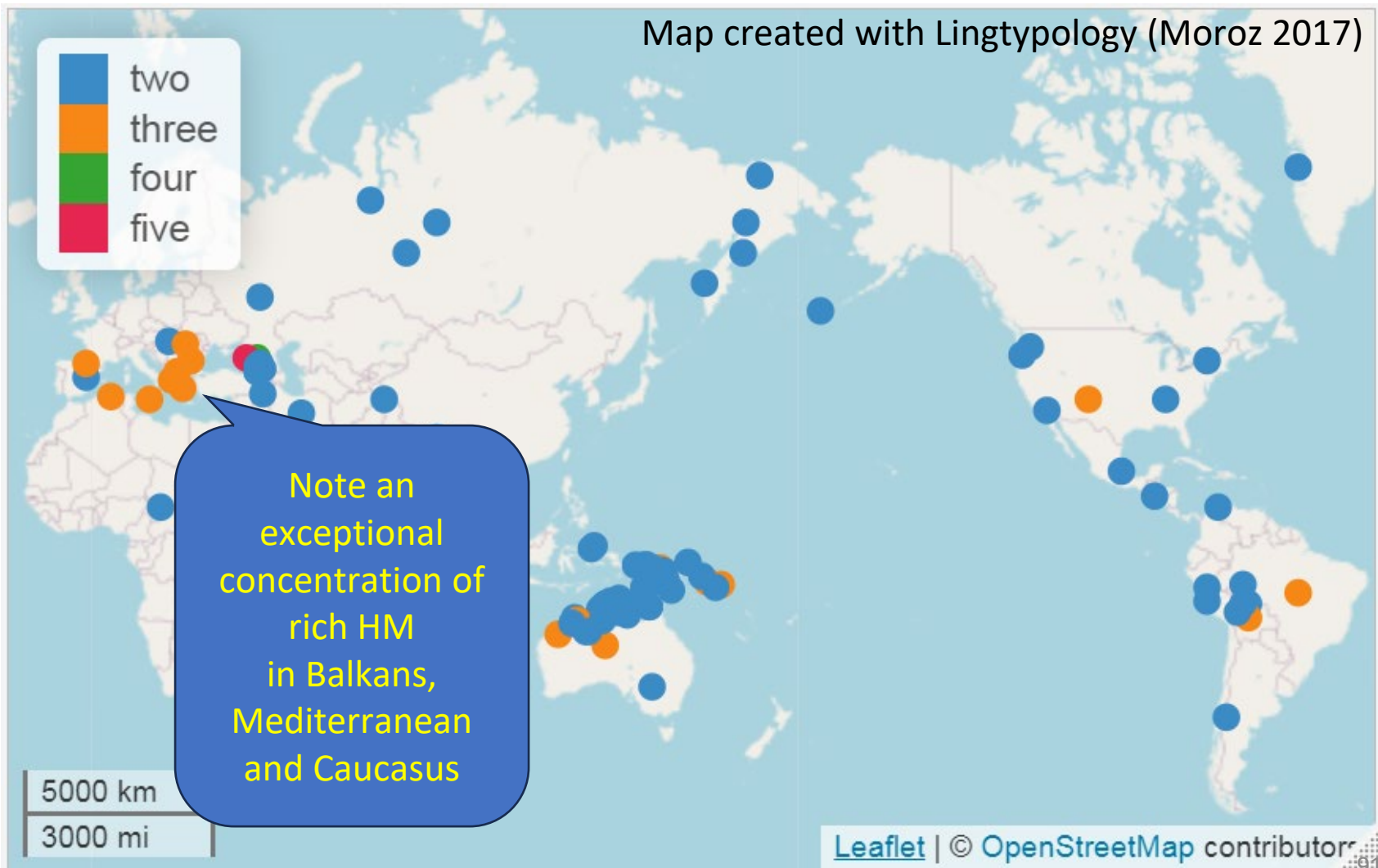
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five

5000 km
3000 mi

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Number of indexed participants

Map created with Lingtypology (Moroz 2017)

Number of indexed participants

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Some quantitative observations

- Monotransitive alignment (differential accusative/optional ergative marking merged with accusative resp. ergative):

type	languages	families	genera	example
neutral	41	31	35	Mapudungun
accusative	30	17	25	Amharic
marked-nominative	3	3	3	Kaki Ae
ergative	45	28	38	Chukchi
active	4	4	4	Nyigina
tripartite	4	3	3	Yakima
no dominant	5	3	5	Svan

Some quantitative observations

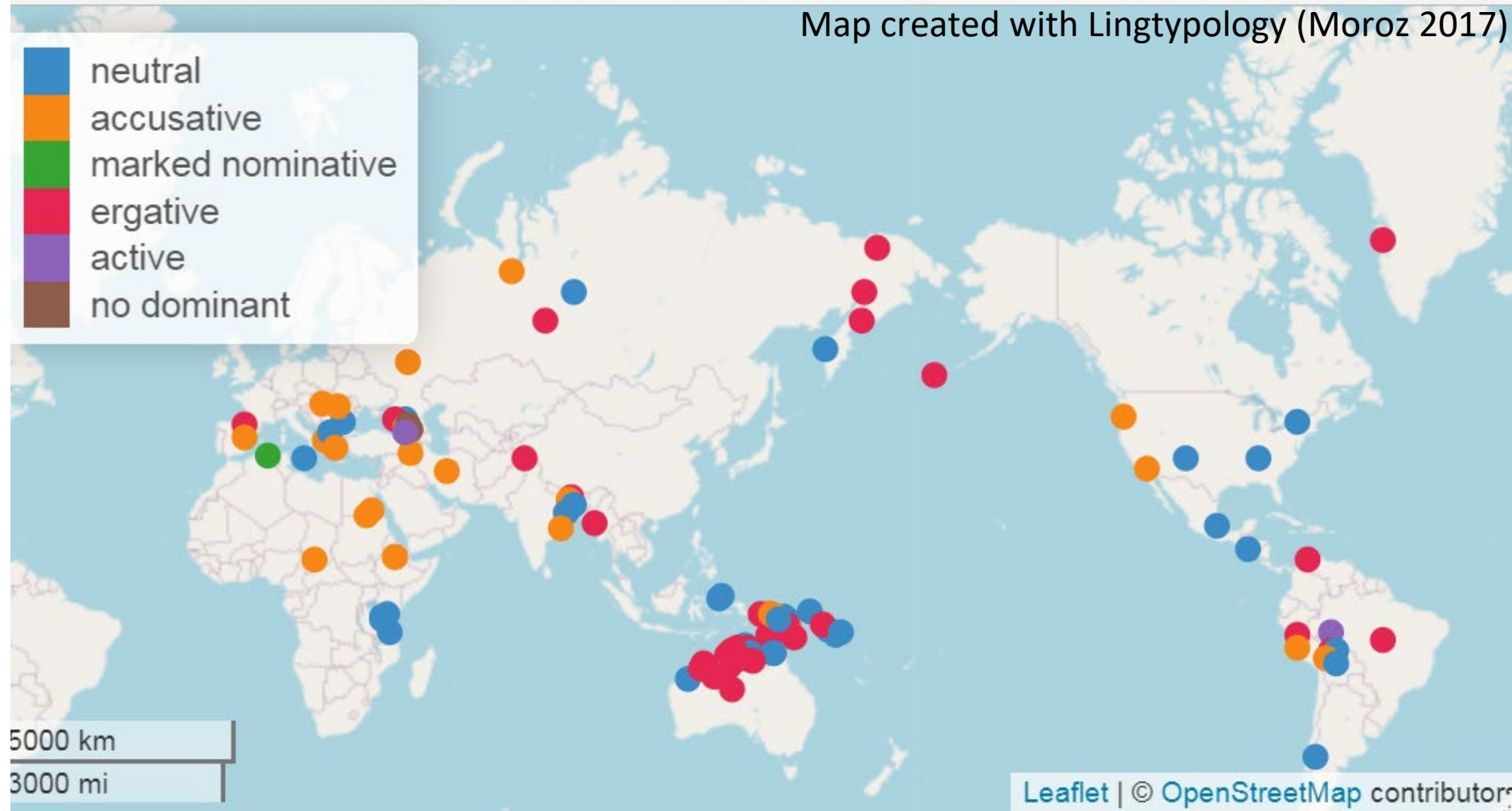- Monotransitive alignment (differential accusative/optional ergative marking merged with accusative resp. ergative):

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A notably high incidence of ergative alignment, even when stratified
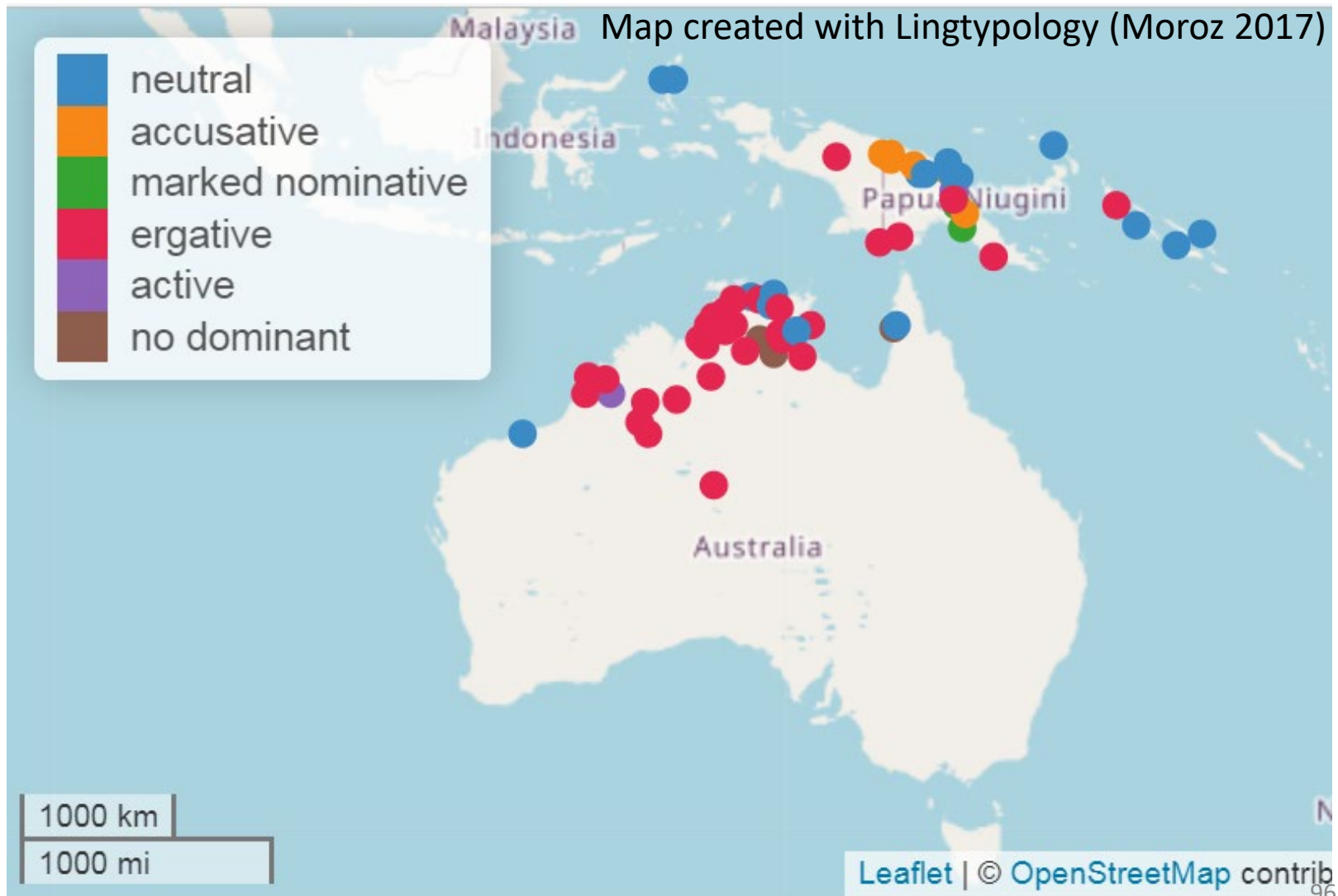
Monotransitive alignment

Monotransitive alignment

Map created with Lingtypology (Moroz 2017)

Legend:
- neutral
- accusative
- marked nominative
- ergative
- active
- no dominant

1000 km
1000 mi

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Monotransitive alignment

Some quantitative observations

- For comparison, the world-wide distribution of monotransitive alignments (WALS, Comrie 2013):

type	total lgs.	lgs. indexing both A and P
neutral	98	60
accusative	46	13
marked-nominative	6	4
ergative	32	17
active	4	2
tripartite	4	1

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active		2
tripartite		1

No statistically significant differences apart from a higher preference for neutral alignment at the expence of the accusative

Some quantitative observations

- Number of overt flagging-types that can be simultaneously indexed:

No.	languages	families	genera	example
0	30	22	25	Alamblak
1	45	28	39	Cahuilla
2	31	20	28	Maithili
3	18	11	15	Molalla
4	4	2	3	Pintupi
5	2	2	2	Panará
6	2	2	2	Djaru

Number of "indexed flags"

Map created with Lingtypology (Moroz 2017)
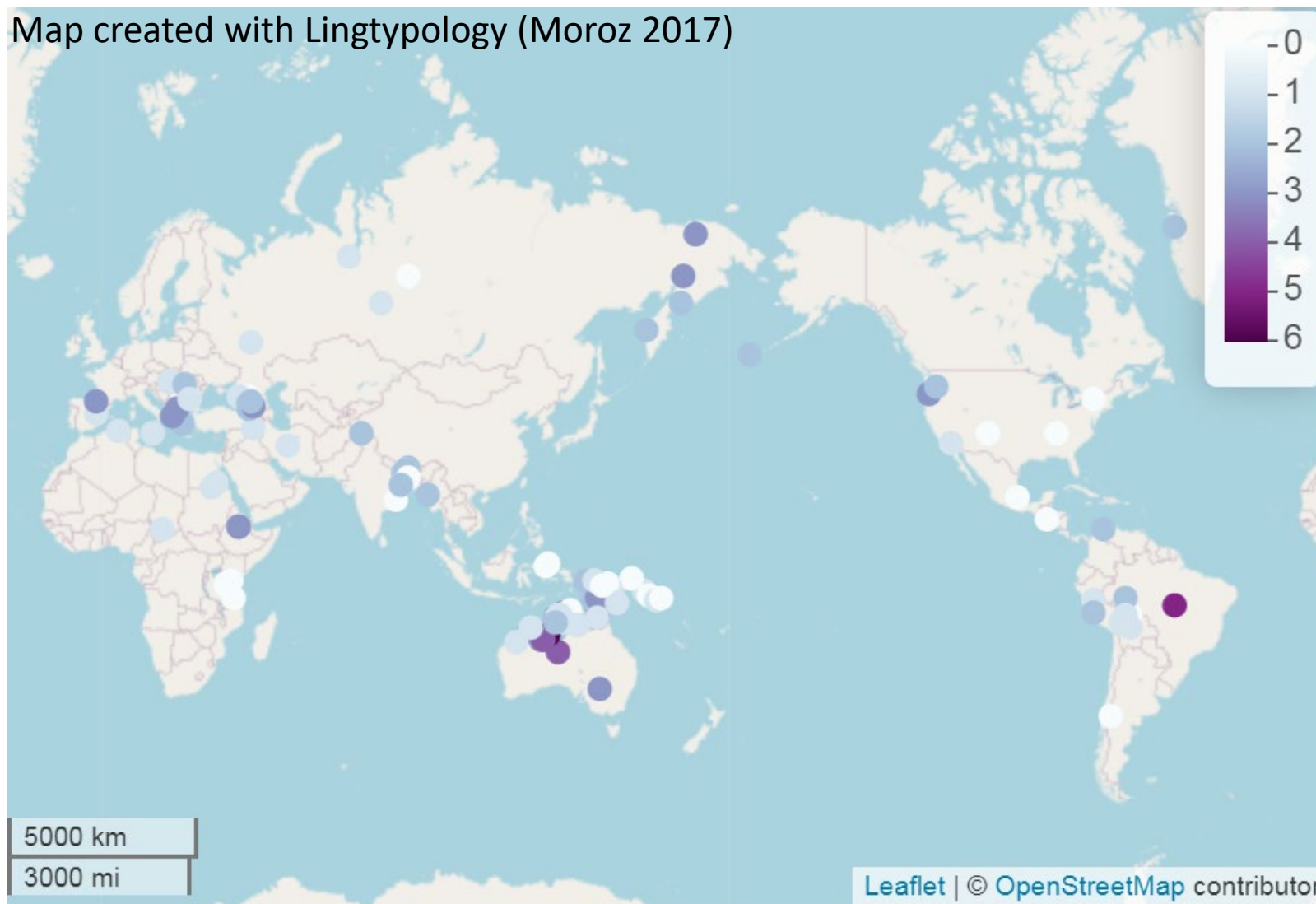
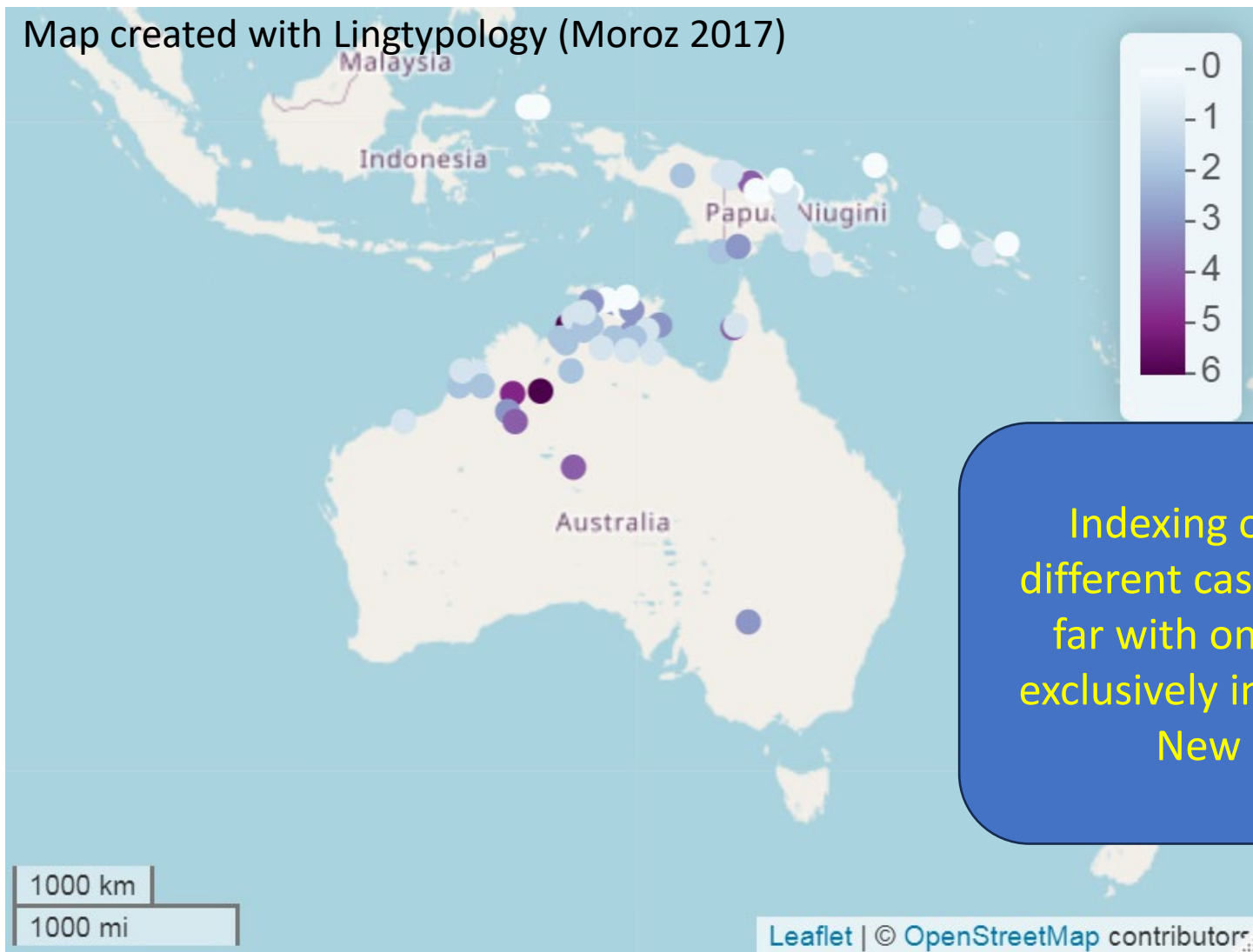# Number of "indexed flags"

Map created with Lingtypology (Moroz 2017)

Indexing of 4 or more different cases is found (so far with one exception) exclusively in Australia and New Guinea

Some quantitative observations

- Which overt flagging-types are indexed
  (NB I count "cases", not semantic roles, but labels are – as far as possible – role-based):

flagging-type	languages	families	genera	example
ergative	52	26	40	Tauya
dative	41	18	28	Maltese
accusative	23	15	22	Moksha
spatial	20	13	16	Ungarinjin
objective	13	8	11	Georgian
nominative/ absolutive	10	6	7	Aleut
other	25	22	25	Pintupi

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"Avoidance" case

Indexation of "weird" cases

- Pintupi (Pama-Nyungan > Desert Nyungic; Hansen & Hansen 1978: 61)

(5) *maḻaku=latju-tjanampalura*   *pitjangu*
return=1PL.EX.SBJ-3PL.AV   went
maḻpu-ngkamarra patjal-tjakumarra
spirit-AV   biting-AV
'We turned back to avoid the spirits biting us.'

AV – avoidance, EX – exclusive
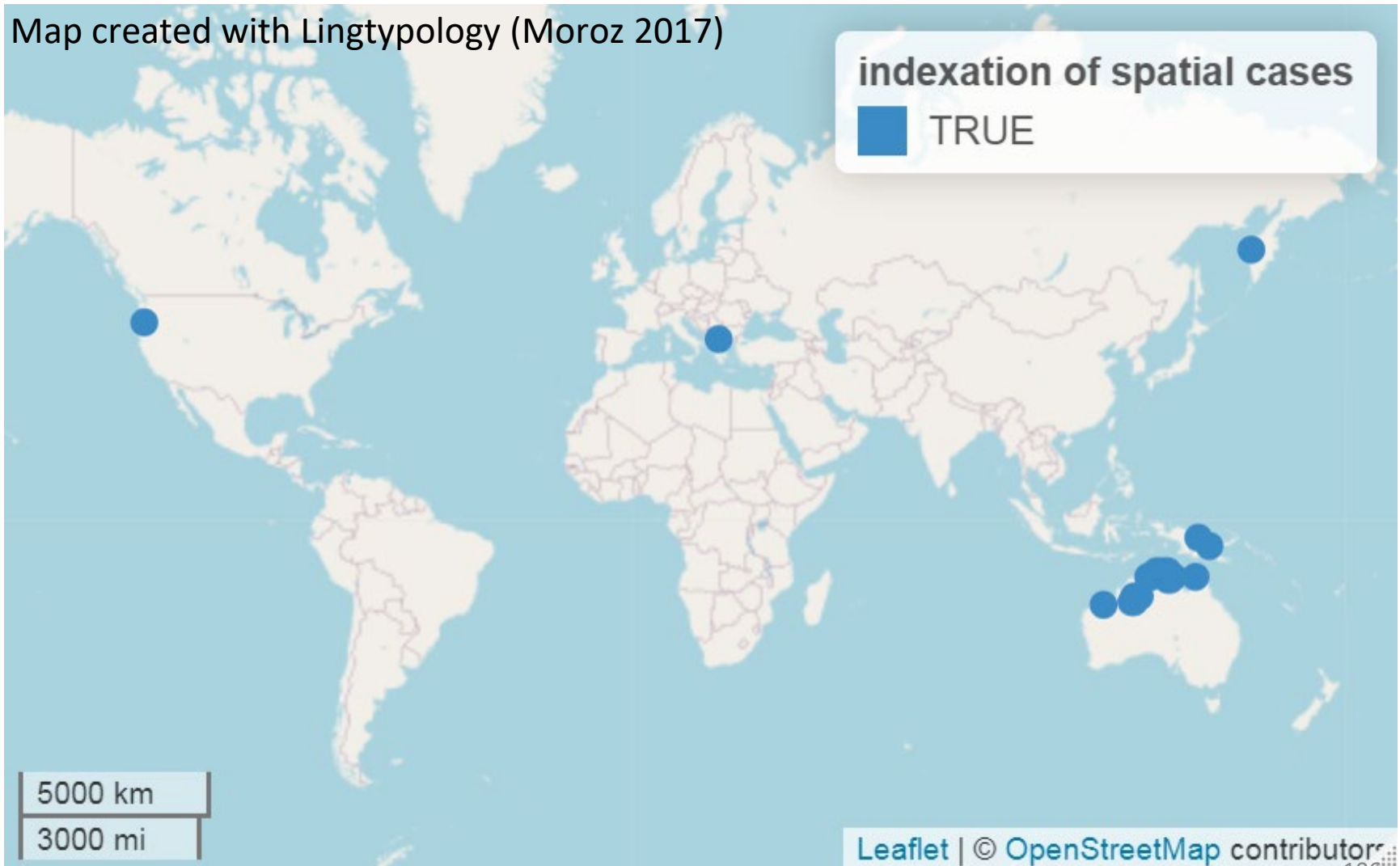
Map created with Lingtypology (Moroz 2017)

Indexation of spatial cases

Map created with Lingtypology (Moroz 2017)

Indexation of spatial cases

Map created with Lingtypology (Moroz 2017)

indexation of spatial cases
TRUE

Yet another salient (Northern) Australian feature, largely neglected in typology

5000 km
3000 mi

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Indexation of spatial cases
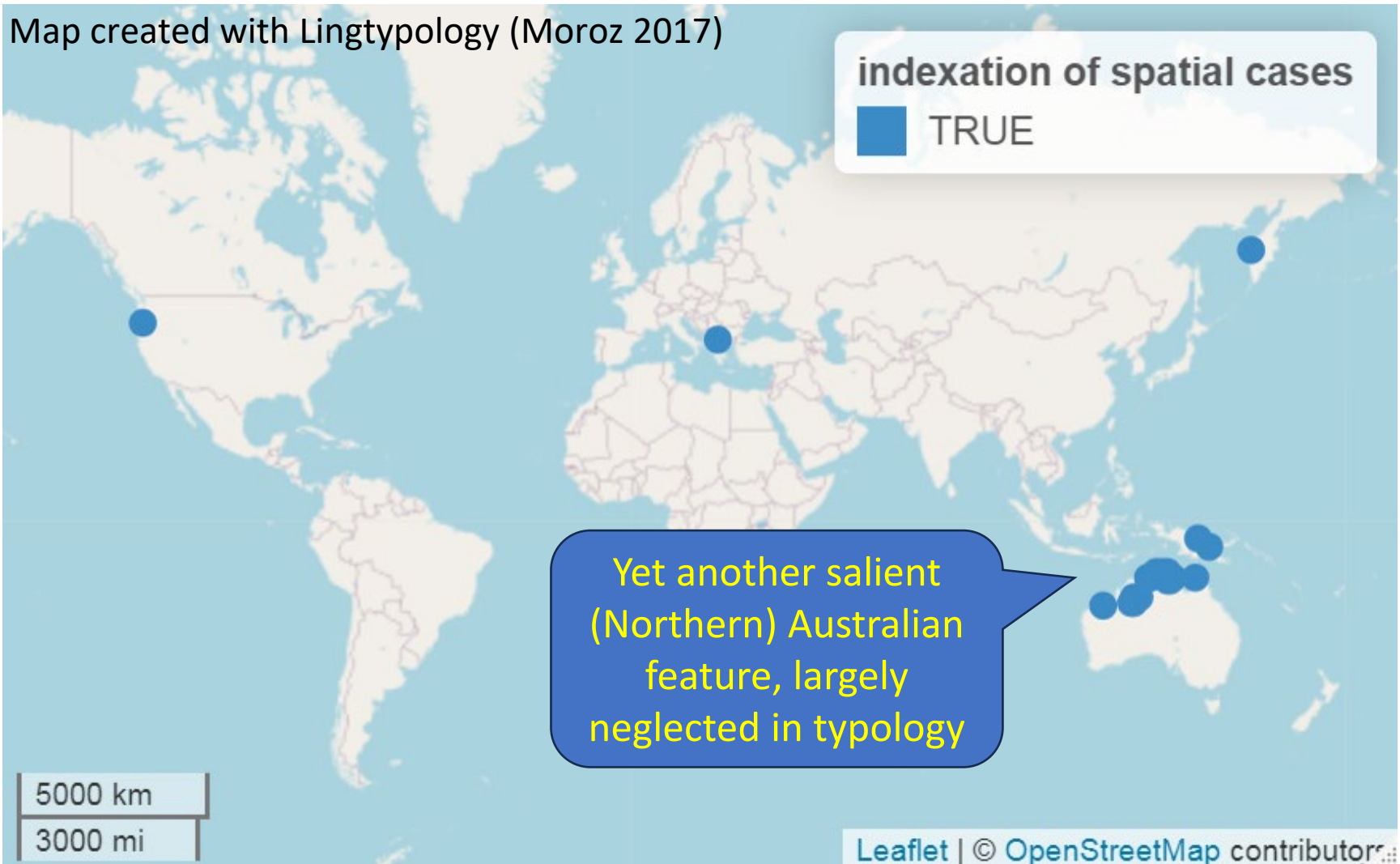

Map created with Lingtypology (Moroz 2017)
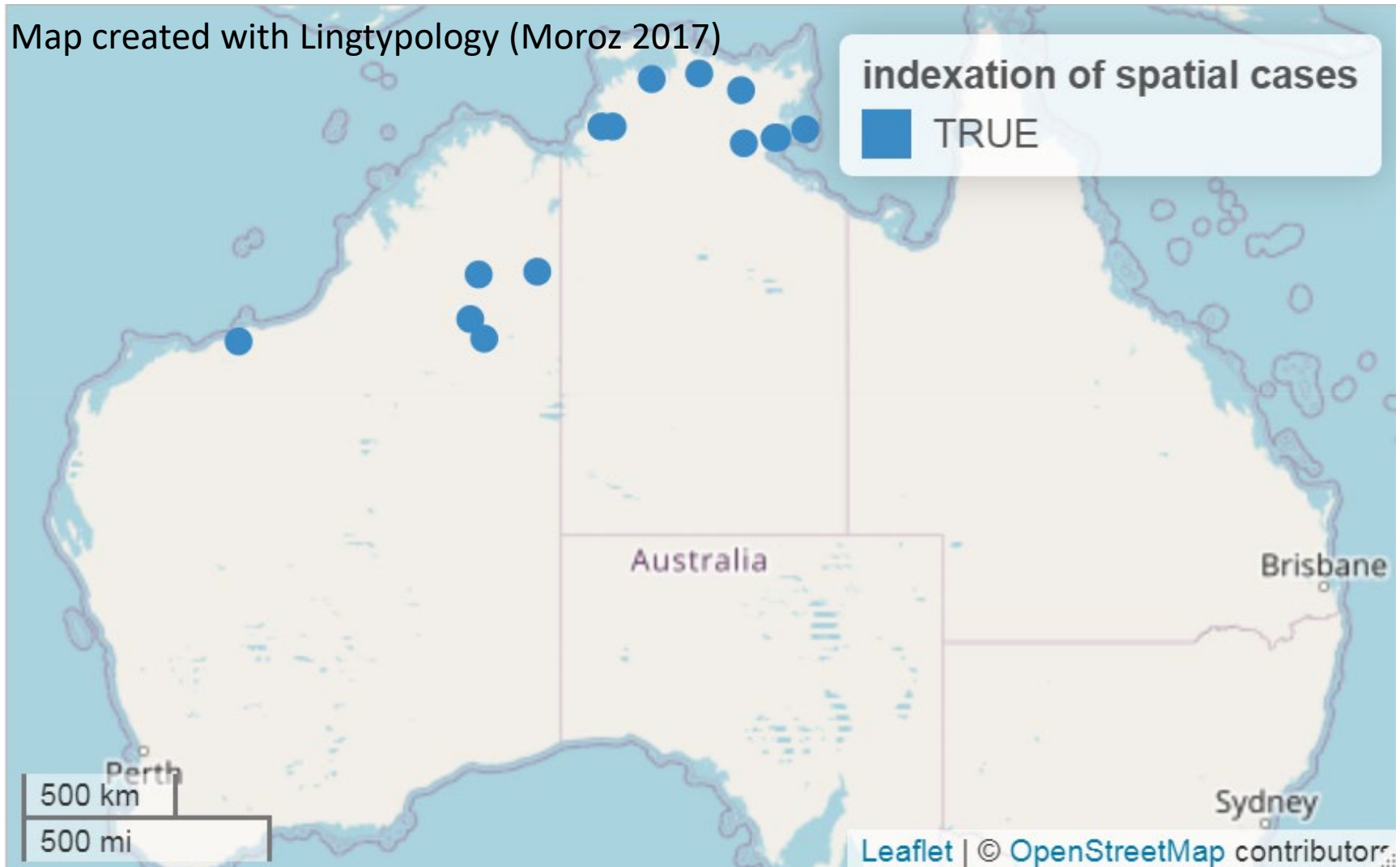
Indexation of spatial cases

- Djaru (Pama-Nyungan > Desert Nyungic)

(6) *ŋaɟu*   *ŋa=ŋa=ɲanda*   *jan-i*   *mawun-dawu*.
    1SG.ABS   AUX=1SG.NOM=3SG.OBL   go-PST   man-ALLAT
    'I went to a man.' (Tsunoda 1981: 104)

(7) *mawun*   *ŋa=ŋguwulala*   *wuŋa jan-i*   *ɲunbulaŋiɲ-ŋu*.
    man   AUX=2DU.OBL   away go-PST   2DU-ABL
    'A man went away from you (two)' (ibid.: 115)

Map created with Lingtypology (Moroz 2017)

Some quantitative observations

- Some further aspects omitted here:
  - alignment of HM;
  - alignment in ditransitive constructions;
  - morphological status of indexes (affixes, clitics, free words): should be defined in a meaningful way first;
  - marking (head-, dependent-, double-) of particular semantic relations: not yet systematically coded, on my to-do-list.

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Roadmap

- Disclaimer

- What it is all about

- Database and sample

- Some quantitative observations

- The typology

- Summary and outlook

Roadmap

- Disclaimer
- What it is all about
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- **The typology**
- Summary and outlook

The typology

- A preliminary classification into three major types:
  - complementary (A): overt DM is incompatible with HM, e.g. Yimas;
  - harmonic (B): particular patterns of HM and DM match each other to a significant degree, e.g. Modern Greek;
  - disharmonic (C): DM and HM show systematic mismatches and operate largely independently of each other, e.g. Burushaski.

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The typology

- Complementary systems

	DM	HM
role 1	yes	no
role 2	yes	no
role 3	no	yes
role 4	no	yes

The typology

- Harmonic systems

	DM		HM
role 1	no	———————	h1
role 2	d1	———————	h2
role 3	d2	———————	h3
role 4	d3	———————	no

The typology

- Disharmonic systems

	DM	HM
role 1	d1	h1
role 2	d2	h1
role 3	d2	h2
role 4	d3	h2 or no

The typology

- Disharmonic systems

DM   HM

d1 —— h1
d2 —— h2
d3 —— no

The typology

- **Some caveats:**
  - the proposed types are to a considerable degree idealised and will be revised and probably even refuted;
  - it is particularly hard to draw a clear boundary between the harmonic and the disharmonic types, e.g. because many languages combine more or less (dis)harnomic subsystems;
  - transitional cases abound, especially between the complementary and the other two types.

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The typology

- Distribution (languages):

	Complementary	Harmonic	Disharmonic	Transitional or unclear
Africa	3	5	1	1
Eurasia	7	14	15	1
Australia	3	3	25	7
Oceania	9	7	8	2
N.America	5	2	3	0
S.America	3	4	3	1
Total	30	35	55	12

The typology

The otherwise dominant disharmonic type is marginal in Africa

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- Distribution (languages):

The harmonic type is better represented in Eurasia

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The typology

- Distribution (languages):

The disharmonic type is exceptionally frequent in Australia

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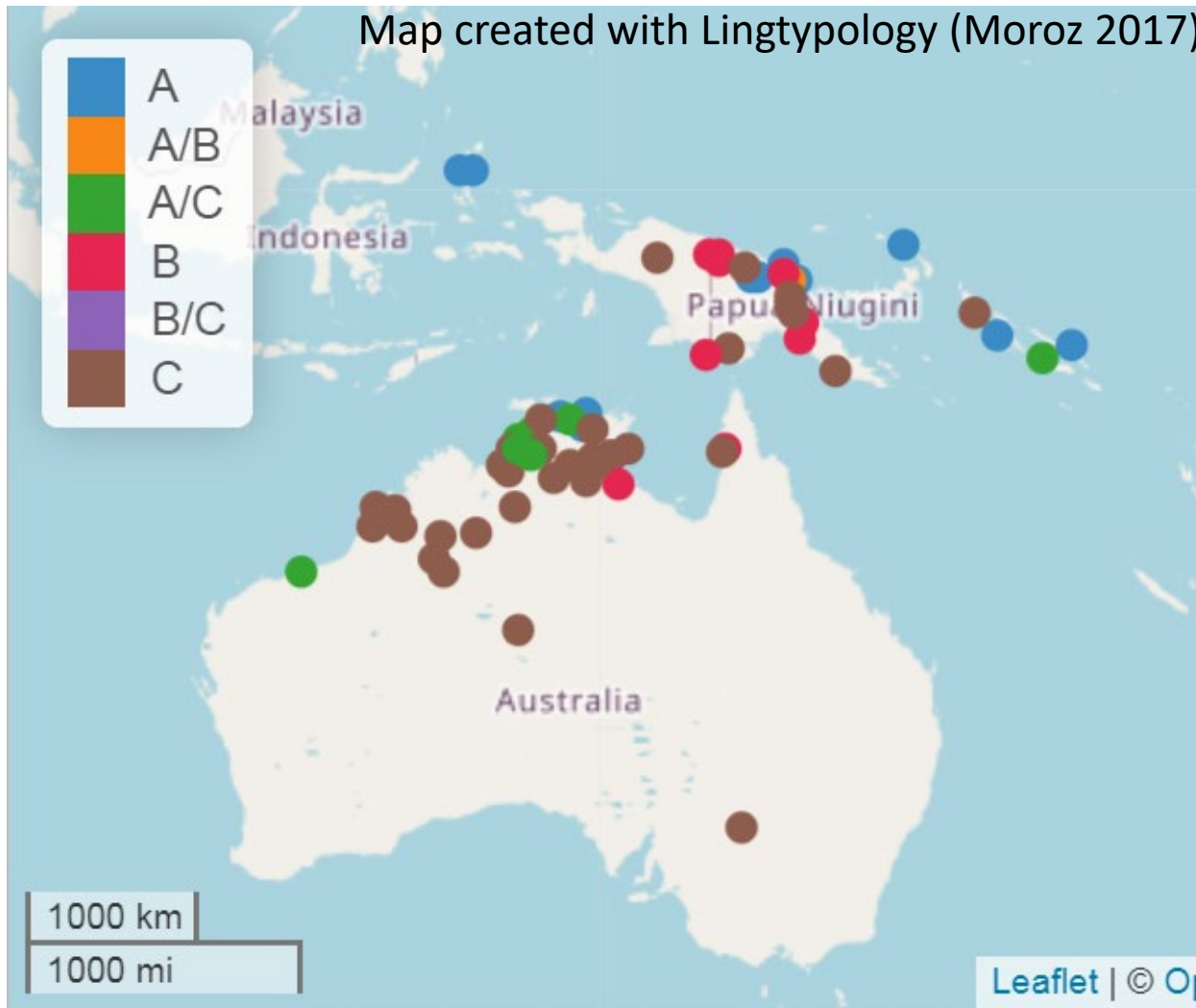|	Complementary	Harmonic	Disharmonic	Transitional or unclear
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The complementary type is better represented in Oceania and North America

Distribution of the types

Map created with Lingtypology (Moroz 2017)

Legend:
- A
- A/B
- A/C
- B
- B/C
- C

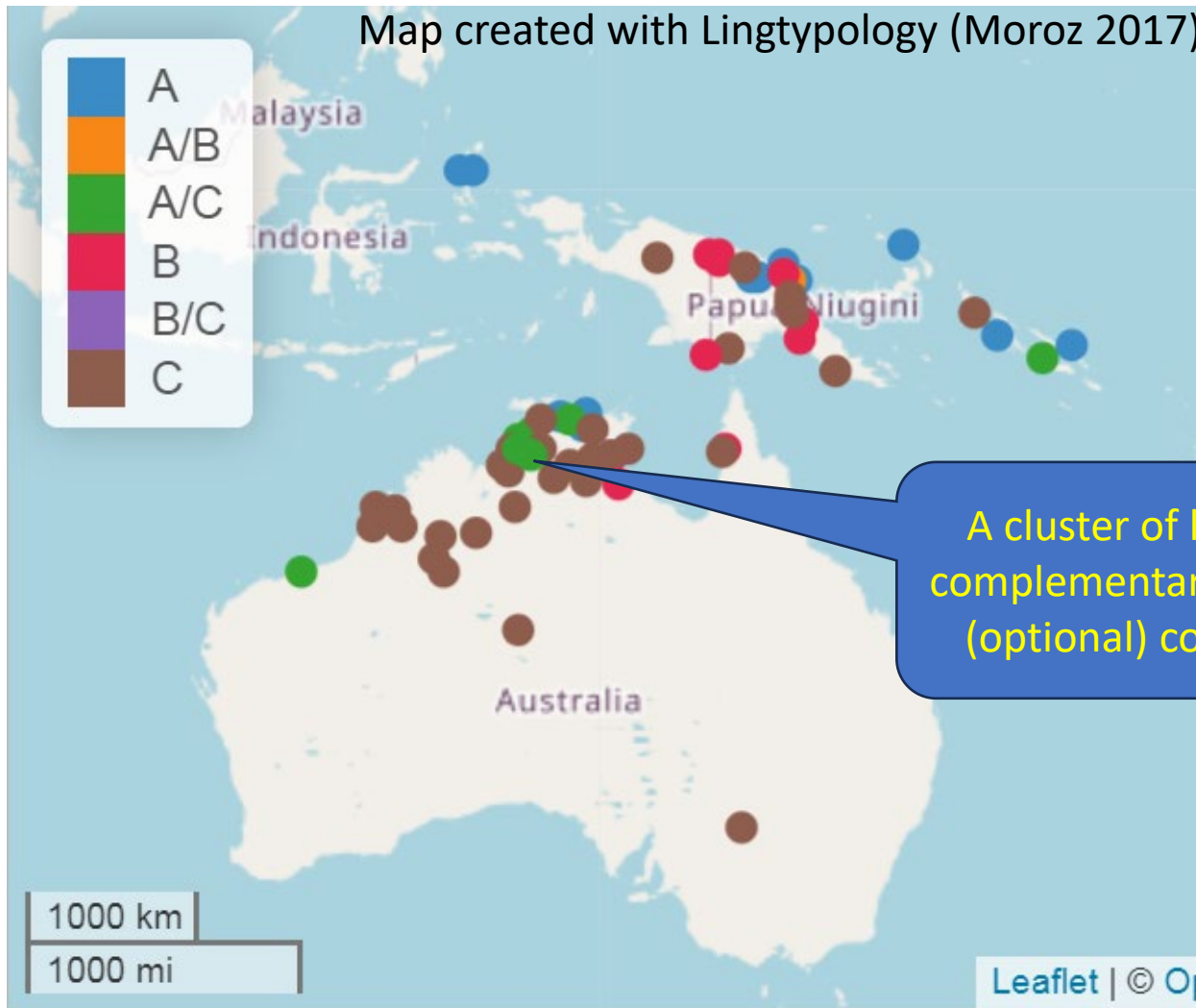5000 km
3000 mi

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134
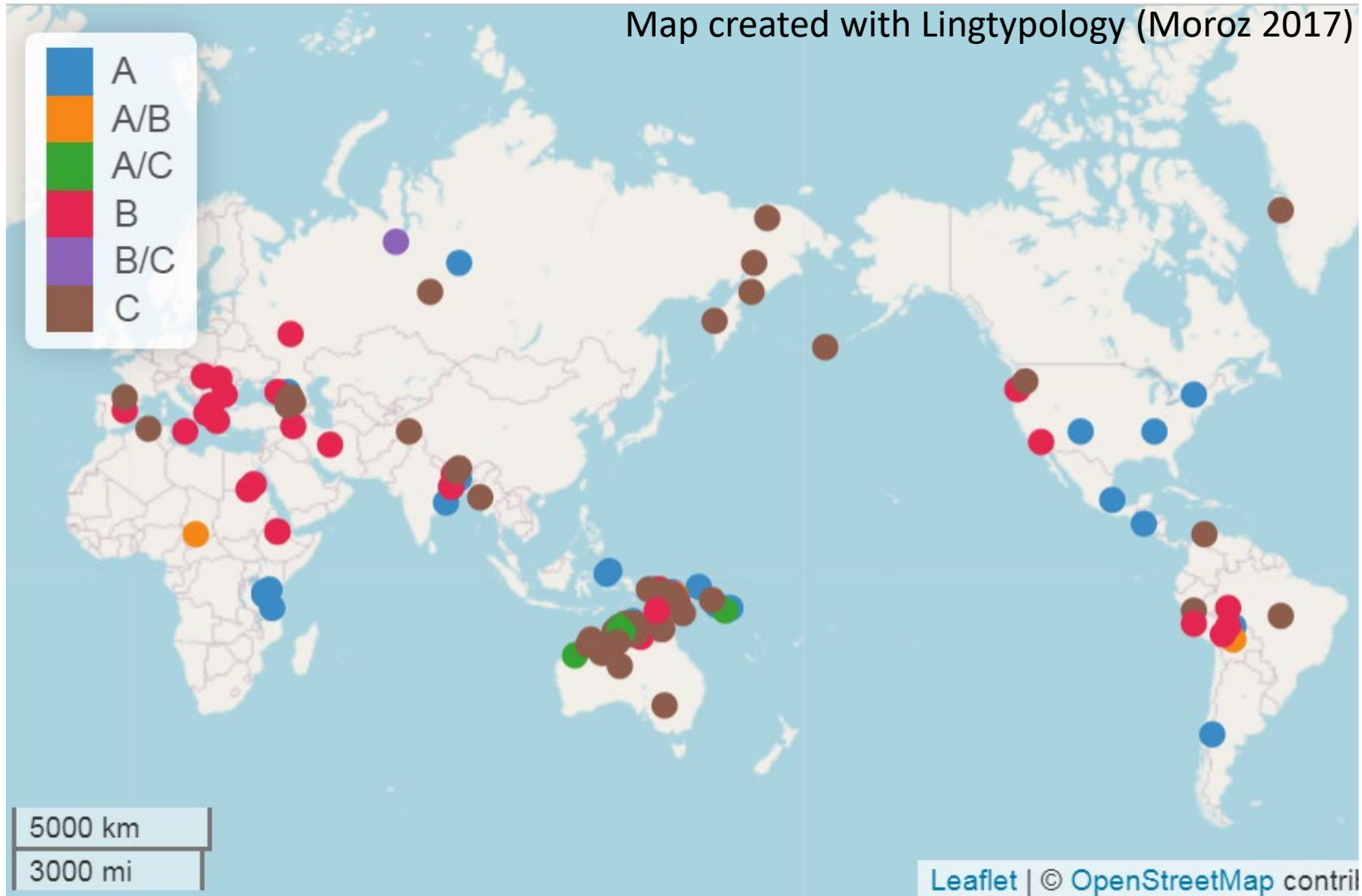
Distribution of the types

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Distribution of the types

Map created with Lingtypology (Moroz 2017)

A cluster of languages of the complementary type developing (optional) core case-marking

The typology

- Family-internal stability vs. variability of types:
  - "consistent" families: Indo-European (harmonic), Chukotko-Kamchatkan, Sino-Tibetan (disharmonic);
  - "inconsistent" families: Afro-Asiatic (but Semitic consistently harmonic), Northwest Caucasian, Nuclear Trans-New-Guinean;
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The typology

- Northwest Caucasian:

(8) Abkhaz (Hewitt 1979: 36)
a-χáċa   a-phʷás   a-šʷq̇ʷá   lá-j-te-jṭ
ART-man ART-woman ART-book   3SG.F.IO-3SG.M.ERG-give-DCL
'The man gave the book to the woman.'

(9) West Circassian (constructed)
χʷəɫfaʁe-m bzəɫfaʁe-m   txəɫə-r   r-jə-tə-ʁ
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ART – article, OBL – oblique case

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Harmonic

ART – article, OBL – oblique case

Complementary type

- Complementary or nearly complementary distribution of flagging and indexing.

- Alignment of core flagging neutral (by definition).

- General schema: "verbal affixation for the core participants and nominal case for the peripheral ones" (Foley 1986: 96).

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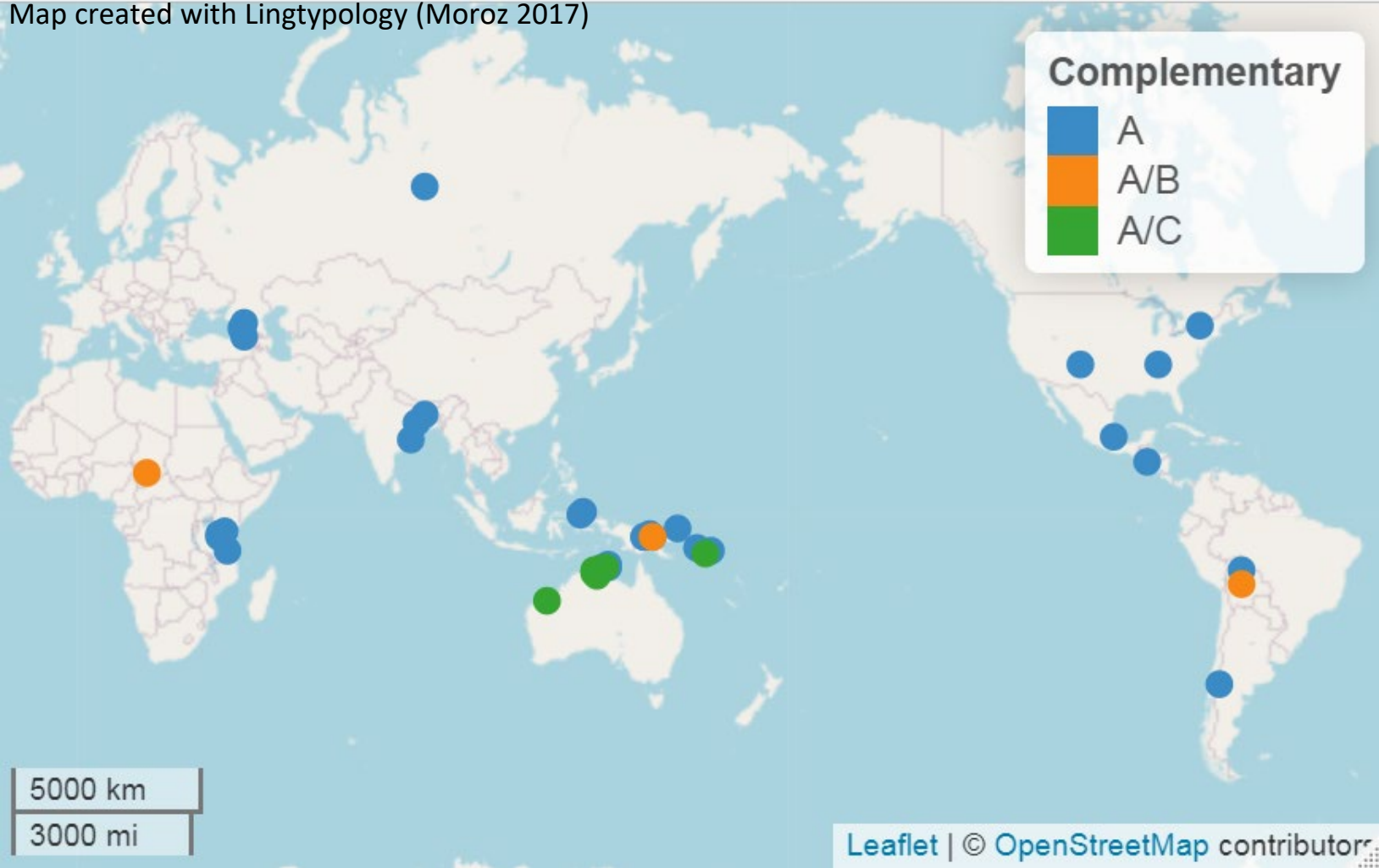
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Complementary type

Map created with Lingtypology (Moroz 2017)

Complementary type

- Yimas (Lower Sepik-Ramu, Papua New Guinea)
- HM for core participants:
- S of an intransitive verb (Foley 1986: 94)

(10) *narmaŋ na-pu-t*
    woman   3SG.S-go-PRF
    'The woman went.'

Map created with Lingtypology (Moroz 2017)

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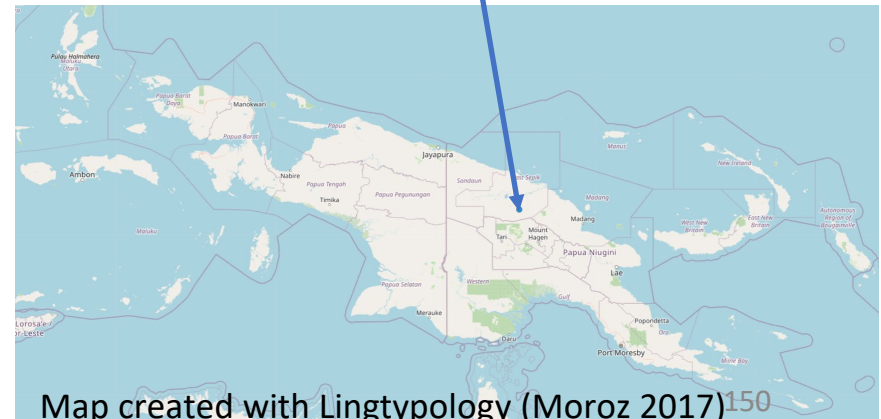 woman 3SG.S-go-PRF
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Map created with Lingtypology (Moroz 2017)151

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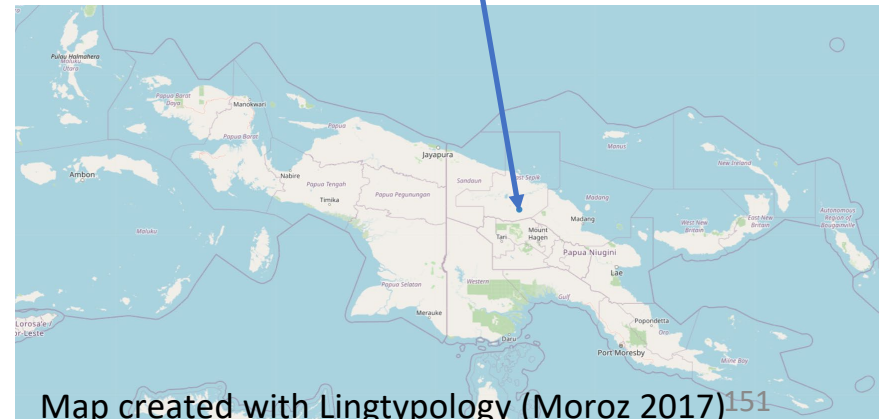- S of an intransitive verb (Foley 1986: 94)

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PRF – perfect

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Complementary type

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- HM for core participants:
- A and P of a monotransitive verb (Foley 1986: 94)

(11) *narmaŋ* *uraŋk* *kɨ-n-am-ɨt*
woman   coconut   3SG.P-3SG.A-eat-PRF
'The woman ate the coconut.'

Complementary type

- Yimas (Lower Sepik-Ramu, Papua New Guinea)
- HM for core participants:
- A, T and R of ditransitive verbs (Foley 1986: 94)

(12) *namat   uraŋk   narmaŋ   kɨ-n-ŋa-r-umpun*
man.PL   coconut   woman   3SG.P-3SG.A-give-PRF-3PL.R
'The woman gave the coconut to the men.'

Complementary type

- Yimas (Lower Sepik-Ramu, Papua New Guinea)
- The Oblique case for peripheral participants:
- location (Foley 1991: 165)

(13) *tnumut-ɲan*   *ama-na-irm-n*
      sago_palms-OBL   1SG.S-ASP-stand-PRS
      'I am standing at the two sago palms.'

ASP – aspect marker, PRS – present

Complementary type

- Yimas (Lower Sepik-Ramu, Papua New Guinea)
- The Oblique case for peripheral participants:
- time (Foley 1991: 169)

(14) *tmat-nan*   *nma-kay-wark-wat*
     day-OBL   house-1PL.A-build-HAB
     'We always build a house during the day.'

HAB – habitual

Complementary type

- Yimas (Lower Sepik-Ramu, Papua New Guinea)
- The Oblique case for peripheral participants:
- instrument (Foley 1991: 165)

(15) *tktntrm-nan namarawt na-ŋa-tpul*
  chair.DU-OBL   person   3SG.A-1SG.P-hit
  'The person hit me with two chairs.'

Complementary type

- Yimas (Lower Sepik-Ramu, Papua New Guinea)
- Valency-alternations are particularly telling (Foley 1991: 299-300):

(16) a.   *ikn-an*   *antki*   *ya-urkpwica-t*
             smoke-OBL   thatch.PL   3Pl.S-blacken-PRF
             'The roof got blackened from the smoke.'

     b.   *ikn*   *antki*   *ya-n-tal-urkpwica-t*
             smoke   thatch.PL   3PL.P-3SG.A-CAUS-blacken-PRF
             'Smoke blackened the roof.'

     CAUS – causative

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(16) a. *ikn-an*   *antki*   *ya-urkpwica-t*
         smoke-OBL   thatch.PL 3Pl.S-blacken-PRF
         'The roof got blackened from the smoke.'

   b. *ikn*   *antki*   *ya-n-tal-urkpwica-t*
         smoke   thatch.PL 3PL.P-3SG.A-CAUS-blacken-PRF
         'Smoke blackened the roof.'

HM: no
DM: yes

CAUS – causative

159

Complementary type

- Yimas (Lower Sepik-Ramu, Papua New Guinea)
- Valency-alternations are particularly telling (Foley 1991: 299-300):

(16) a. *ikn-an*   *antki*   *ya-urkpwica-t*
          smoke-OBL   thatch.PL   3Pl.S-blacken-PRF
          'The roof got blackened from the smoke.'

     b. *ikn*   *antki*   *ya-n-tal-urkpwica-t*
          smoke   thatch.PL   3PL.P-3SG.A-CAUS-blacken-PRF
          'Smoke blackened the roof.'

HM: yes
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       CAUS – causative

160

Complementary type

- Languages of this type can also have rich case systems.

Complementary type

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- Ket (Yeniseian, Russia)

Map created with Lingtypology (Moroz 2017)

Complementary type

- Ket case system (Georg 2007: 103-104):

	Sg Masculine	Sg Feminine	Pl animate	Pl inanimate
Nominative	∅			
Genitive	*-da*	*-di*	*-na*	*-di*
Dative	*-daŋa*	*-diŋa*	*-naŋa*	*-diŋa*
Benefactive	*-data*	*-dita*	*-nata*	*-dita*
Ablative	*-daŋal*	*-diŋal*	*-naŋal*	*-diŋal*
Adessive	*-daŋta*	*-diŋta*	*-naŋta*	*-diŋta*
Locative	*n/a*	*-ka*	*n/a*	*-ka*
Prosecutive	*-bes*			
Instrumental	*-as*			
Abessive	*-an*			
Translative	*-esaŋ*			

Complementary type

- Ket case system (Georg 2007: 103-104):

	Sg Masculine	Sg Feminine	Pl animate	Pl inanimate
Domain of head-marking				
Genitive	*-da*	*-di*	*-na*	*-di*
Dative	*-daŋa*	*-diŋa*	*-naŋa*	*-diŋa*
Benefactive	*-data*	*-dita*	*-nata*	*-dita*
Ablative	*-daŋal*	*-diŋal*	*-naŋal*	*-diŋal*
Adessive	*-daŋta*	*-diŋta*	*-naŋta*	*-diŋta*
Locative	*n/a*	*-ka*	*n/a*	*-ka*
Prosecutive	*-bes*			
Instrumental	*-as*			
Abessive	*-an*			
Translative	*-esaŋ*			

Complementary type

- Ket (Yeniseian, Russia; Vajda 2004: 82)

(17) *ām*　　　*dílgàt*　　*súùl-as*　*da-óŋ-d-p-taŋ*
　　　mother　　kids　　　　sled-INS　3SG.F.SBJ-3AN.PL.O-across-APPL-drag
　　　'The mother takes her kids by sled.'

(18) *qīm tēt*　　　*qɨmdɨl*　　　*da-ó-v-ìj-aq*
　　　wife　husband　woman.child　　3SG.F.SBJ-3M.O-APPL-PST-give
　　　'She gave her husband a baby girl.'

AN – animate, APPL – applicative, INS – instrumental

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wife husband   woman.child   3SG.F.SBJ-3M.O-APPL-PST-give
'She gave her husband a baby girl.'

> A participant devoid of either flagging or indexing

AN – animate, APPL – applicative, INS – instrumental

Complementary type leaks

- Optional overt flagging of some core participants in languages with otherwise complementary DM and HM.

- Bininj Gun-wok (Gunwinyguan, Australia): Ablative and Instrumental may be used to mark transitive Agents, especially inanimate (18a) or when ambiguity may arise (18b).

Complementary type leaks

- Optional overt flagging of some core participants in languages with otherwise complementary DM and HM.

- Bininj Gun-wok (Gunwinyguan, Australia): Ablative and Instrumental may be used to mark transitive As, especially inanimate (19a) or when ambiguity may arise (19b).

Map created with Lingtypology (Moroz 2017)

Complementary type leaks

- Optional overt flagging of some core participants in languages with otherwise complementary DM and HM.

- Bininj Gun-wok (Gunwinyguan, Australia): Ablative and Instrumental may be used to mark transitive As, especially inanimate (19a) or when ambiguity may arise (19b).

(19) a. *gubunj-be ba-gubunj-djirrkka-ng*.
canoe-ABL   3SG>3SG-canoe-push-PST.PRF
'One canoe pushed another.' (Evans 2003: 138)

b. *Kodjok   bi-karrme-ng   Kamarrang-yih*.
kin_name 3SG>3SG-grab-PST.PRF   kin_name-INS
'Kamarrang grabbed Kodjok.' (ibid.: 140)

Complementary type leaks

- Optional overt flagging of some core participants in languages with otherwise complementary DM and HM.

- Yurakaré (isolate, Bolivia; van Gijn 2005: 60): objects introduced by the comitative applicative and indexed by object prefixes may optionally retain postpositional marking.

Map created with Lingtypology (Moroz 2017)

Complementary type leaks

- Optional overt flagging of some core participants in languages with otherwise complementary DM and HM.

- Yurakaré (isolate, Bolivia; van Gijn 2005: 60): objects introduced by the comitative applicative and indexed by object prefixes may optionally retain postpositional marking.

(20) *më-jti*   *lëtta-m*   *ku-winani-shta-m*
     2SG-only   one-2SG.SBJ   3SG.OBJ+APPL-walk-FUT-2SG.SBJ
     mi-ye=tina.
     2SG-sister-COM
     'You will be the only one that is going to live [sic!] together with your sister.'

Harmonic type

- One-to-one or one-to-many correspondences between HM and DM.

- Predominantly accusative alignment of flagging (25/35):
  - in this type alignments of DM and HM must be identical (otherwise mismatch);
  - alignment of indexing is well-known to tend towards accusativity (e.g. Siewierska 2013).

- Particularly well-attested in Western Eurasia and East Africa (Indo-European and Afro-Asiatic).

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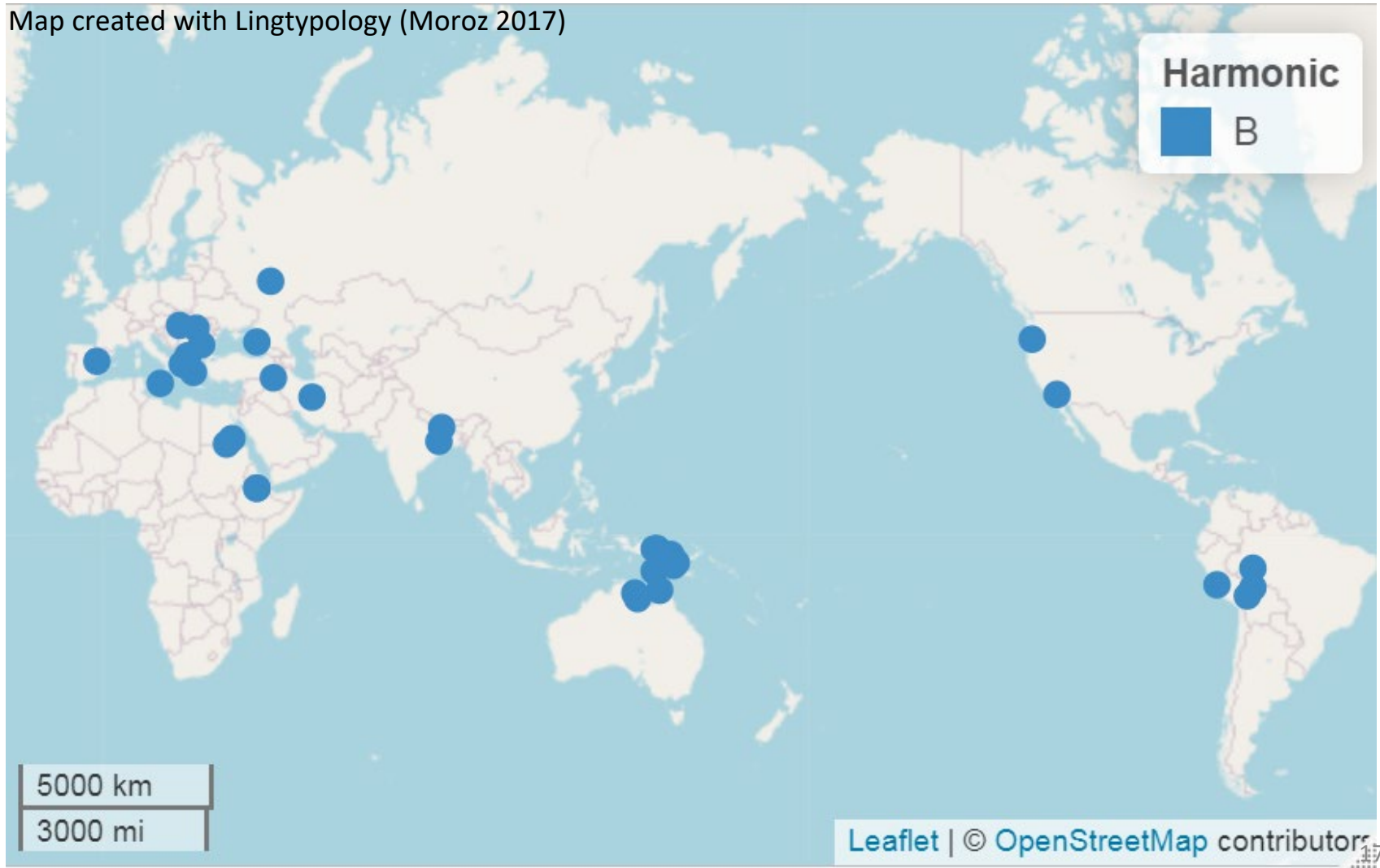
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Harmonic type

Map created with Lingtypology (Moroz 2017)

Harmonic type

- Romanian (Indo-European > Romance; Mallinson 1987)

role	flagging	indexing
S/A	NOM (often zero)	SBJ
indefinite P	NOM (often zero)	no
definite P	*pe=*	DO
R	DAT	IO

Harmonic type

- Romanian (Indo-European > Romance)

(21) a. *Ana l-a văz-ut pe Radu*.
Ana.NOM 3SG.DO-AUX.3SG.SBJ   see-PTCP ACC   Radu
'Anna saw Radu.' (Mallinson 1987: 207)

   b. *Băiat-ul-ui i-a-m da-t un cadou*.
boy-DEF-DAT 3SG.IO-AUX-1SG.SBJ give-PTCP INDEF present
'I gave the boy a present.' (ibid.: 209)

AUX – auxiliary, DO – direct object, PTCP - participle

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Harmonic type

- Romanian (Indo-European > Romance)

(21) a. *Ana   l-a   văz-ut pe   Radu*.
Ana.NOM 3SG.DO-AUX.3SG.SBJ   see-PTCP ACC   Radu
'Anna saw Radu.' (Mallinson 1987: 207)

   b. *Băiat-ul-ui i-a-m   da-t   un   cadou*.
boy-DEF-DAT 3SG.IO-AUX-1SG.SBJ give-PTCP INDEF present
'I gave the boy a present.' (ibid.: 209)

Systems like Romanian, where a prominent (animate and/or definite) P is simultaneously flagged and indexed, are quite widespread

Harmonic type

- Macedonian (Indo-European > Slavic; Lunt 1952, Mišeska-Tomić 2012)

role	flagging	indexing
S/A	zero	SBJ
indefinite P	zero	no
definite P	zero	DO
R	*na*	IO
various	prepositions	IO (optional)

Harmonic type

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role	flagging	indexing
S/A	zero	SBJ
indefinite P	zero	no
definite P	zero	DO
R	*na*	IO
various	prepositions	IO (optional)

Many-to-one relations

Harmonic type

- Macedonian:

(22) *Jana*   *mu=go=dad-e*   *pismo-to*
Jana   3SG.M.IO=3SG.M.DO=give-AOR.3SG.SBJ   letter-DEF
na   edno dete.   AOR – aorist
DAT one   child
'Jana gave the letter to a child (that I know).'
(Mišeska-Tomić 2006: 255)

(23) *Naizlego-a*   *gluvc-i*   *i*   *mu=pojdo-a*
come.out-AOR.3PL.SBJ   rat-PL   and   3SG.M.IO=go-AOR.3PL.SBJ
kaj adži mačor-ot...
to   Haji   cat-DEF
'The rats came out in crowds and went to Haji Cat...'
(Lunt 1952: 108)

Harmonic type

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(22) *Jana   mu=go=dad-e   pismo-to*
Jana   3SG.M.IO=3SG.M.DO=give-AOR.3SG.SBJ   letter-DEF
na   edno dete.
DAT   one   child   AOR – aorist
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kaj adži   mačor-ot...
to   Haji   cat-DEF
'The rats came out in crowds and went to Haji Cat...'
(Lunt 1952: 108)

Harmonic type leaks

- Amharic (Afro-Asiatic > Semitic; Ethiopia):

role	flagging	indexing
S/A	no	SBJ
indefinite P	no	no
definite P	ACC	(OBJ)
R	ACC/DAT	OBJ
benefactive	DAT	DAT+OBJ
instrument	INS	INS+OBJ

Map created with Lingtypology (Moroz 2017)

Harmonic type leaks

- Amharic (Afro-Asiatic > Semitic; Ethiopia):

(24) a. *lämma   ṭärmus-u-n   säbbär-ä-w*.
     Lemma   bottle-DEF-ACC   break:PST-3SG.M.SBJ-3SG.M.OBJ
     'Lemma broke the bottle.' (Amberber 2005: 299)

   b. *lä-ləǧ-u   bet-u-n   asayy-ä-w*.
     DAT-child-DEF.M house-DEF.M-ACC   showed-3SG.M.SBJ-3SG.M.OBJ
     'He showed the house to the child.' (Leslau 1995: 893)

   c. *ənnatəyya-wa lä-ləǧo-čč-əwa   šänkora agäda*
     mother-DEF.F   DAT-child-PL-3SG.F.POSS   sugar.cane stalk
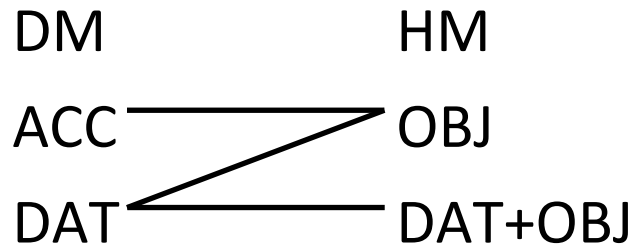   *gäzza-čč-əll-aččäw*.
     buy.PST-3SG.SBJ-BEN-3PL.OBJ
     'The mother bought sugar cane for her children.'
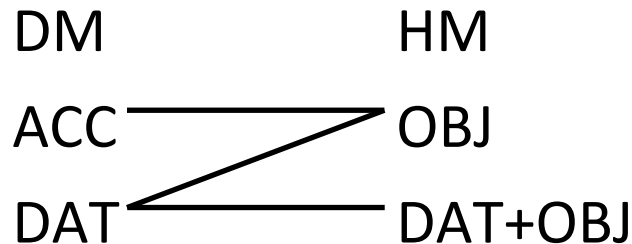   (ibid.: 429–430)

Harmonic type leaks

- Amharic (Afro-Asiatic > Semitic; Ethiopia):

	DM	HM
	ACC	OBJ
	DAT	DAT+OBJ

(ACC links to DAT+OBJ; DAT links to OBJ)

Harmonic type leaks

- Amharic (Afro-Asiatic > Semitic; Ethiopia):

DM   HM

ACC ——————— OBJ

DAT ——————— DAT+OBJ

Enough many-to-many correspondences to be considered disharmonic?

Disharmonic type

- Many-to-many correspondences between DM and HM, which work largely independently of each other.

- The most widespread and varied type, especially densely concentrated in Australia and New Guinea.

- A predominance of ergative alignment in flagging (43/56):
  - indexing tends to accusativity;
  - hence, most languages with accusative flagging fall into the harmonic type;
  - ergative flagging + accusative indexing = mismatch.

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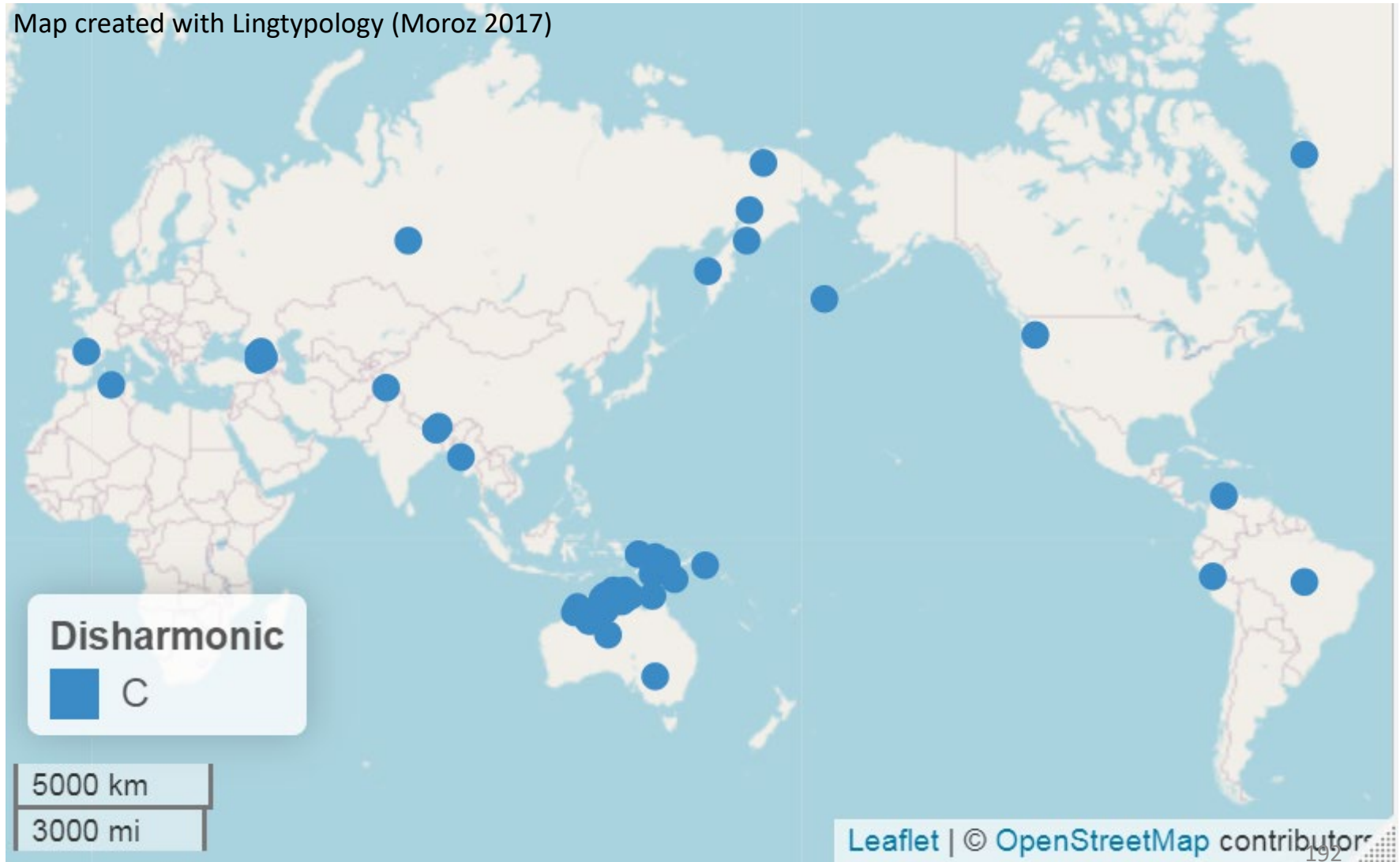
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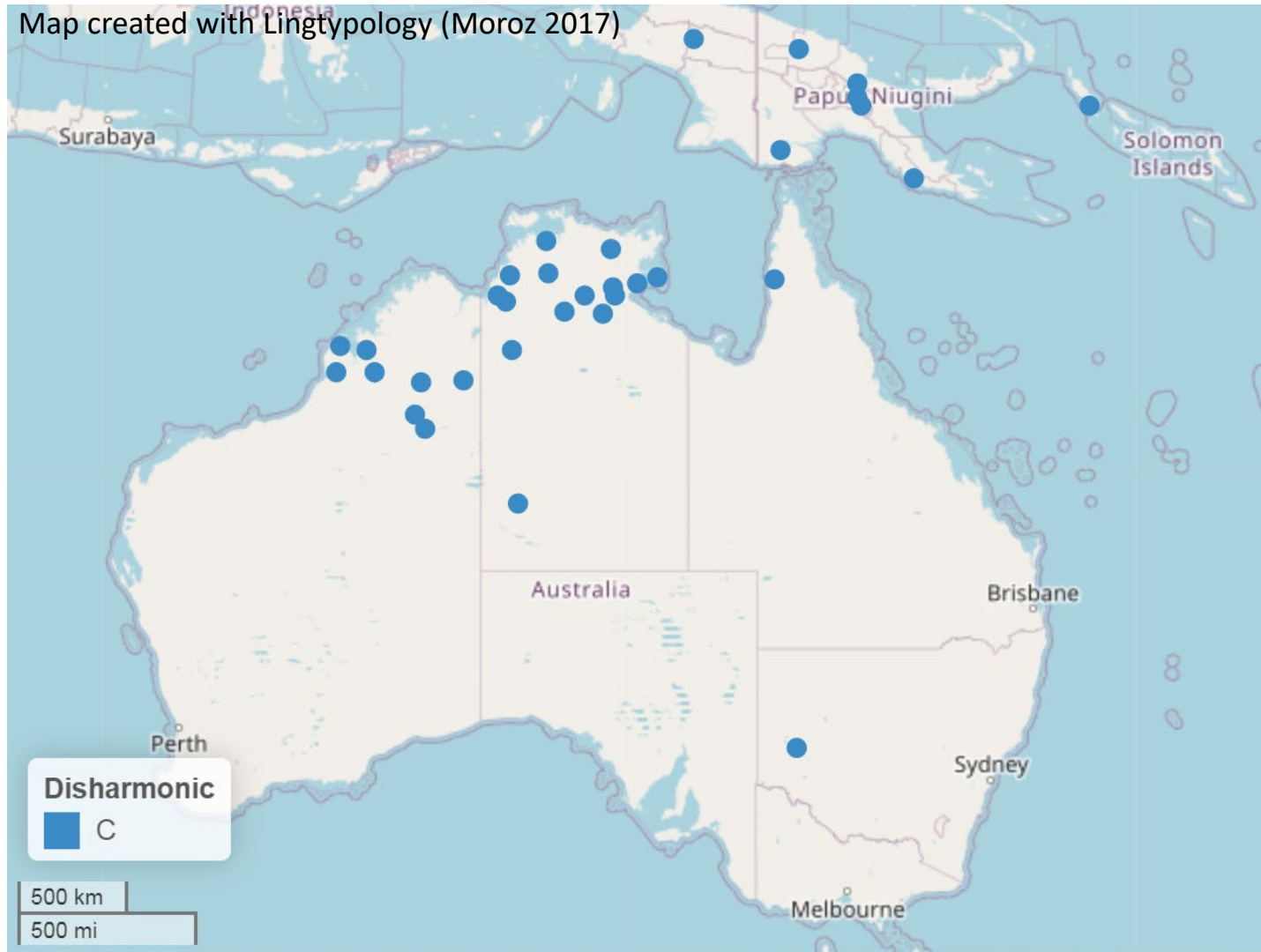 - ergative flagging + accusative indexing = mismatch.

Disharmonic type

Map created with Lingtypology (Moroz 2017)

Disharmonic

■ C

5000 km

3000 mi

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Disharmonic type

Map created with Lingtypology (Moroz 2017)

Disharmonic
■ C

500 km
500 mi

Disharmonic type

- Common sources of flagging-indexing mismatches:
  - co-occurrence of ergative flagging and accusative indexing in monotransitive constructions;
  - co-occurrence of indirective flagging and secundative indexing in ditransitive constructions (Haspelmath 2005; Malchukov et al. 2010);
  - often in the same language.

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    - often in the same language.

Disharmonic type

- Burushaski (isolate, Pakistan; Munshi 2006)

role	flagging	indexing
S	no	suffix(+prefix)
A	OBL	suffix
P	no	prefix (if animate)
R	DAT	prefix (if animate)

Map created with Lingtypology (Moroz 2017)

Disharmonic type

- Burushaski (isolate, Pakistan; Munshi 2006)

DM	HM
no	suffix
OBL	
DAT	prefix

Map created with Lingtypology (Moroz 2017)

Disharmonic type

- Burushaski (isolate, Pakistan)

(25)   a. *in   mu-val-umo*.
3SG   3SG.F.ABS-fall.PST-3SG.F.SBJ
'She fell down.' (Munshi 2006: 132)

   b. *salim-e   huma   mu-ye:c-imi*.
Salim-OBL   Huma   3SG.F.ABS-see.PST-3SG.M.SBJ
'Salim (M) saw Huma (F).' (ibid.: 135)

   c. *in-e   in-e-re   ḳita:b-an   e:-ć-umo*.
3SG-OBL   3SG-OBL-DAT book-INDF   3SG.M.ABS-give-3SG.F.SBJ
'She gave him a book.' (ibid. : 139)

Disharmonic type

- Mismatches between flagging and indexing need not necessarily involve "alignment splits".

- Nyigina (Nyulnyulan, Australia; Stokes 1982):
  - for subjects, both HM and DM show "agentive/patientive" alignment, but the factors are different;
  - for objects, both HM and DM are semantically motivated, but the factors are again different.

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Map created with Lingtypology (Moroz 2017)

Disharmonic type

- Nyigina (Nyulnyulan, Australia; Stokes 1982: 258-259):

(26) a. *wamba-ni yin-marra-n   waḻi.*
man-ERG   3SG.A-burn-PRS   meat
'The man is cooking the meat.'

  b. *dyuŋgu-ni yi-marra-n   waḻi.*
fire-ERG   3SG.S-burn-PRS   meat
'The fire is cooking the meat.'

  c. *dyuŋgu yi-marra-n.*
fire   3SG.S-burn-PRS
'The fire is burning.'

Disharmonic type

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fire   3SG.S-burn-PRS
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Ergative flagging occurs when a "second entity is significantly affected by the activity" (ibid.: 130)

Disharmonic type

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fire-ERG 3SG.S-burn-PRS meat
'The fire is cooking the meat.'

c. *dyuŋgu yi-marra-n*.
fire 3SG.S-burn-PRS
'The fire is burning.'

> Ergative flagging occurs when a "second entity is significantly affected by the activity" (ibid.: 130)

> Agentive indexing occurs when the subject shows a "degree of control over the activity" (ibid.: 260)

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Disharmonic type

- Nyigina (Nyulnyulan, Australia; Stokes 1982):

(27) a.   *yin-alga-na-da-yirr*   *wamba maṇin.*
          3SG.A-eat-PST-HAB-3NSG.O   man   woman
          'He used to kill them, men and women.' (ibid.: 391)

   b.   *gaḍady yi-na-yina*   *ginya wamba*.
          search   3SG.A-PST-3SG.IO   DEM   man
          'He searched for that man [in vain].' (ibid.: 78)

   c.   *gaḍady yi-na-yina*   *ginya-yi wamba*.
          search   3SG.A-PST-3SG.IO   DEM-DAT man
          'He searched for that man [and found him].' (ibid.: 79)

Disharmonic type

Special series of indexes for objects not directly affected by the event

- Nyigina (Nyulnyulan, Australia; Stokes 1982)

(27) a. *yin-alga-na-da-yirr*   *wamba maṇin.*
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     search   3SG.A-PST-3SG.IO   DEM   man
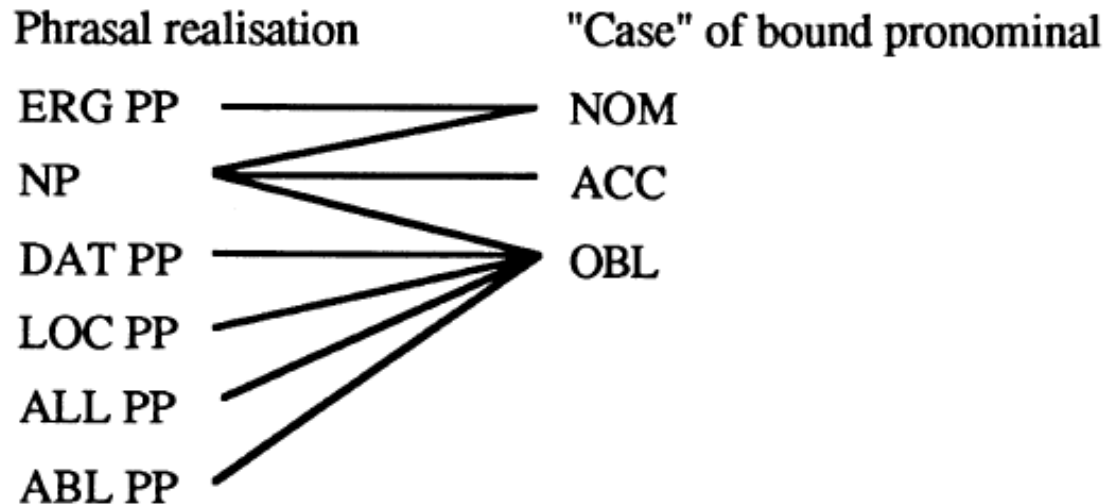   'He searched for that man [in vain].' (ibid.: 78)

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     search   3SG.A-PST-3SG.IO   DEM-DAT man
     'He searched for that man [and found him].' (ibid.: 79)

Special series of indexes for objects not directly affected by the event

Such objects get Dative flagging when "attainable"

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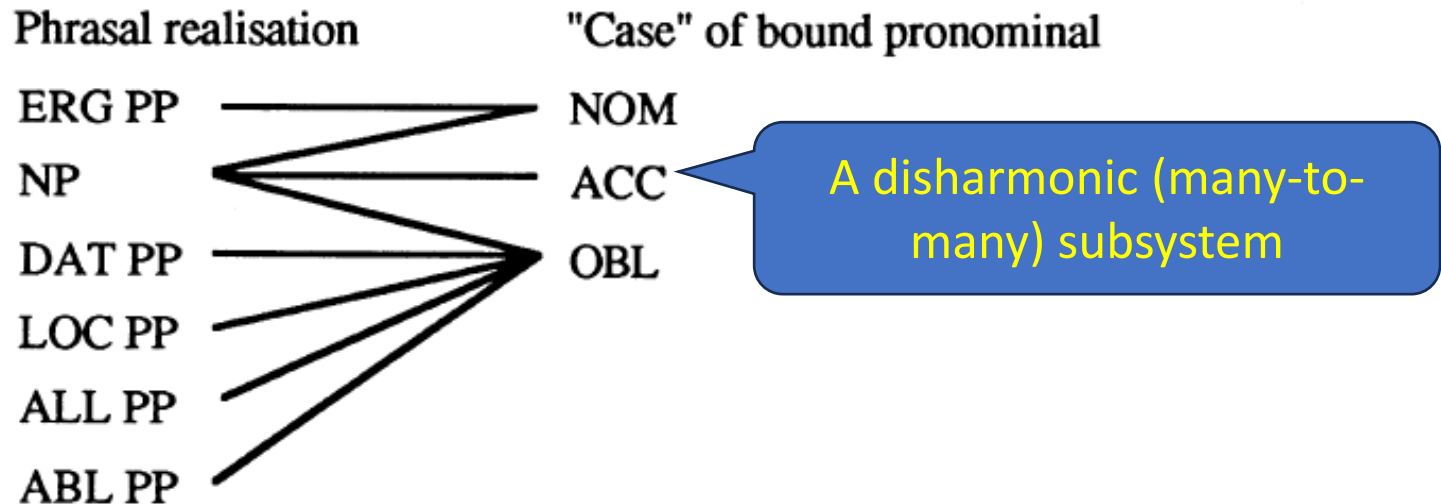# Disharmonic type leaks
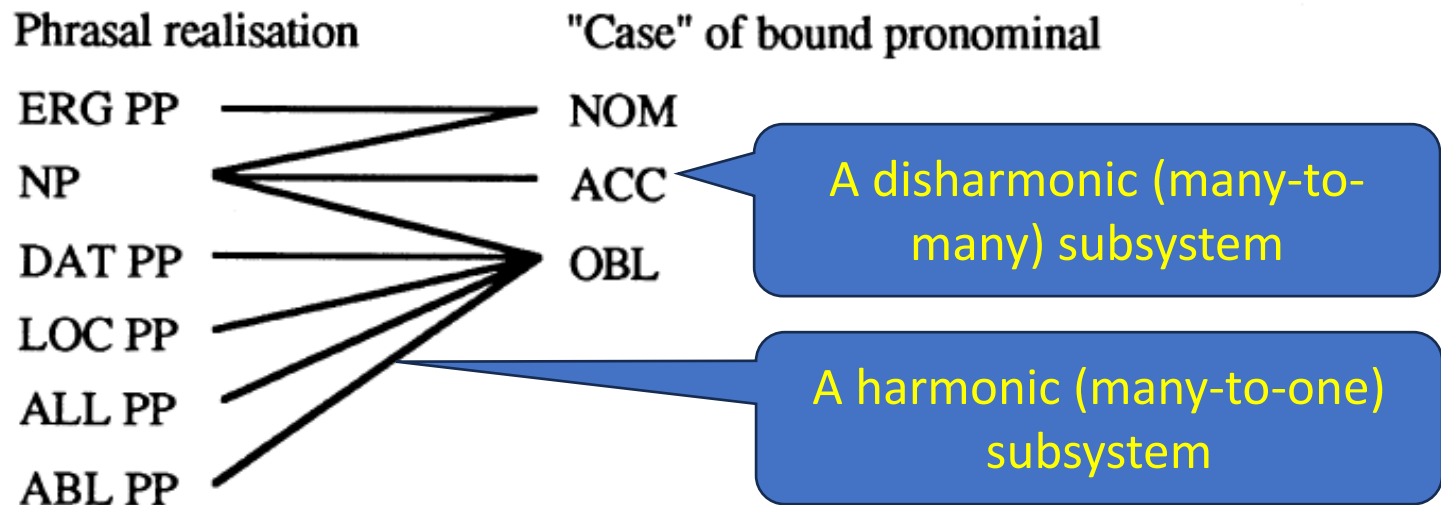
- McGregor (1990: 317) on Gooniyandi:

Figure 5-1: *Pairing of phrase types and cross-referencing bound pronominals*

Disharmonic type leaks

- McGregor (1990: 317) on Gooniyandi:

Figure 5-1: *Pairing of phrase types and cross-referencing bound pronominals*

Phrasal realisation	"Case" of bound pronominal
ERG PP	NOM
NP	ACC
DAT PP	OBL
LOC PP	
ALL PP	
ABL PP	

A disharmonic (many-to-many) subsystem

Disharmonic type leaks

- McGregor (1990: 317) on Gooniyandi:

Figure 5-1: *Pairing of phrase types and cross-referencing bound pronominals*

Phrasal realisation	"Case" of bound pronominal
ERG PP	NOM
NP	ACC
DAT PP	OBL
LOC PP	
ALL PP	
ABL PP	

A disharmonic (many-to-many) subsystem

A harmonic (many-to-one) subsystem

Disharmonic type leaks

- Harmonic subsystems in apparently disharmonic systems.
- Wangkajunga (Pama-Nyungan > Desert Nyungic, Australia, Jones 2011):

Disharmonic type leaks

- Harmonic subsystems in apparently disharmonic systems.
- Wangkajunga (Pama-Nyungan > Desert Nyungic, Australia, Jones 2011):

flagging	indexing
ERG (A)	Subject
ABS (S)	Subject
ABS (P, R)	Object
DAT (goal)	Dative
LOC, ALL (human)	Accessory
ABL (human)	Ablative

Map created with Lingtypology (Moroz 2017)

Disharmonic type leaks

- Wangkajunga (Pama-Nyungan > Desert Nyungic, Australia):

(28) a. *tuju=ra*   *wirrja-nin*   *mirrka-ku*   *talakutu-ku*
woman=3SG.DAT   run-PRS   food-DAT   mango-DAT
'The woman is running for a mango.' (Jones 2011: 139)

    b. *ya-nku=lu-npula*   *Jukuja-kutu*
go-FUT=3SG.ACS-2DU.SBJ   name-ALL
'You two go to Jukuja (a person).' (ibid.: 140)

    c. *ya-nu=rna-janampalura*   *Sydney-janu*
go-PST=1SG.SBJ-3PL.ABL   name-ABL
'I left those people from Sydney.' (ibid.: 141)

ABL – ablative, ACS – accessory, ALL – allative

The typology

- While one-to-one, one-to-many and many-to-many correspondences between flagging and indexing exist and should be distinguished, it is unclear that whole-language systems can be meaningfully classified into "harmonic" and "disharmonic" types.

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- HM tends to syntagmatically co-occur with DM, double-marking of various kinds being more widespread than strict complementarity of HM and DM → disconfirms the contention that HM and DM are just different realisations of the same basic mechanism (cf. Kibrik 2012).

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- Not infrequent situations when some grammatical role assumes both DM and HM, suggests that grammatical systems not only tolerate, but in some cases favour redundancy of encoding.

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- **Two emergent generalisations:**

(1) Double-marking tends to be aligned with prominence scales:

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Quite robust, see Arkadiev 2013, 2016.

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Quite robust for P and R (Arkadiev 2013, 2016), but seems to apply to a broader set of roles.

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In languages with distinct paradigms of indexes for different types of objects, the more oblique arguments (e.g. recipients, comitatives, animate locations etc.) tend to show more consistent alignment of HM and DM than the less oblique ones.

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- **To-do list:**
  - revise (again) the existing database;
  - expand the database, especially by including families and areas which so far remain underrepresented;
  - find a meaningful way to code HM/DM for semantic roles;
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Thank you for your attention!
Danke für Ihre Aufmerksamkeit!

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