WORD DOMAINS

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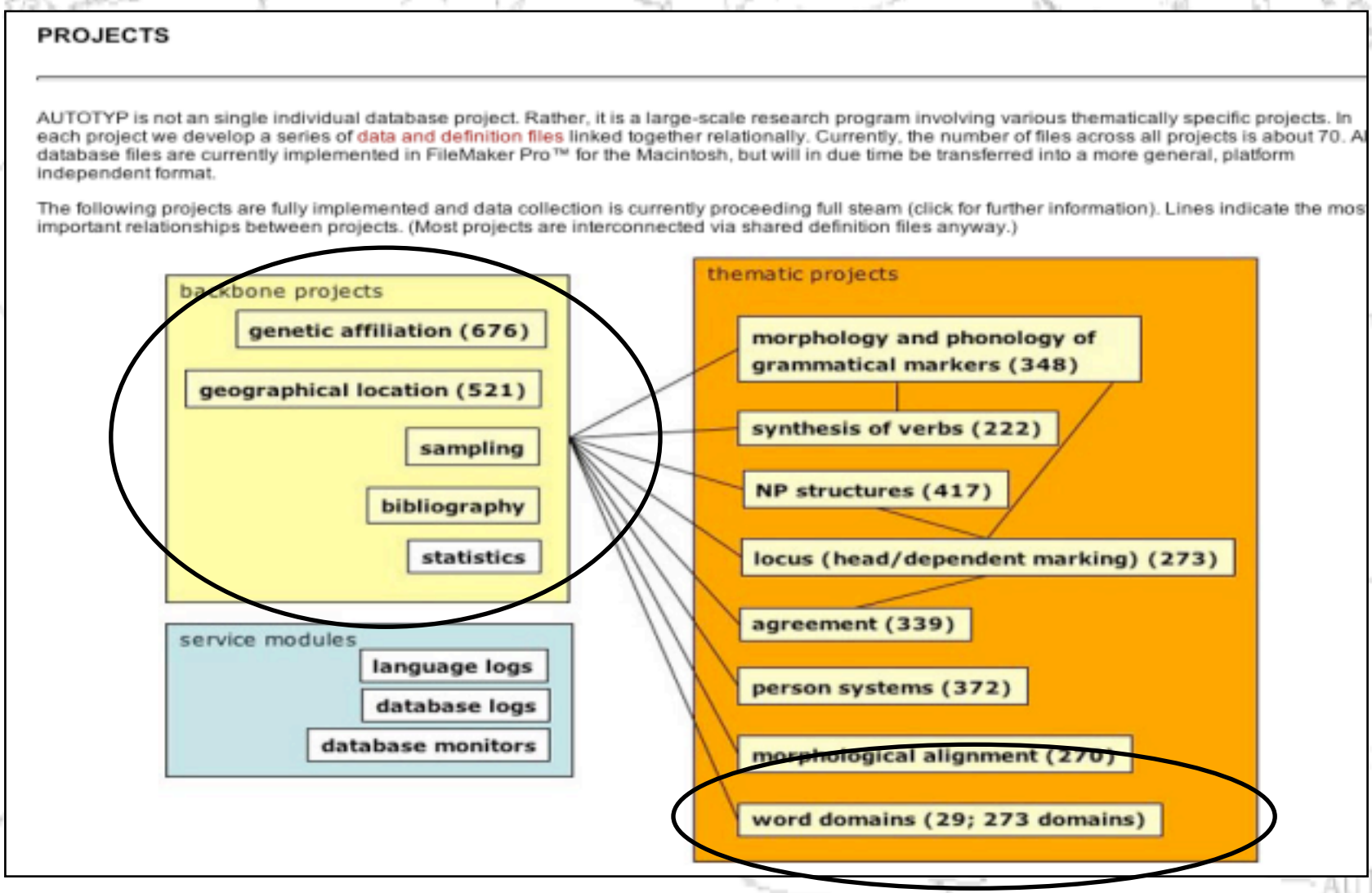
I. “Autotyp”: http://www.uni-leipzig.de/~autotyp/



II. Words: Phonological & Grammatical

- Definitions
- Examples from database

The Phonological Word ω

- Selkirk (1980); Booij (1983; 1984; 1985); Nespor & Vogel (1986); Peperkamp (1997); Inkelas (1987); McCarthy & Prince (1993); Hall & Kleinhenz (1999); Wiese (1996); Dixon & Aikhenvald (2002)
- A phonological domain that references morphological information = Phonological Word

Phonological processes/ rules/constraints that...

- Reference domains 'beyond the syllable'
- Also reference some morphological or morpho-syntactic domain (e.g. root/stem; stem + affix; stem + stem, etc.)
- 'morpho-phonology'

P-word in German (“Onset Maximization” Booij 1985; Wiese 1996

Onset: *bl* surfaces word-initial:

1.*blitz* -> [blɪts] ‘lightning’

Coda word-medial: *bl* will *often* resyllabify:

2. *bibl + isch* -> [bi.blɪʃ] ‘biblical’

= ‘Onset Maximization’

Surfacing coda obstruents devoice

3. Lob -> [lo:p] ‘praise’

Rad -> [ʁa:t] ‘wheel’= ‘Final Devoicing’

German P-word

- *lieb + e* love-1SG.PRES -> [li:.bə] ‘I love...’
- BUT: *lieb + lich* love-ADV -> [li:p.lɪç] 'dearly’
  - no onset maximization for a *bl-* cluster
  - rather, /b/ devoices to [p]
- Consonant-initial suffixes parsed as their own domains for this process (separate p-domains)
- $(\text{libə})_{\omega}$ & $(\text{bibliʃ})_{\omega}$ vs. $(\text{lib})_{\omega}$ $(\text{lɪç})_{\omega}$
- Domain of ONSET MAX: stem ± v-initial suffix
- Prefixes excluded: *ab-ändern* $[(\text{ʔʌp})_{\omega}.\text{ʔɛn.dəʁn}]$
- Compounds excluded: *bergabfahrt* $[(\text{bɛʁk})_{\omega}.\text{ʔap.faʁt}]$

German Onset Max Word

WTID 309 **LID** 87 German **UNIT** p-domain

WTYPE 210 Coda C to Onset Resyllab

PHON DOMAIN 3 right

RESOLUTION 28 resyllabification

Inputter 24 Kristine

Date 02-02-2005

Reliability 5 Other published sources

Morph Domain

Align ID 3 Domain ID 14

Align right edge Domain stem ± suffix

Gram Domain Size 2

Synthesis

Number Formative Slots	2
Bipartite Stem	0
Max number categories in sequence	
Number of Available Morphemes	5

Strata

Stratum ID 52 only v-initial suffixes

Source native

if source is loanword:

KNOWN LENDING LANGUAGES

LID1

LID2

LID3

LID4

LID5

LID6

Notes data: Jochen Geifuss-Wolfgang (Autotyp Bib); Hall 1999; Booij 1985; Wiese 1996
ONSET MAXIMIZATION applies if 2nd syllable or morph is v-initial. If cv(c), then no ONSET MAX, and rather devoicing of stem/1st syllable coda C:
lieb + e => ˈli.**b**ə] 'love.1sg' vs. lieb + lich => ˈli:**p**.lɪc] 'dearly'

AUTOTYP

Manange (Tibeto-Burman)

- Single Tone Contour Word = stem ± prefix± suffix ± particle (‘clitic’)
- For example, tone /3/: a high, sharp falling tone
- [sʌ^{53}] ‘good/tasty/wholesome’
- [ɑ^{54}-sʌ^{43}] NEG-good ‘not good’
- [ɑ^{54}-sʌ^{43}-pʌ$^{32/22}$] NEG-good-NOM ‘not good one’
- [kjẽ^{11} ɑ^{54}-sʌ^{43}-pʌ=ko^{32}] rice NEG-good-NOM=DEF ‘the bad-tasting rice’

Manange Tone Contour Word

WTID 1 **LID** 690 Manange **UNIT** p-domain

WTYPE 1 Single Tone Contour/Melody

PHON DOMAIN 4 span

RESOLUTION 17 preservative spread/assimilation

Inputter 24 Kristine

Date 2-10-2003

Reliability 3 Grammar Explicit

Morph Domain

Align ID 7 Domain ID 64

Align spans Domain stem ± prefix ± suffix ± particle

Gram Domain Size 4

Synthesis

Number Formative Slots

Bipartite Stem 1

Max number categories in sequence

Number of Available Morphemes 4

Strata

Stratum ID 8 all but approx 15 disyllabic noun roots **Source** all

if source is loanword:

LID1
LID2
LID3
LID4
LID5
LID6

KNOWN LENDING LANGUAGES

206	Nepali
375	Tibetan (Standard Spoken)

Notes Hildebrandt 2003, 2004, 2005 see WTID 327

AUTOTYP

G-Words

- **In morphology & syntax: general assumption of a maximum of 2 or 3 domains:**

  M (∑, Root, Affix)

  X^0 (Any syntactic head/terminal node)

  XP (Any syntactic phrase)

- **Other accounts of grammatical units also very general:**

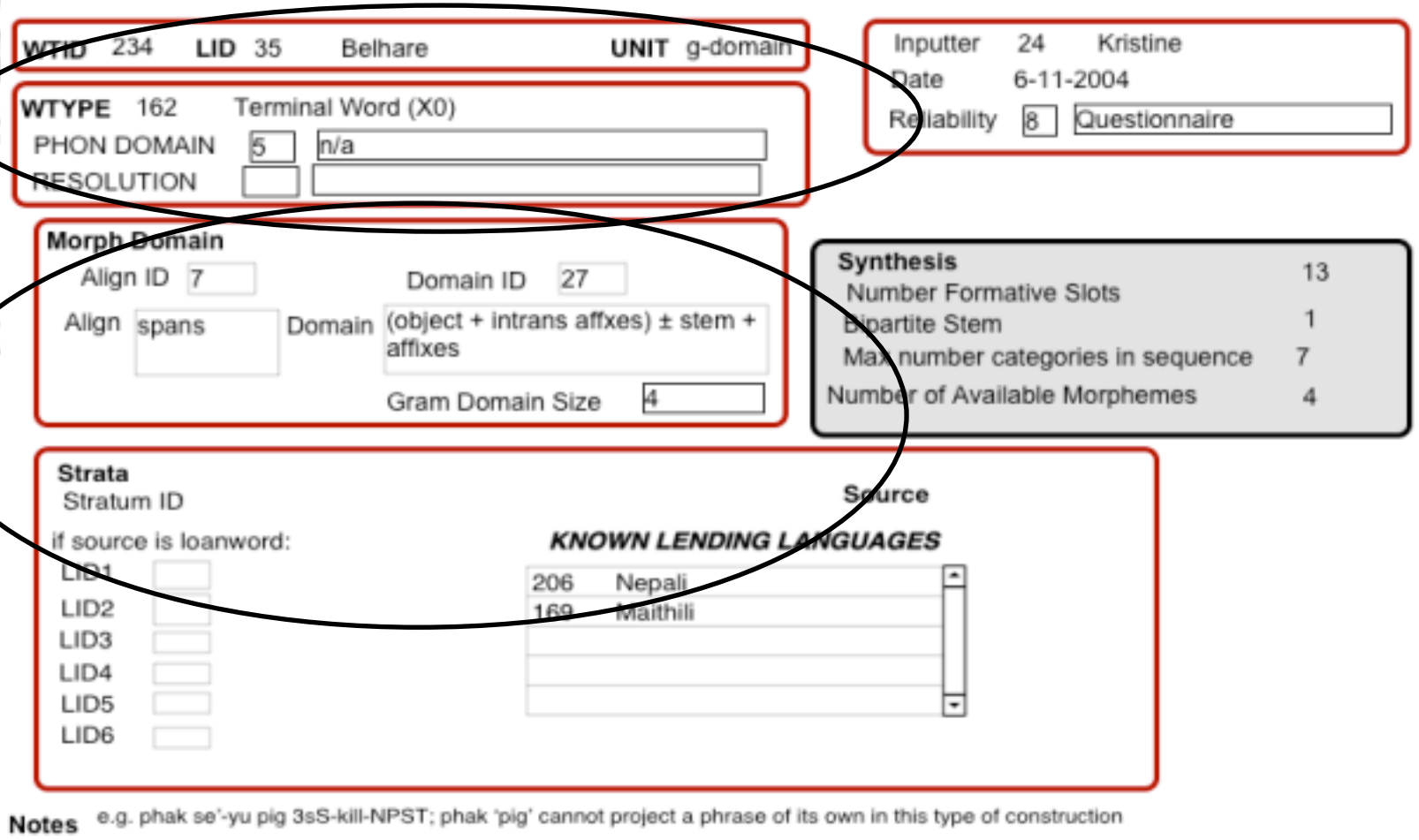
  Fixed combination or ordering possibilities for elements

  A certain "conventionalized meaning"

  A degree of coherence

  (e.g. Dixon & Aikhenvald 2002)

G-word in Belhare (Tibeto-Burman)



Belhare 'Terminal Word'

- Domain: (object+intransitive affixes) ± all stem parts +affixes
- pʰak se?-yu
  pig [3sS-]kill-NPST
  'S/he kills pigs'
- pʰak 'pig' cannot project a phrase on its own:

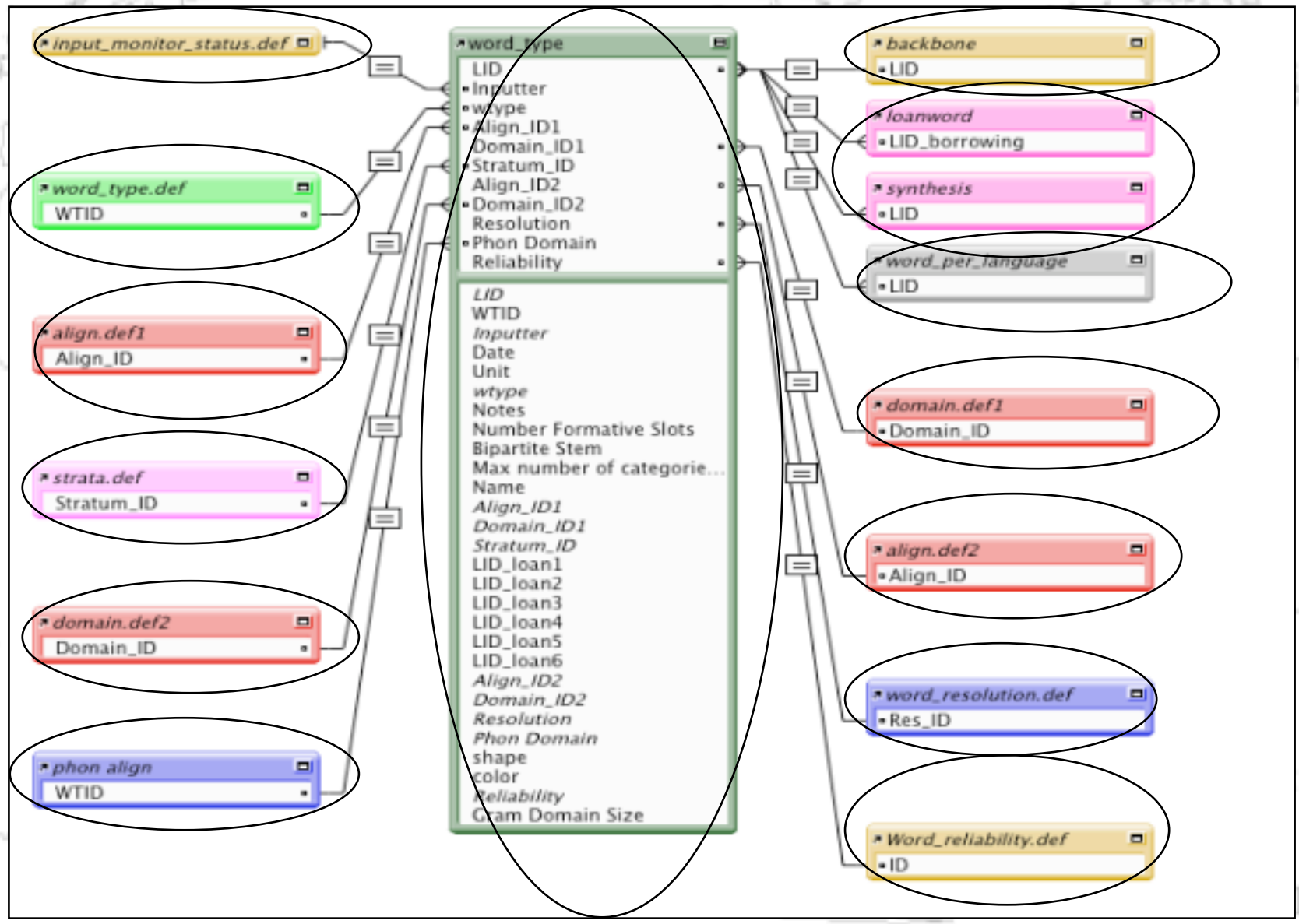
*eikʰa pʰak se?yu 'S/he kills big pigs'

- *Not* incorporation: pʰak=to se?yu

III. A comprehensive catalogue of word types

- Description of process/constraint & resolution (if applicable)
- Description of phonological domain & alignment type
- Description of grammatical domain & alignment type
- Exceptions or ‘strata’
- Distribution of types, sizes, alignments

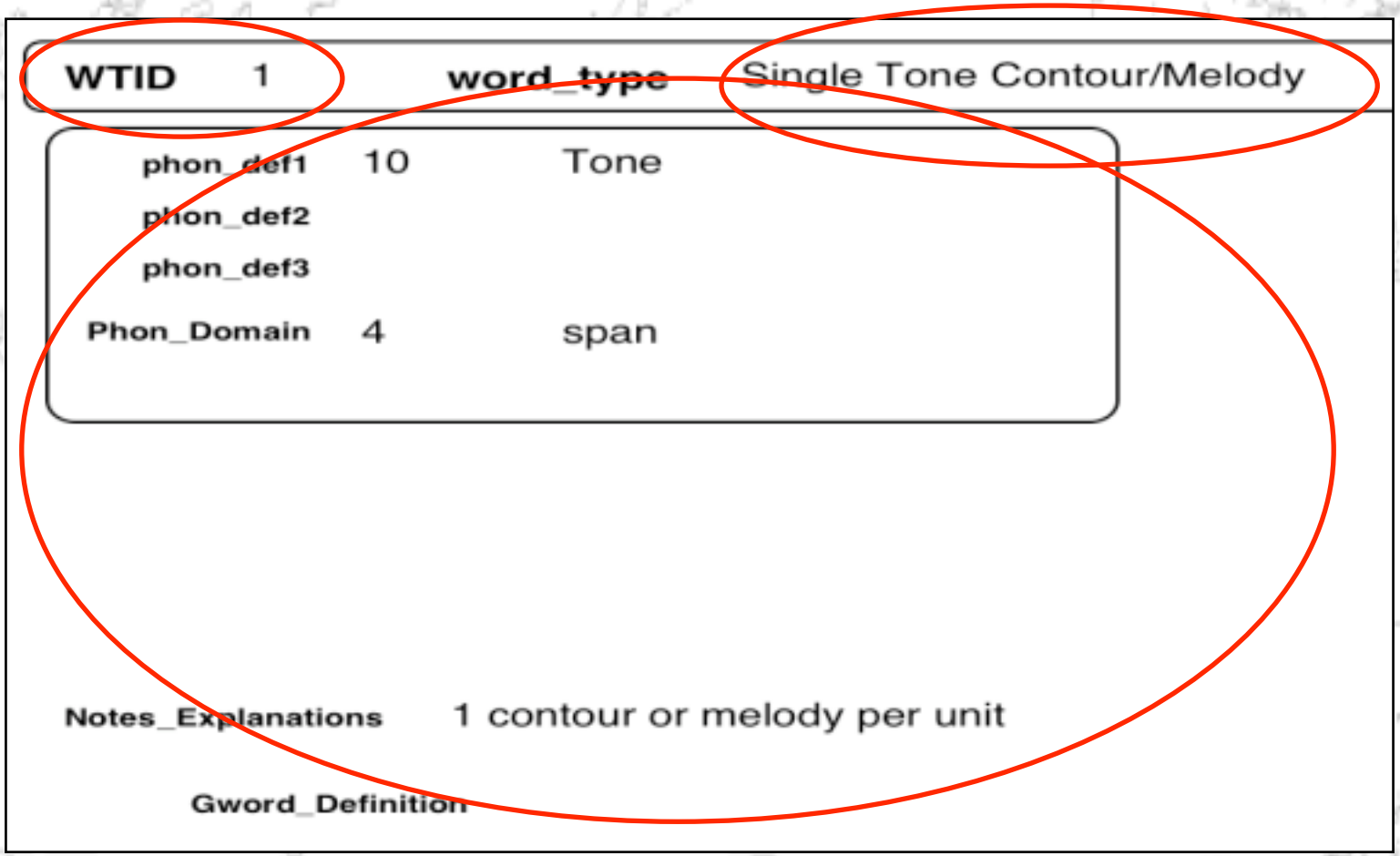
What goes into Word Records?



In addition to Manange...

LID	::Language	WTID	I...	::<File...	...	Unit	wty...	word_type.def::word_type
690	Manange	1	24	<File	2	p-domain	1	Single Tone Contour/Melody
691	Tibetan (Lhasa)	84	24	<File	1	p-domain	1	Single Tone Contour/Melody
664	Kham	282	24	<File	8	p-domain	1	Single Tone Contour/Melody

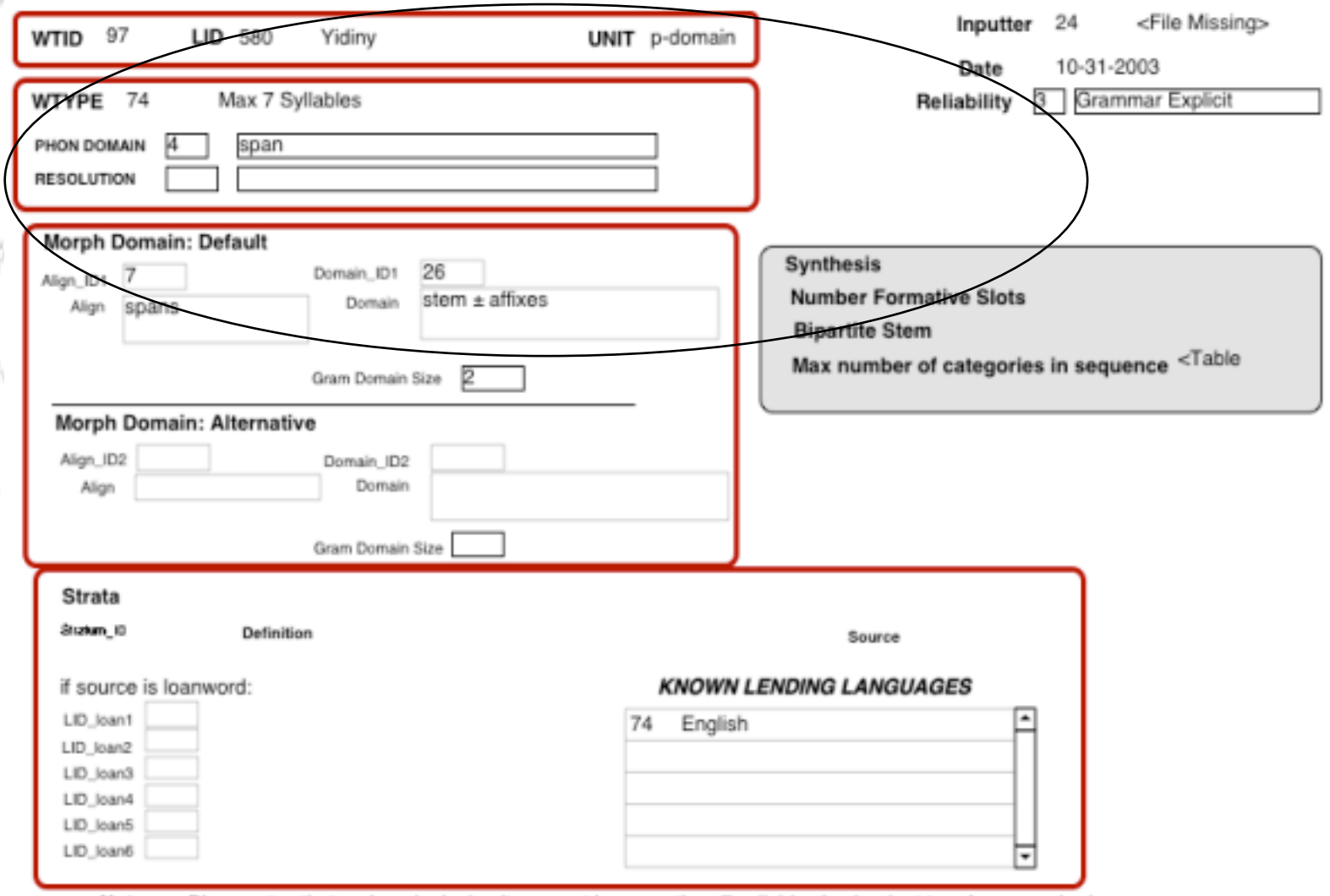
WordType_1: Single Tone Contour



Some other recurring P-Domain Types

- 5 languages: *CC ‘coda’ position restrictions
- 10 languages: *CC ‘onset’ position restrictions
- 5 languages: Single Main Stress
- 6 languages: *V-initial syllable restrictions

A 'Rare' P-domain: Yidiny



IV. Traditional Approaches to P & G Domains

- The Prosodic Hierarchy
- Prosodic, Grammatical Alignments, & Cross-Domain Alignments
- What we are finding so far...

Prosodic Hierarchy

Series of nesting domains for phonological rules/processes

phonological utterance (U)

intonational phrase (IP)

phonological phrase (ϕ)

phonological word (ω)

foot (F)

syllable (σ)

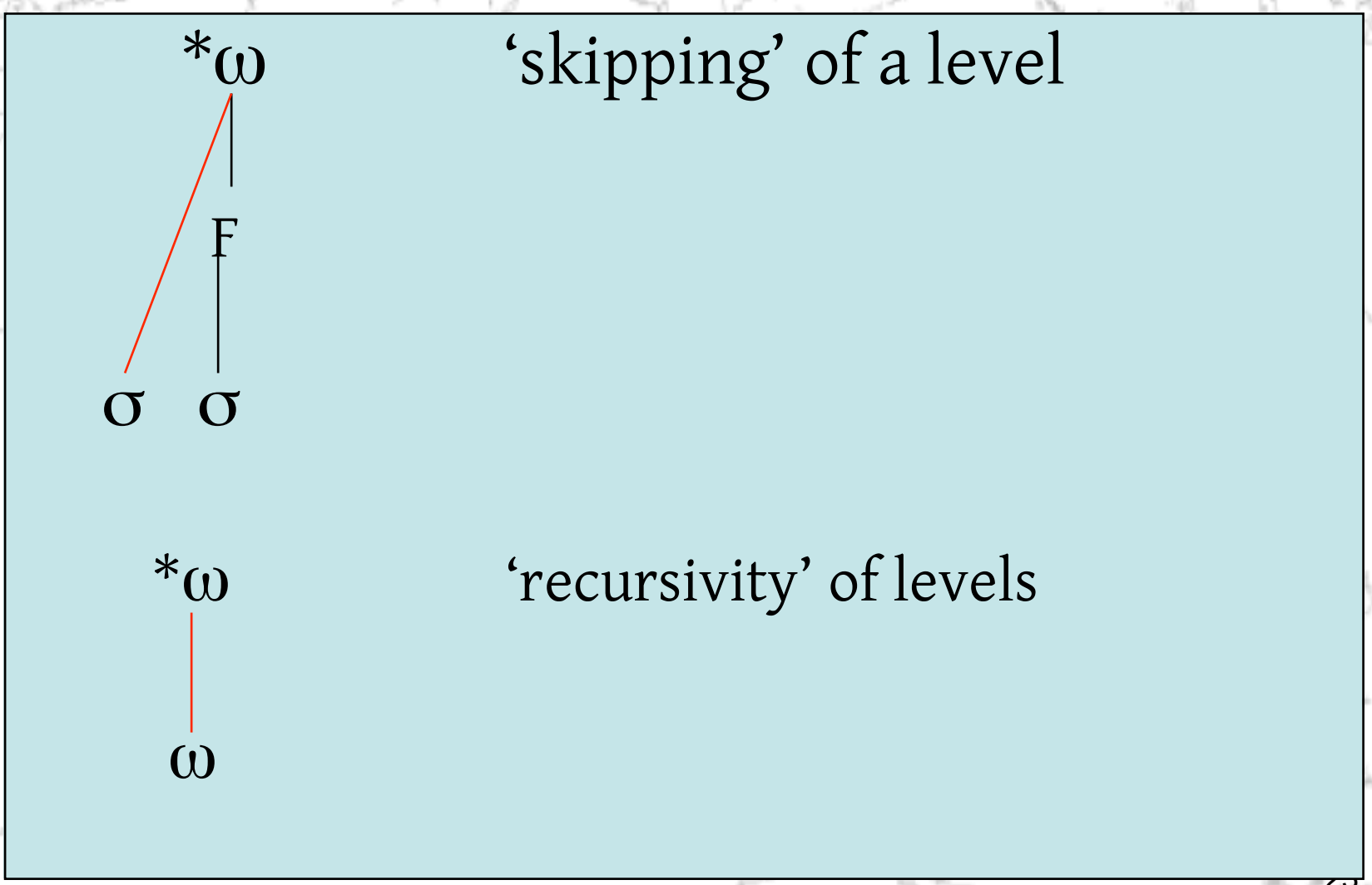
mora (μ)

AUTOTYP

Prosodic Hierarchy: Alignment

- UG specifies these prosodic constituents, arranged in a hierarchy
- Hierarchy characterized by principles & constraints (Selkirk 1980; Nespor & Vogel 1986)
    - Strict Layer Hypothesis: "A prosodic constituent of rank n is immediately dominated by a single constituent of rank n + 1"

Alignment: Strict Layer Hypothesis



'skipping' of a level

'recursivity' of levels

- Recursivity permittable (Ladd 1986)
- Violable constraints (Optimality Theory) (Ito & Mester 1992; Selkirk 1995; Peperkamp 1997):
  - NONRECURSIVITY: No C_i dominates another C_i
  - EXHAUSTIVITY: No C_i immediately dominates a C_k, $k < i-1$
- Non-Recursivity (Truckenbrodt 1999)=
  - P-phrases in recursive structures must be maximally alike in extension

Grammatical Domains: Alignment

- Correspondence constraints kept very general:
  - ALIGN (PCat, Edge; GCat, Edge), where PCat = {μ, σ, F, ω, ϕ} and GCat = {Af, Rt, ∑, X^0, XP} (McCarthy & Prince 1993)
  - Wrap-XP (Truckenbrodt 1999) Syntactic phrases are contained within only 1 phonological phrase
  - Tautomorphemicity (Crowhurst 1994; Bickel 1998; 2003)

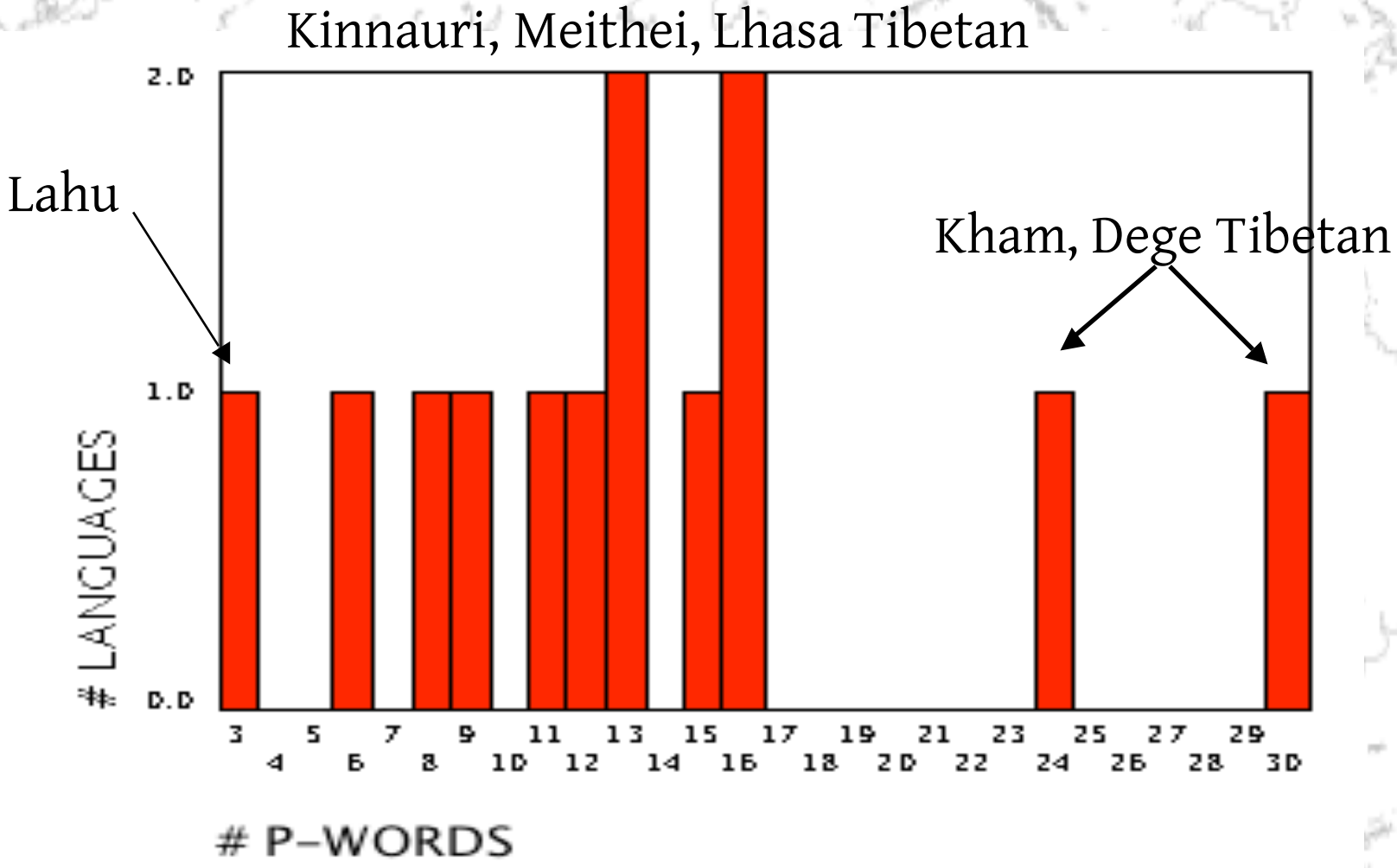
*(G-cat1)(G-cat2)

~~[P-CAT]~~

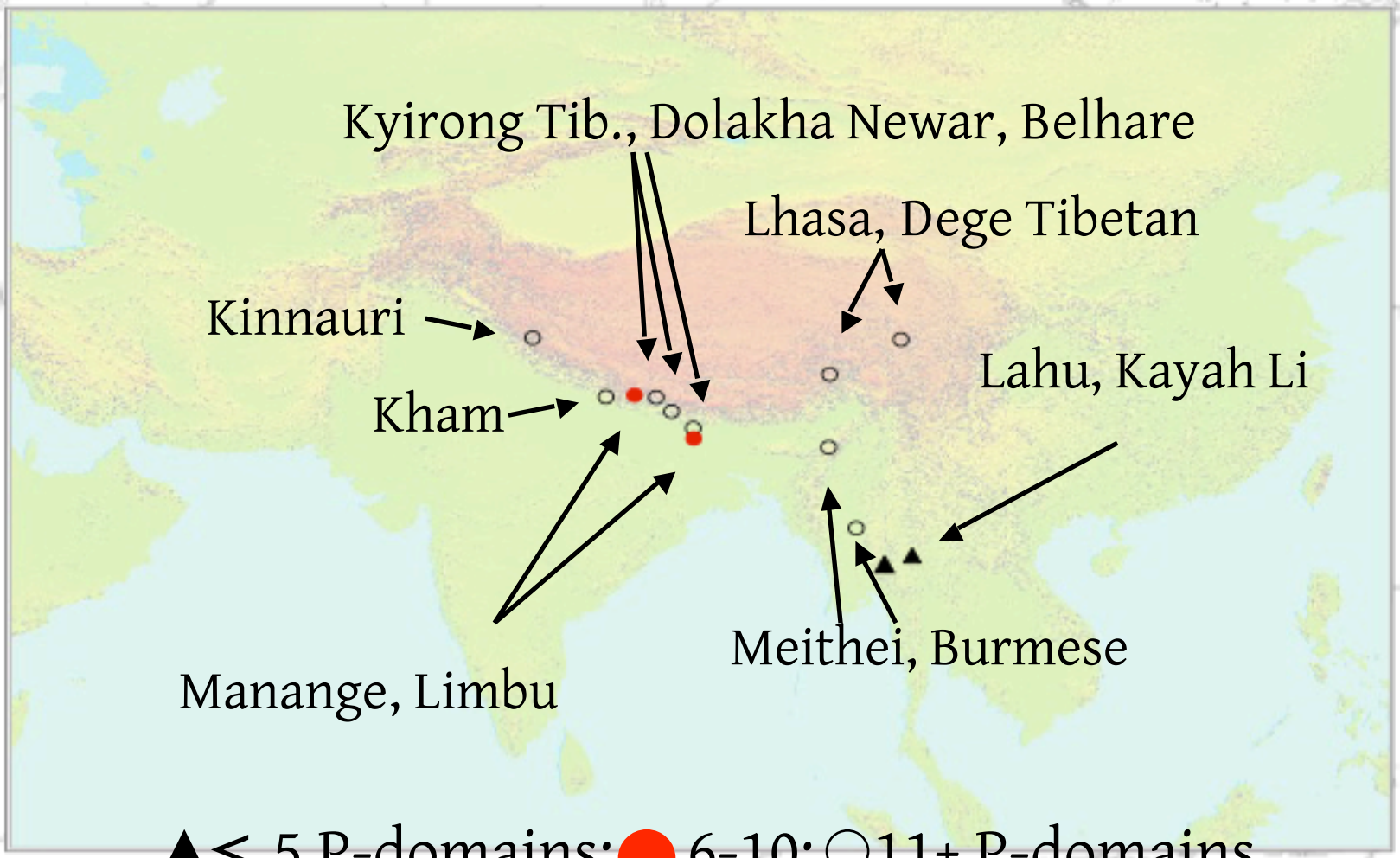
Our Findings: Diversity in Word Domains

- Languages often differentiate more than one P-domain
- Different P-domains reference different morphological information (non-isomorphism)
- P-domains not necessarily contained within each other à la traditional 'recursion' expectations

Numbers of P-Word Types: 13 Sino-Tibetan Languages

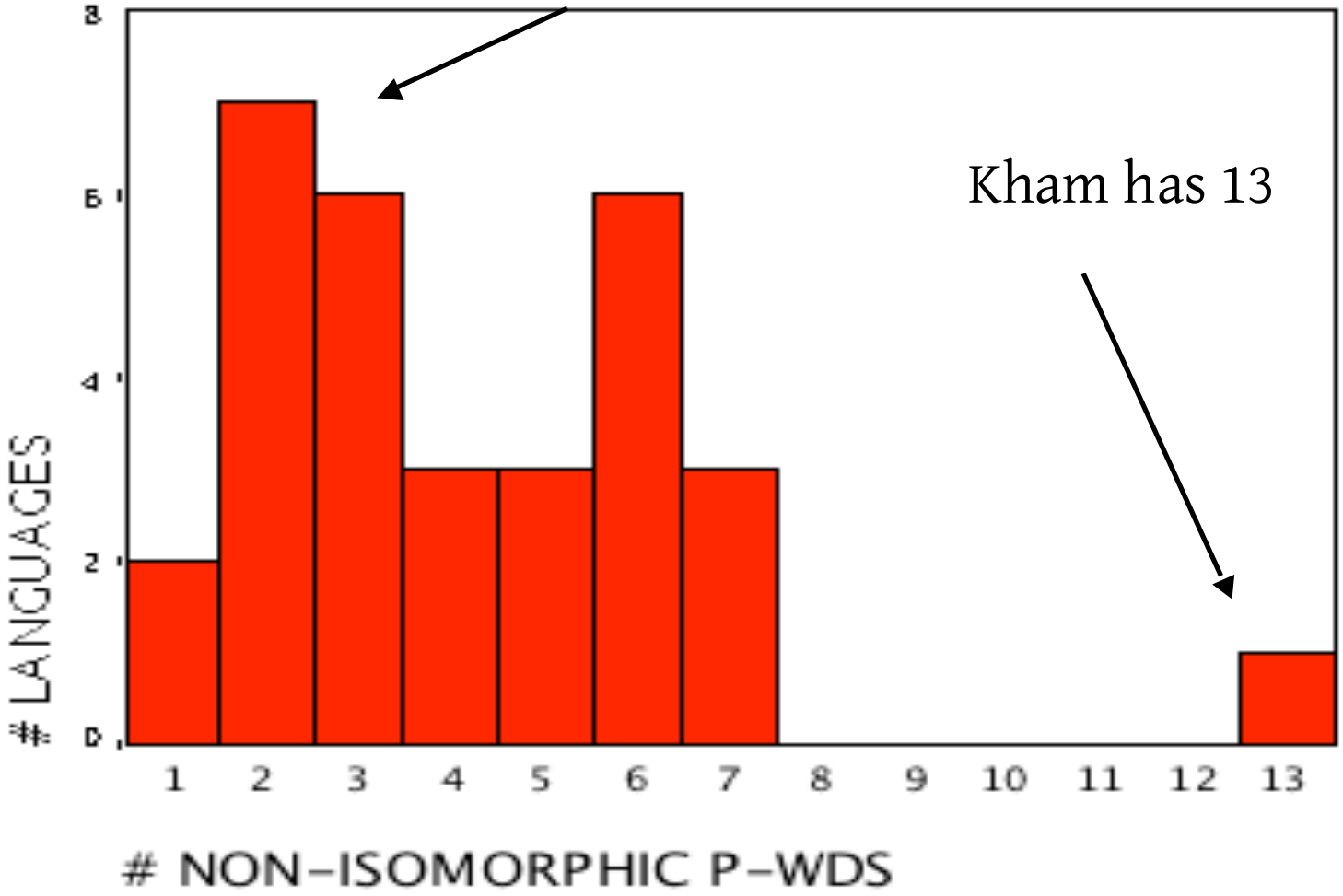


Geographic Distribution: Sino-Tibetan

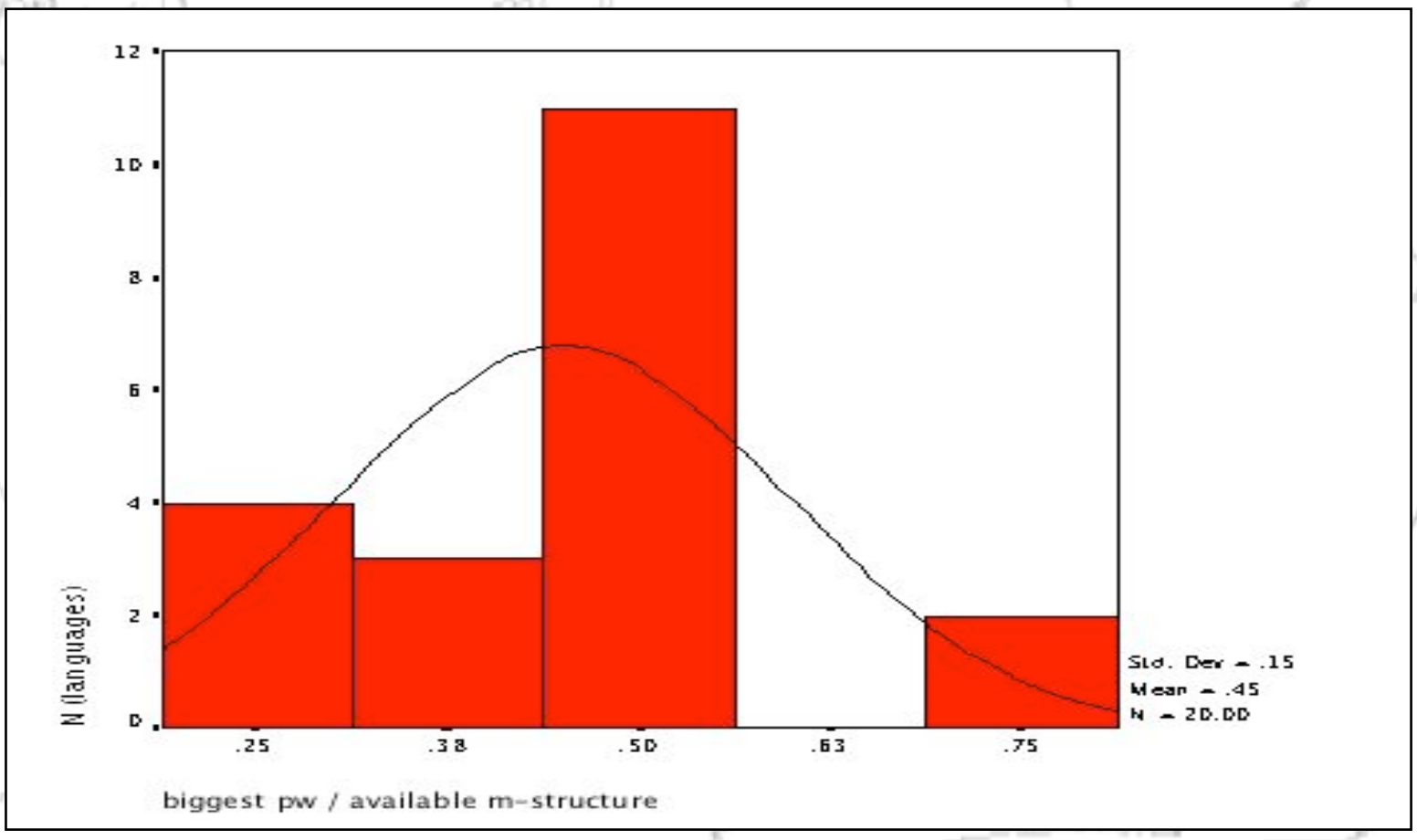


Non-Isomorphism: 27 languages

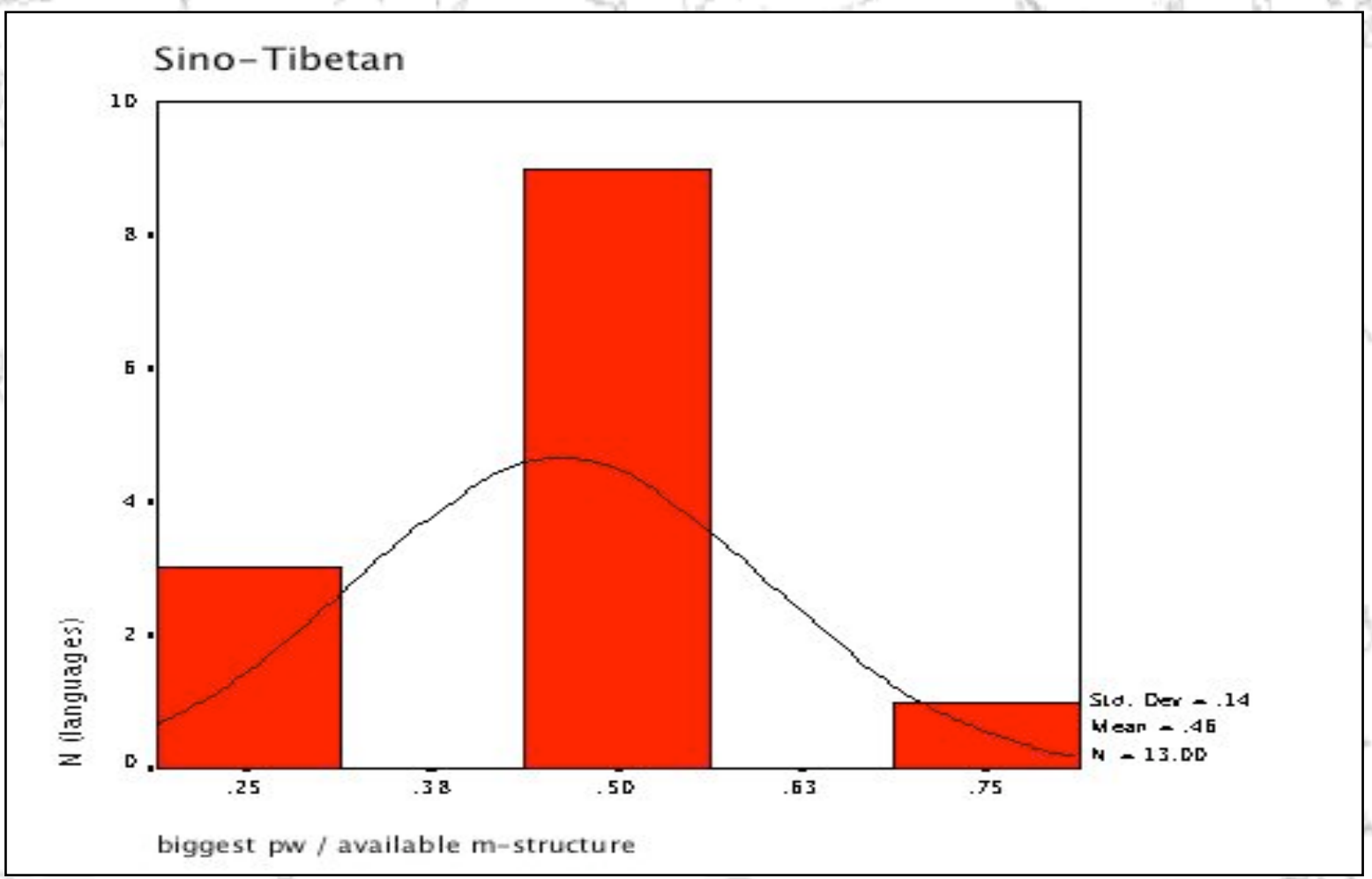
7 languages with 2 non-isomorphic p-words



Based on Available Morpheme Structure



Ratio: Sino-Tibetan only

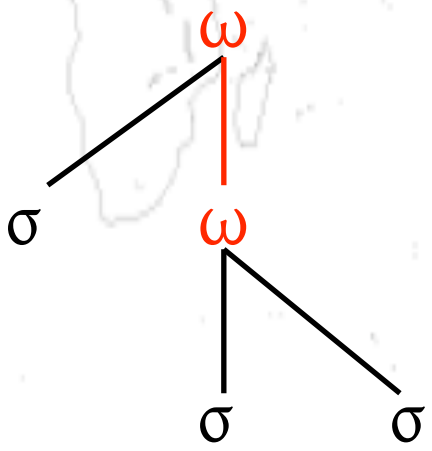


Recursion: Lahu (Sino-Tibetan)

PW1: Reduced Stress

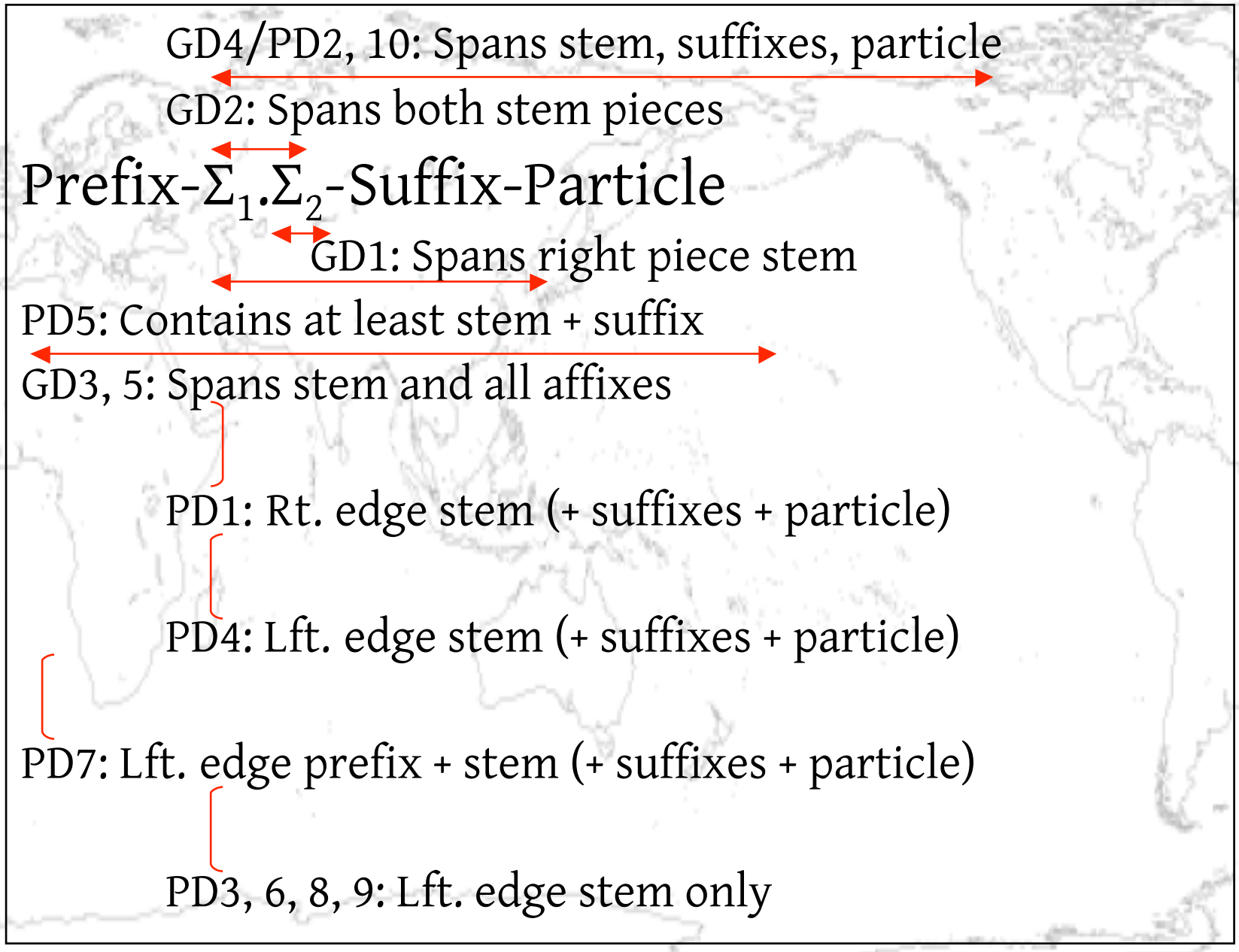
prefix-stem-suffix

PW2: Stem Tone Change



Recursion: Belhare

- Belhare: 12 P-domains; 6 G-domains
- Bipartite Stems


GD4/PD2, 10: Spans stem, suffixes, particle
GD2: Spans both stem pieces
Prefix-Σ1.Σ2-Suffix-Particle
GD1: Spans right piece stem
PD5: Contains at least stem + suffix
GD3, 5: Spans stem and all affixes
PD1: Rt. edge stem (+ suffixes + particle)
PD4: Lft. edge stem (+ suffixes + particle)
PD7: Lft. edge prefix + stem (+ suffixes + particle)
PD3, 6, 8, 9: Lft. edge stem only

V. Future Goals

- Catalogue & Typologize on diversity of domain types
- Focus: Sino-Tibetan & Austro-Asiatic vs. 'World' sample
- Enhance database with very detailed information (e.g. Questionnaires)
- Outcome: updating of traditional terminologies: fusion types, affix~clitic~particle

“The Questionnaires”

- http://www.uni-leipzig.de/~autotyp/download/index.html
- Designed for use in multiple settings, scenarios:
  - Reading/writing of grammars & descriptive phonology
  - Fieldwork/elicitation
  - Transcription & analysis of text data
- P-domains: a ‘bottom-up’ approach:
  - σ >> polysyllabic, monomorphemic >> polymorphemic >> phrasal/clausal constructions...
  - charting phonology that is sensitive to morphological (& syntactic) structure

AUTOTYP: People and funding

- **The AUTOTYP research team (as of October 2004)**
  - Johanna Nichols (Co-Director, Berkeley)
  - Balthasar Bickel (Co-Director, Leipzig)
  - Tracy Hall (Co-Director, Word Domains, Indiana University)
  - Fernando Zúñiga (Research Associate, Eugene/Zürich/Manchester/Santiago)
  - Kristine Hildebrandt (Post-Doc, Leipzig)
  - *RAs in Berkeley:* Gabriela Caballero, Suzanne Wilhite
  - *RAs in Leipzig:* Michael Riessler, Sven Siegmund, Sindy Poppitz, Franziska Crell, Kathi Stutz, Josh Wilbur, Jenny Seeg, Anja Gampe, Sebastian Hellmann
  - *Past team members:* Sandra Biewald, Aimee Lahaussois-Bartosik, Dave Peterson, Keith Sanders , Alena Witzlack-Makarevich, Rebecca Voll
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