



# Conceptualization of Pain: a Database for Lexical Typology

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# Lexical typology

- Linguistic typology: primarily focused on grammar or phonetic phenomena
- Lexical phenomena: outside of the main interests of modern typological research
- Lexical system as opposed to grammar: open class of meanings, which do not have any formal markers

# Pain

- Nobody has ever seen pain, but everyone has experienced it
- Saying about your pain is the only way to make the others know you have pain (or what kind of pain you have)
  - There should be conventionalized means to talk about pain in a language
- Pain domain normally has very few of its own lexical means in languages and is generally described metaphorically.

# Language data

- 15 languages:

Russian, Ukrainian, Bulgarian, Czech, Lithuanian, English, German, French, Georgian, Agul (Daghestanian), Balkar (Turkic), Estonian, Hungarian, Japanese, Khmer.

## Data elicitation:

- questionnaires
- sessions with experts on languages
- corpora (if available)

# Pain parameters

- **Pain localization**
- **The stimulus situation of pain**
- **The metaphorical source of the pain verb**
- **Pain intensity**
- **The metaphorical extension of the pain verb to the domain of emotions**
- **Syntactic constructions of pain verbs**

# Pain localization

- Agul:
  - facunaa 'to be seized' {nose, throat, back}
- German:
  - beißen 'to bit' {eyes, nose}
- Russian:
  - rezat' 'to cut' {eyes, stomach}
  - (Table 1)

# Stimulus situation of PAIN

- Hungarian

- soap got into an eye → *csíp* 'sting'
- eye fatigue from computer work → *káprázik* 'swim').

# Basic set of metaphorical sources

- fire
- sound
- destruction
  - agentive
    - instrumental, cut/shoot-like
    - bite-like
    - break-like
  - non-agentive, burst/break-like
- deformation of structure
  - agentive, pull-like
  - non-agentive, swell/shrink-like
- motion
  - directional
  - circular
- block/fill-like
- tickle-like
- human-like actions



# Metaphorical sources: Examples

## ● Fire

- Georgian
  - Tavi mixurs
  - head burns
- English
  - My eyes are burning

## ● Sound

- German
  - Mein Kopf summt.
  - my head buzzes
- Russian
  - Nogi gud'at
  - feet hoot

# Metaphorical sources: Examples

- Destruction: agentive

- *Lithuanian*

- **Grauž-ia** ak-is.  
gnaw-3.prs eye-pl.acc

- *French*

- J'ai le dos **rompu**.
- I have DEF back broken

- Destruction: non-agentive

- *Czech*

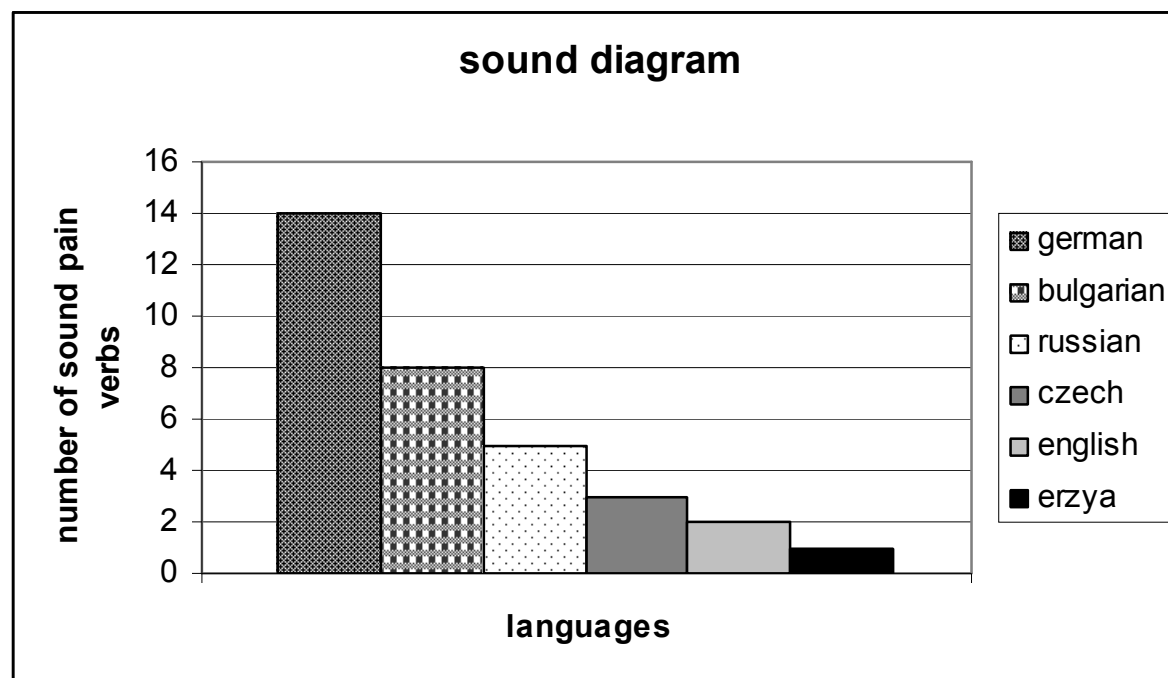
- **Rozskoči-l-a** se mi hlava.
- break-pst-f refl I.dat head.Nom



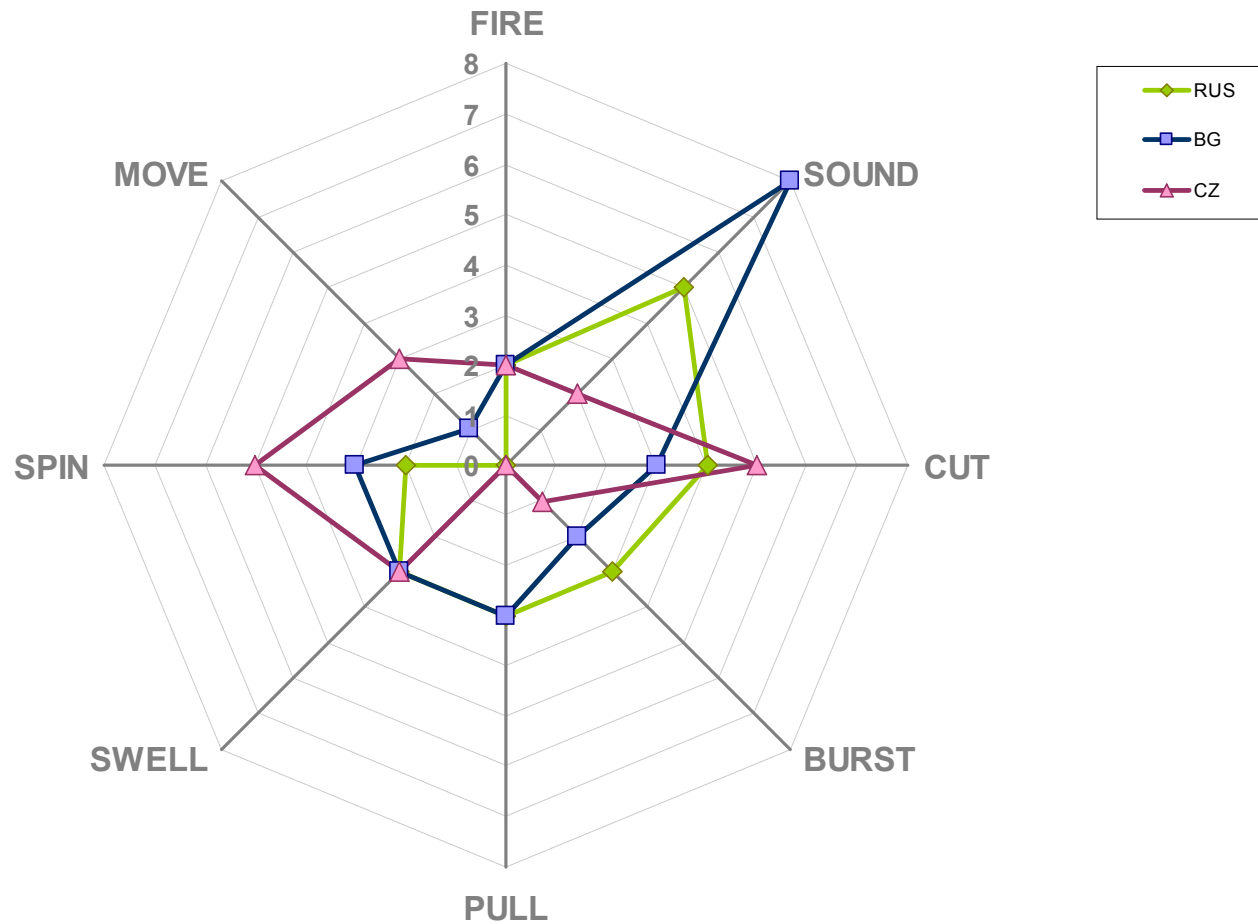
# Metaphorical sources

- ***How to compare the sets?***
- Count the number of verbs in each language for each source:
  - easy to perform and viewy outcome
  - you never know if you have exhausted all the verbs, if the informant hasn't missed anything, and if the corpora example is not a literary figure, but a broadly used construction.

# Metaphorical sources: Sound



# Metaphorical sources: Russian, Bulgarian, Czech



# Pain intensity

- Russian

- ranu                      ščipet  
wound-acc                  pinch-3sg
- ranu                      žžet  
wound-acc                  burn(tr)-3sg

- German

- Mein Kopf summt  
my                  head          buzzes<bee>
- Mein Kopf brummt  
my                  head(tr)roar<bear>/hoot<engine>

# Emotion viewed as pain

- Agul

- *jurk' uгаа*

heart burn

= 'anxiety'

- Hungarian

- *felfordul a gyomrom*

stomach turns round

= 'disgust'



# Syntactic constructions :

## INTR→INTR

- source verb: intransitive

- $X_s$

- pain verb: intransitive

1. REASON  $\emptyset$ /obl BPs EXPdat/poss
2. REASON  $\emptyset$ /obl EXPdat/poss BPloc

- English    *exp*    *body-part*    *V*  
**My**    **throat**    **is burning.**

- Estonian    *exp*    *body-part*    *V*  
**Minul**    **pea-s**    **kumiseb.**  
*l.gen*    *head-iness*    *buzz.3sg*

# Syntactic constructions: TR→TR

- Source verb: transitive
  - $X_a Y_o$
- Pain verb: transitive
  1. REASON<sub>∅/obl</sub> **BP<sub>a</sub> EXP<sub>o</sub>**
  2. **REASON<sub>a</sub> BP<sub>o</sub> EXP<sub>dat/poss</sub>**
  3. REASON<sub>∅/obl</sub> **BP<sub>o</sub> EXP<sub>dat/poss</sub>**
  4. REASON<sub>∅/obl</sub> **EXP<sub>o</sub> BP<sub>loc</sub>**

# Syntactic constructions: TR→TR

<i>Bulgarian</i>	<i>body-part</i>	<i>exp</i>	<i>V</i>	
	<b>Gərb-ət</b>	<b>me</b>	<b>bode</b>	
	back-def.m	I.acc	prickle.3sg	
<i>Russian</i>	<i>exp</i>	<i>reason</i>	<i>V</i>	<i>body-part</i>
	<b>Mne svet</b>	<b>rezh-et</b>	<b>glaz-a</b>	
	I.dat	light	cut-3sg	eye-pl.acc
<i>Balkar</i>	<i>body-part+exp</i>		<i>V</i>	
	<b>Beli-m-i</b>		<b>tarta-dy.</b>	
	back-1poss-acc		pull-3.prs	
<i>Bulgarian</i>	<i>V</i>	<i>exp</i>	<i>body-par</i>	
	<b>Bode</b>	<b>me</b>	<b>v</b>	<b>grədi-te.</b>
	prickle.3sg	I.acc	in	chest-def.pl

# Syntactic constructions: TR→INTR

- Source verb: transitive

- $X_a Y_o$

- Pain verb: intransitive

1. REASON<sub>∅/obl</sub> EXP<sub>dat/poss</sub> BP<sub>loc</sub>

2. REASON<sub>∅/obl</sub> **BP<sub>s</sub>** EXP<sub>dat/poss</sub>

# Syntactic constructions: TR→INTR

- *German*

**Es** **beißt** **mir** **in** **den** **Augen.**  
it bites I.dat in def.dat.pl eye.pl

- *Russian*

**Vchera** **vecherom** **u** **menja** **ochenj**  
*yesterday evening* *I.poss* *very*  
**bok** **kolol**  
*side* *prickle-pst.m.sg*