



Philipps



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Weltweite Sprachvariation als Erkenntnisfenster

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 Deutscher Sprachatlas

 **LOEWE** – Landes-Offensive zur
Entwicklung **Wissenschaftlich-**
ökonomischer **Exzellenz**

Krisen der Sprachtypologie

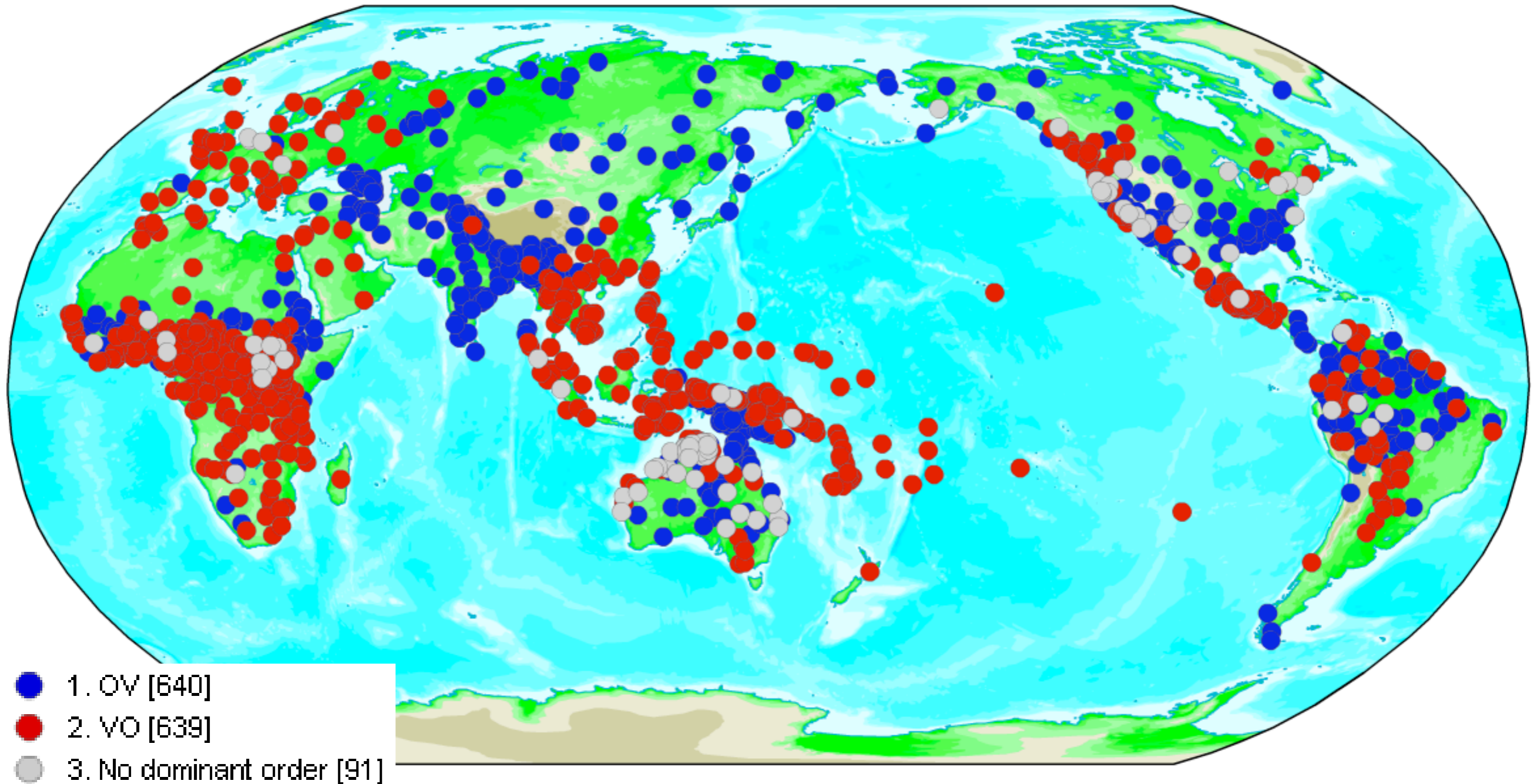
- Ist die vorhandene Sprachvielfalt groß genug ?
- Welche Kategorien können wir benutzen ?
- Wo sind denn jetzt die Universalien ?

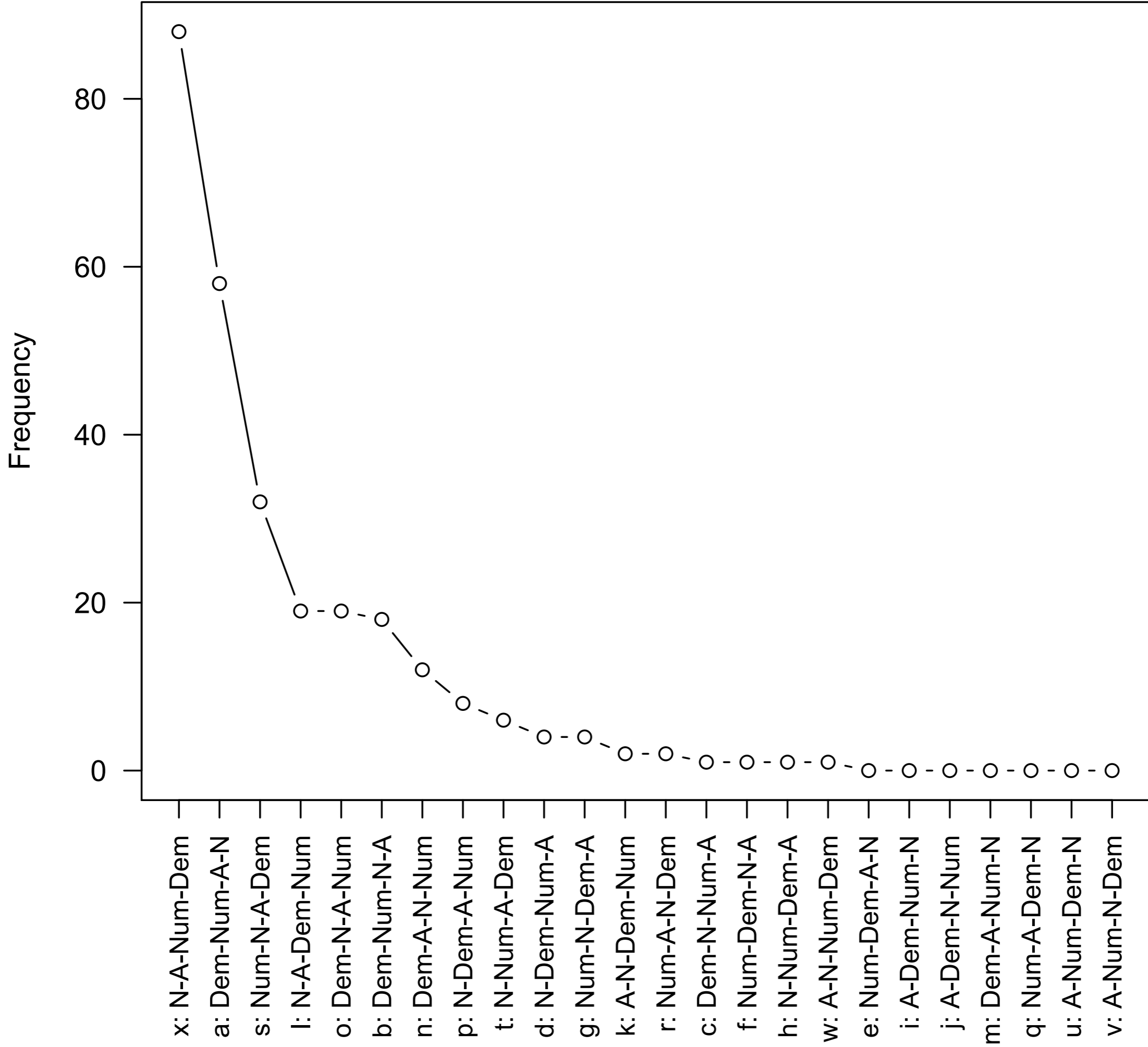
Krise I: Sprachvielfalt ?

- Die klassische Typologie sagt
 - ▶ Vorsicht mit Sprachverwandtschaft & Sprachareale
- Deshalb
 - ▶ Stichproben (“sampling”)
- Probleme
 - ▶ Makroareale
 - ▶ Zu wenig unabhängige Sprachen
- Lösung: **Dynamische Typologie**

Order of Object and Verb

(Mathew Dryer 2005 from WALS)





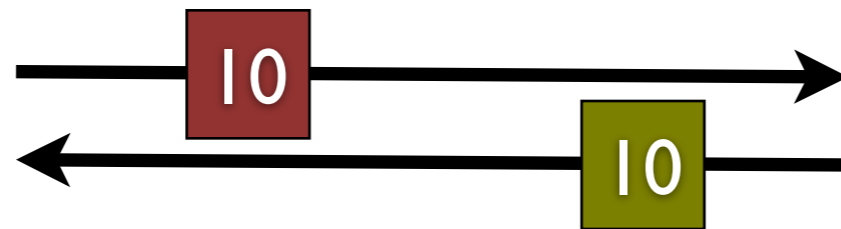
Dynamic Typology

- It is not the **actual frequencies** that matter
- It is the **stable distribution** that matters
- A stable distribution is a situation in which just as many languages change from **A to B** as change from **B to A**.
- The extent to which the **actual is different from the stable situation** signals an effect of history

Type A

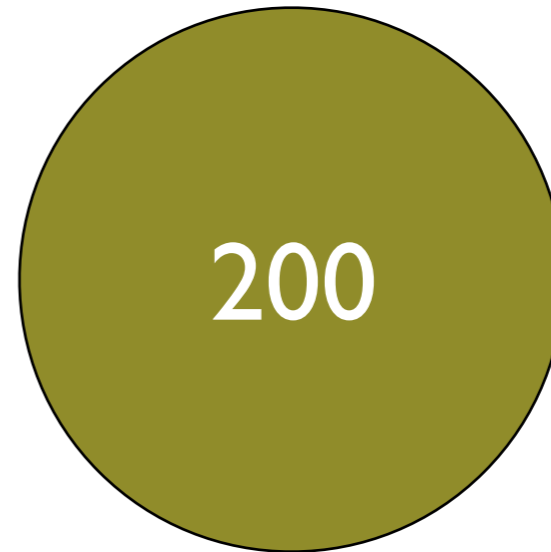


probability of
change: 20%



probability of
change: 5%

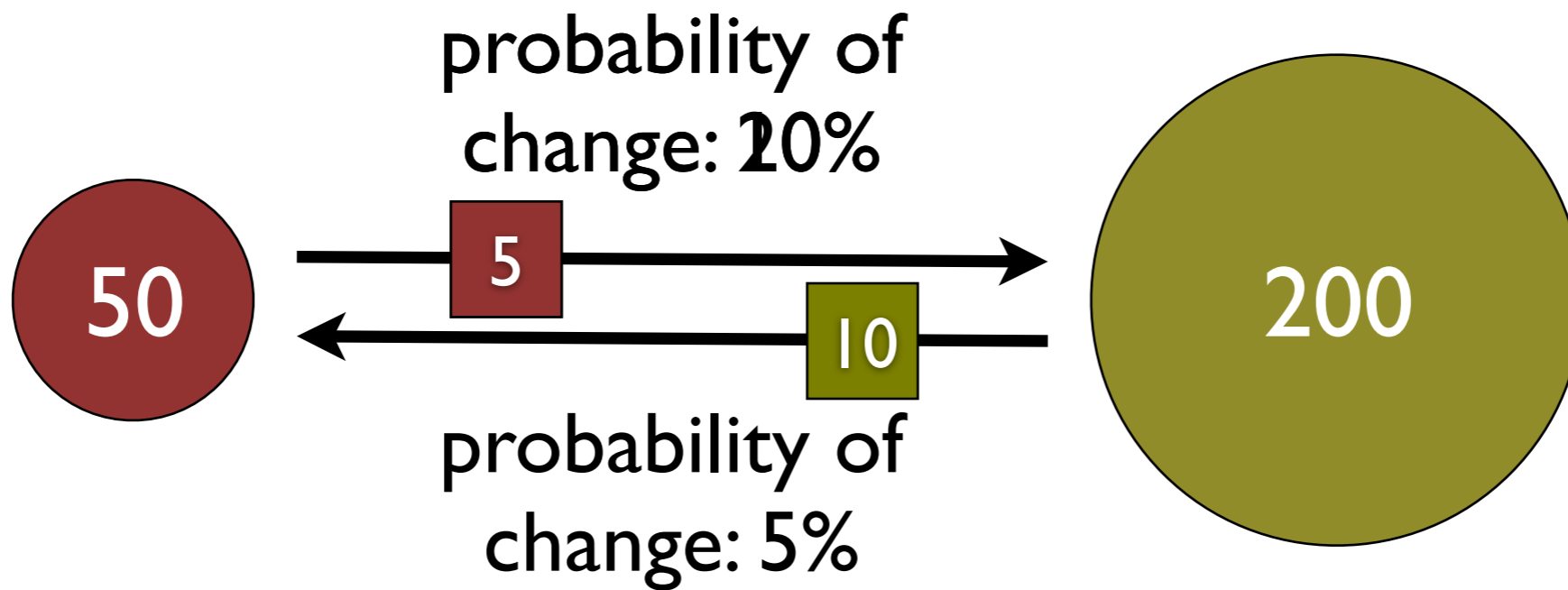
Type B



Stable distribution

Type A

Type B

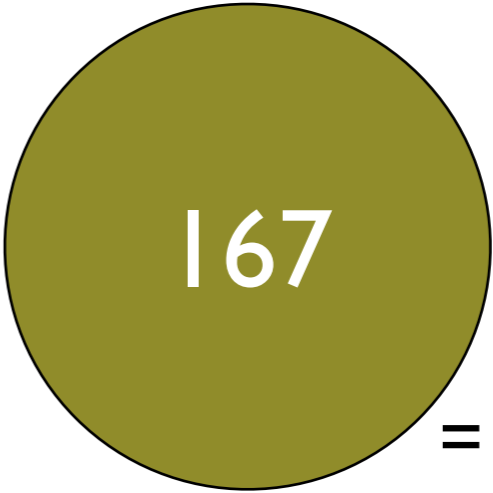
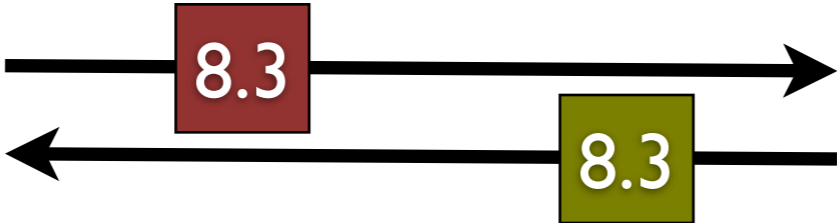
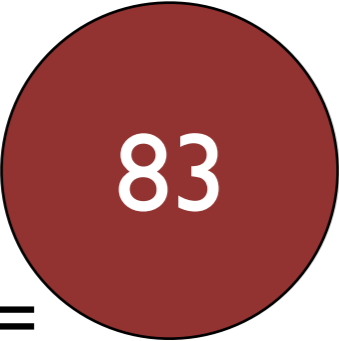


Instable distribution

Type A

Type B

probability of
change: 10%



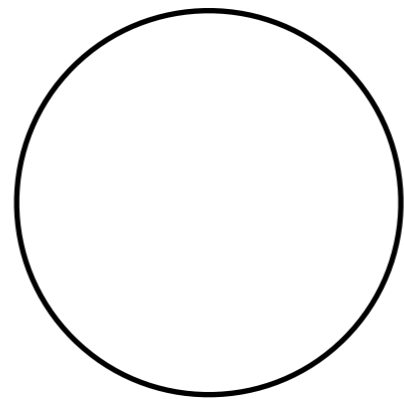
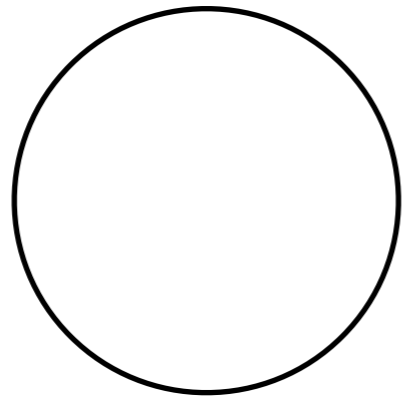
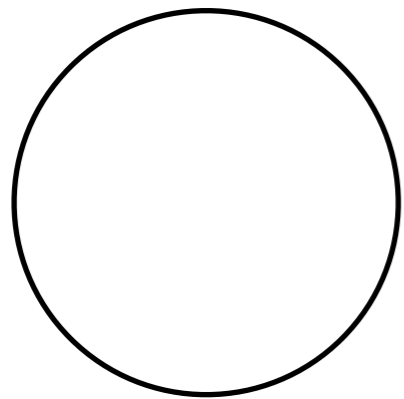
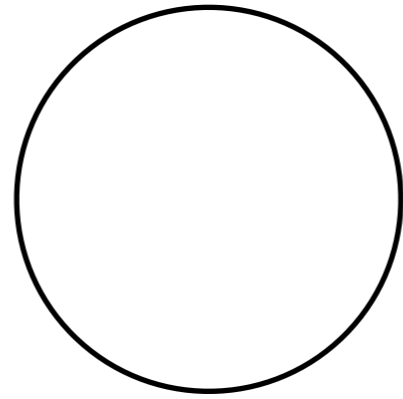
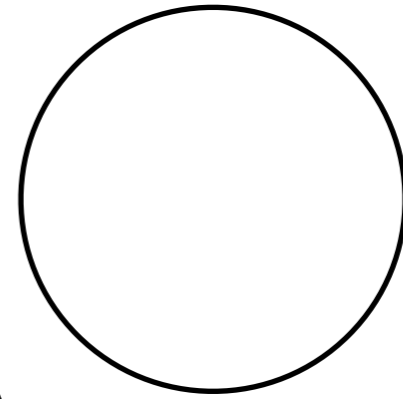
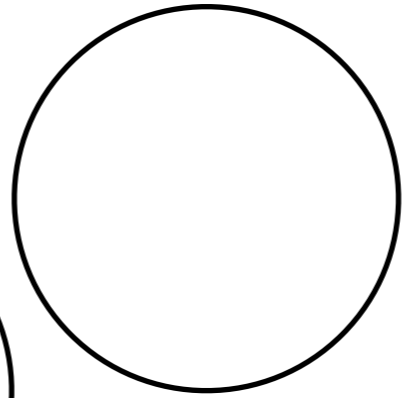
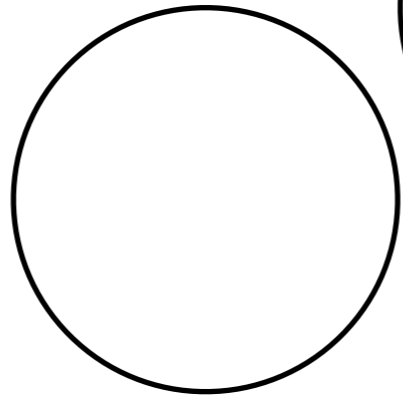
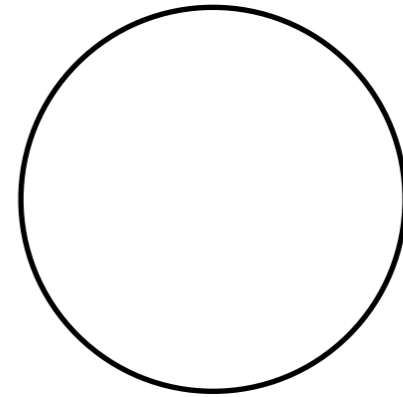
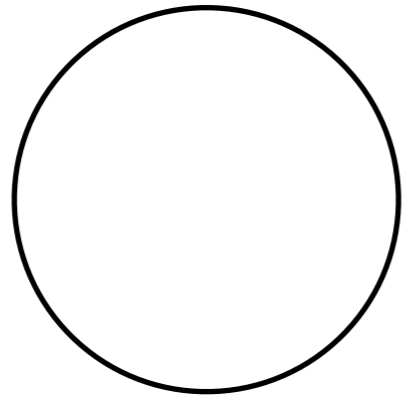
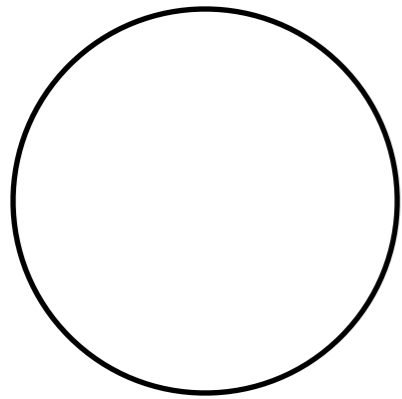
probability of
change: 5%

$5/10+5 \times 250 =$

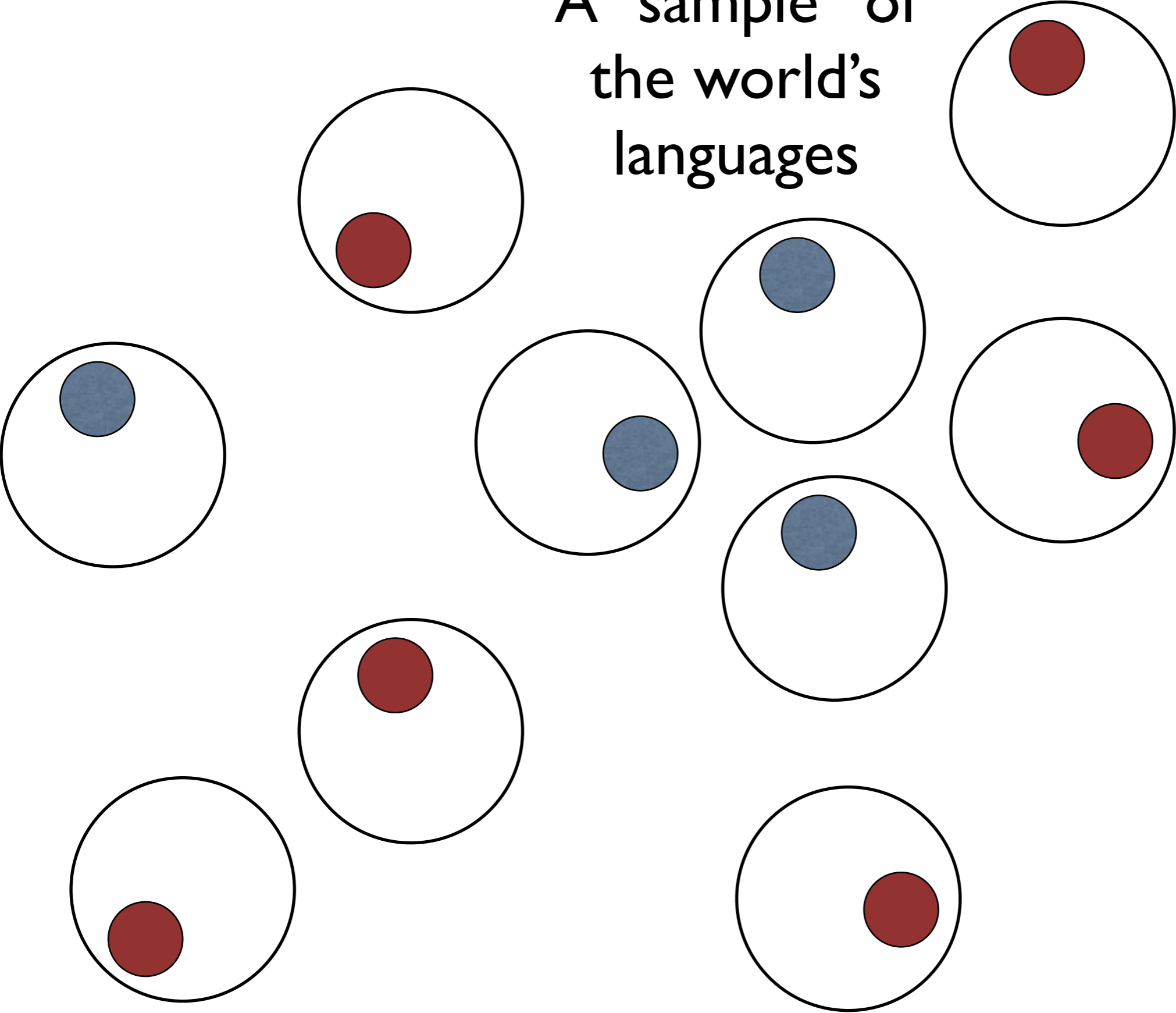
$= 10/10+5 \times 250$

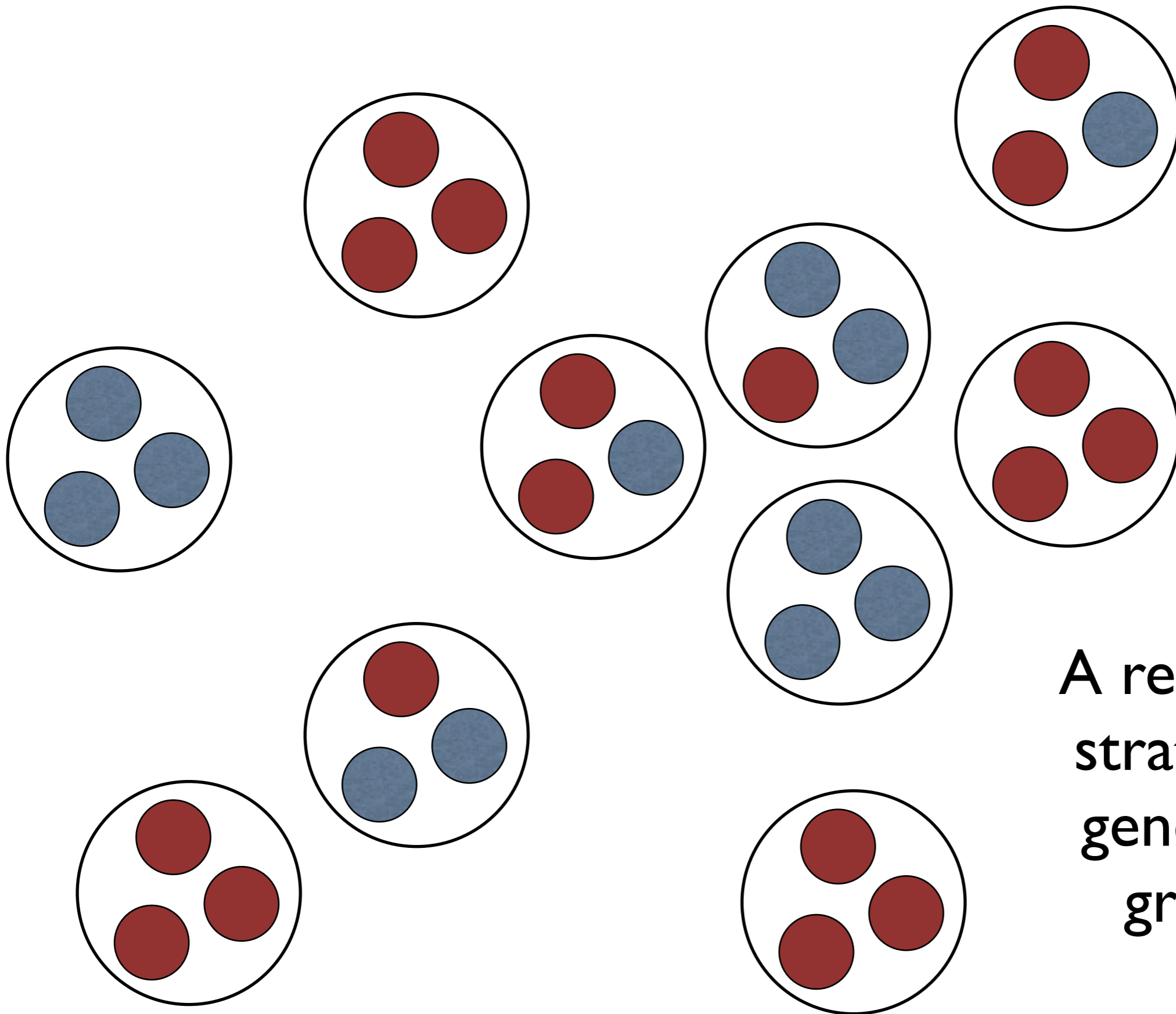
Expected stable distribution

The world's families



A "sample" of
the world's
languages





**A real sample
stratified for
genealogical
grouping**

Dynamic Typology

- Investigate typological variation including
 - ▶ **Between-family** variation
 - ▶ **Within-family** variation
- Switch from
 - ▶ **estimating attested frequencies** to
 - ▶ **estimating transition probabilities**
- Sample family-internal variation !!!

Krise 2: Kategorien ?

- Die klassische Typologie sagt
 - ▶ Traditionelle grammatische Kategorien sind viel zu Eurozentrisch für die weltweite Sprachvielfalt
- Deshalb
 - ▶ funktionale Vergleichsbasis & Klassifikation in “Strategien”
- Probleme
 - ▶ Klassifikation ist arbiträr und sehr arbeitsaufwändig
- Lösung: **Typologie ohne Typen**
 - ▶ Multivariate Typologie
 - ▶ System Typologie



Feature 117A: Predicative Possession

by Leon Stassen

[show map](#)

This feature is discussed in [chapter 117](#). Related examples are available.

Values

- Locational (48 languages)
- Genitive (22 languages)
- Topic (48 languages)
- Conjunctive (59 languages)
- 'Have' (63 languages)

total: 240

Inchoative - causative verb pairs

- Causative
“The girl broke the stick.”
- Passive of Causative
“The stick was broken (by the girl).”
- Inchoative
“The stick broke.”

Haspelmath, Martin. 1993. More on the typology of inchoative/causative verb alternations, in: Bernard Comrie & Maria Polinsky (eds.), *Causatives and Transitivity*. 87-120. (Studies in Language Companion Series). Benjamins: Amsterdam.

Table 2. The 31 inchoative/causative verb pairs

1. 'wake up (intr.)/(tr.)'	12. 'change (intr.)/(tr.)'	22. 'finish (intr.)/(tr.)'
2. 'break (intr.)/(tr.)'	13. 'melt (intr.)/(tr.)'	23. 'turn (intr.)/(tr.)'
3. 'burn (intr.)/(tr.)'	14. 'be destroyed/destroy'	24. 'roll (intr.)/(tr.)'
4. 'die/kill'	15. 'get lost/lose'	25. 'freeze (intr.)/(tr.)'
5. 'open (intr.)/(tr.)'	16. 'develop (intr.)/(tr.)'	26. 'dissolve (intr.)/(tr.)'
6. 'close (intr.)/(tr.)'	17. 'connect (intr.)/(tr.)'	27. 'fill (intr.)/(tr.)'
7. 'begin (intr.)/(tr.)'	18. 'boil (intr.)/(tr.)'	28. 'improve (intr.)/(tr.)'
8. 'learn/teach'	19. 'rock (intr.)/(tr.)'	29. 'dry (intr.)/(tr.)'
9. 'gather (intr.)/(tr.)'	20. 'go out/put out'	30. 'split (intr.)/(tr.)'
10. 'spread (intr.)/(tr.)'	21. 'rise/raise'	31. 'stop (intr.)/(tr.)'
11. 'sink (intr.)/(tr.)'		

Strategies for encoding inchoative-causative relation

- Different roots: **Suppletive** strategy (e.g. *die* - *kill*)
- Same roots:
 - ▶ No differentiation: **Labile** strategy (e.g. *break*)
 - ▶ With differentiation (functional typology):
 - ◆ Causative derived from Inchoative:
Causative strategy (e.g. German *enden* - *beenden*)
 - ◆ Inchoative derived from Causative:
Anticausative strategy (e.g. *be destroyed* - *destroy*)
 - ◆ No (synchronic) primacy for one or the other:
Equipollent strategy (e.g. German *versinken* - *versenken*)

APPENDIX

The 31 inchoative/causative verb pairs in 21 languages
(Abbreviations as in Table 3)

Arabic

1. ist-ayqaza/?-ayqaza (A);
šaḥaa/šaḥḥaa (C)
2. in-kasara/kasara (A)
3. iḥ-t-araqa/?-aḥraqa (E)
4. maata/qatala (S)
5. in-fataḥa/fataḥa (A)
6. in-qafala/qafala (A)
7. badaʔa (L)
8. darasa/darrasa (C);
ta-ʕallama/ʕallama (A)
9. il-t-amma/lamma (A)
10. in-t-ašara/našara (A)
11. ġariqa/?-aġraqa (C)
12. ta-baddala/baddala (A)
13. in-šahara/šahara (A);
saaḥa/sayyaḥa (C)
14. damara/dammara (C)
15. daaʕa/xasira (S);
fuqida/faqada (A)
16. ta-ṭawwara/ṭawwara (A)
17. ir-t-abata/rabata (A)
18. ġalaa/?-aġlaa (C)
19. ta-ʔarjaḥa/ʔarjaḥa (A)
20. in-ṭafaʔa/?-aṭfaʔa (E)
21. ir-t-afaʕa/rafaʕa (A)
22. in-t-ahaa/?-anhaa (E)
23. daara/?-adaara (C)
24. ta-daḥraja/daḥraja (A)
25. ta-jammada/jammada (A)
26. ḍaaba/?-aḍaaba (C)
27. im-t-alaʔa/malaʔa (A)
28. ta-ḥassana/ḥassana (A)
29. jaffa/jaffafa (C)
30. in-šaqqqa/šaqqqa (A)
31. waqqafa/waqqafa (C)

Armenian (citation form suffix *-al/-el*)

1. artna-n-al/artna-cn-el (C)
2. žard-v-el/žard-el (A)
3. ayr-v-el/ayr-el (A)
4. spa-n-el/mei-n-el (S)
5. bac-v-el/bac-an-al (E)
6. pak'-v-el/pak'-el (A)
7. sks-v-el/sks-el (A)
8. sovor-el/sovor-ecn-el (C)
9. havak-v-el/havak-el (A)
10. əndarc'ak'-v-el/əndarc'ak'-el (A)
11. xegol-v-el/xegol-el (A)
12. pox-v-el/pox-el (A)
13. hal-v-el/hal-el (A)
14. kand-v-el/kand-el (A)
15. k'or-č-el/k'or-cn-el (E)
16. zarga-n-al/zarga-cn-el (C)
17. k'ap'-v-el/k'ap'-el (A)
18. eī-al/eīa-cn-el (C)
19. č'oc'-v-el/č'oc'-el (A)
20. hang-č-el/hang-cn-el (E)
21. barzra-n-al/barzra-cn-el (C)
22. verša-n-al/verša-cn-el (C)
23. ptt-v-el/ptt-el, ptt-ecn-el (A, E)
24. glor-v-el/glor-el (A)
25. saī-č-el/saī-ecn-el (E)
26. luc'-v-el/luc'-el (A)
27. lc-v-el/lc-n-el (E)
28. lava-n-al/lava-cn-el (C);
barelav-v-el/barelav-el (A)
29. čora-n-al/čora-cn-el (C)
30. č'eyk-v-el/č'eyk-el (A)
31. k'angn-el/k'angn-ecn-el (C)

English

see above Table 2.

Finnish

1. herätä/herä-ttää (C)
2. murt-ua/murtaa (A)
3. palaa/pol-ttaa (C)
4. kuolla/tappaa (S)
5. ava-utua/avata (A)
6. sulke-utua/sulkea (A)
7. alkaa (?)/aloittaa, alkaa
8. oppia/ope-ttaa (C)
9. kok-oontua/koota (A)
10. levitä/levi-ttää (C)
11. vaipua, laskea/laskea (S, L)
12. muutt-ua/muuttaa (A)
13. sulaa/sula-ttaa (C)
14. tuho-utua/tuhota (A)
15. hukk-ua, hukk-aantua/hukata
16. kehittä-yä/kehittää (A)
17. yht-yä/yhdistää
18. kiehua/kiehu-ttaa (C)
19. kiikkua/kiiku-ttaa (C)
20. sammua/sammu-ttaa (C)
21. kohota/koho-ttaa (C)
22. lopp-ua/lope-ttaa (E);
päätt-yä/päittää (A)
23. pyöriä/pyöri-ttää (C);
väänt-yä/vääntää (A)
24. vierä/vieri-ttää (C)
25. jäätyä/jäädy-ttää (C)
26. liueta/liuo-ttaa (C)
27. täytt-yä/täyttää (A)
28. parant-ua/parantaa (A)
29. kuivaa/kuivata
30. haljeta/halkaista
31. pysähtyä/pysähd-yttää (C)

French

1. se réveiller/réveiller (A)
2. se briser/briser (A)
3. brûler (L)
4. mourir/tuer (S)
5. s'ouvrir/ouvrir (A)
6. se fermer/fermer (A)
7. commencer (L)
8. apprendre (L)

9. s'assembler/assembler (A)
10. s'étendre/étendre (A)
11. s'enfoncer/enfoncer (A)
12. changer (L)
13. fondre/faire fondre (C)
14. être détruit/détruire (A)
15. se perdre/perdre (A)
16. se développer/développer (A)
17. se lier/liar (A)
18. bouillir/faire bouillir (C)
19. se balancer/balancer (A)
20. s'éteindre/éteindre (A)
21. se lever/lever (A)
22. finir (L)
23. se tourner/tourner (A)
24. rouler (L)
25. geler (L)
26. se dissoudre/dissoudre (A)
27. se remplir/remplir (A)
28. s'améliorer/améliorer (A)
29. sécher (L);
se dessécher/dessécher (A)
30. se fendre/fendre (A)
31. s'arrêter/arrêter (A)

Georgian

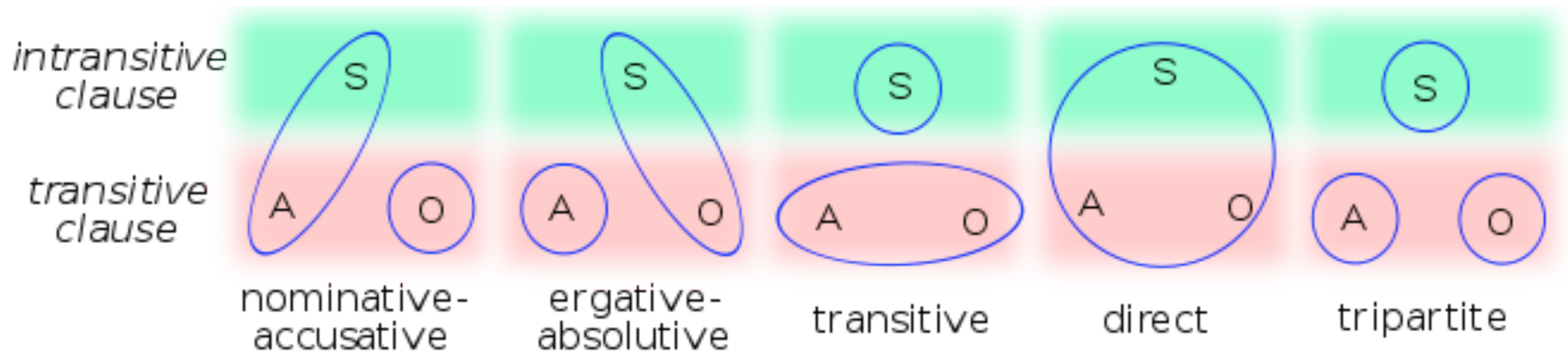
1. ga-i-yviz-ebs/ga-a-yviz-ebs (E)
2. i-mt'vrev/a-mt'vrevs (E)
3. i-c'v-is/c'v-av-s (A)
4. mo-k'vdeba/mo-k'lavs (S)
5. ga-i-γ-eba/ga-a-γ-ebs (E)
6. da-i-xur-eba/da-xur-avs (A)
7. da-i-c'q-eba/da-i-c'q-ebs (E)
8. i-sc'avl-is/a-sc'avl-is (E)
9. še-i-k'rib-eba/še-k'reb-s (A)
10. ga-vrcel-deba/ga-a-vrcel-ebs (E)
11. da-i-xrč-oba/a-xrč-obs (E)
12. še-i-cvl-eba/še-cvl-is (A)
13. ga-dn-eba/ga-a-dn-obs (C)
14. da-i-ngr-eva/da-a-ngr-evs (E)
15. i-k'arg-eba/k'arg-avs (A)
16. da-i-šl-eba/da-šl-is (A)
17. še-e-xam-eba/še-u-xam-ebs (A)
18. duγ-s/a-duγ-ebs (C)

Table 3. *Expression types by language*

	total	A	C	E	L	S	A/C
Russian	31	23	0	5	0	3	46.00
German	31	14.5	0	4	11.5	1	29.00
Greek	31	13.5	0	0	16.5	1	27.00
Rumanian	30	24	1	0	3	2	24.00
French	31	20.5	2	0	7.5	1	10.25
Lithuanian	31	17.5	6	6	0.5	1	2.92
Hebrew	31	20.5	7.5	2	1	0	2.73
Arabic	31	17	8.5	3	1	1.5	2.00
Georgian	31	9	4.5	15.5	0	2	2.00
Armenian	31	16	8.5	5.5	0	1	1.88
Swahili	31	11	11	8	0	1	1.00
Finnish	28	12	13.5	0.5	0.5	1.5	0.88
Udmurt	31	10.5	12.5	4.5	2.5	1	0.84
Hungarian	31	7	9	12	0	3	0.78
Lezgian	31	8	12	6	5	0	0.66
Hindi-Urdu	31	7.5	14	7.5	2	0	0.54
Turkish	30	9	17.5	2.5	0	1	0.51
Mongolian	31	6	22	2	0	1	0.27
Indonesian	31	0	14	17	0	0	0.04
English	31	2	0	1	25	3	
Japanese	31	3.5	5.5	20.5	0.5	1	
total	636	243	164.5	128.5	69	31	

	<i>Obj. tr.</i>	<i>Subj. intr.</i>		<i>Subj. tr.</i>	<i>Example.</i>
		<i>Inactive.</i>	<i>Active.</i>		
1. . .	A		A	B	Chinook
2. . .	A	A	B	B	Dakota
3. . .	A		B	C	Takelma
4. . .	A		B	B	Paiute
5. . .	A (sometimes subj. of passive)		A	A	Yana

Sapir, Edward. 1917. Review of Uhlenbeck "Het Passieve Karakter van het Verbum Transitivum of van het Verbum Actionis in Talen van Noord-Amerika." *International Journal of American Linguistics* 1(1). 82-86.



Appendix: Language-specific classes of causative/inchoative alternations

System Typology

Arabic

Class A: C/CC

1. saḥaa/saḥḥaa
8. darasa/darrasa
14. damara/dammara
31. waqafa/waqqafa

Class B: in/∅

2. inkasara/kasara
5. infataḥa/fataḥa
6. inqafala/qafala
13. inṣahara/ṣahara
30. inṣaqqā/ṣaqqā

Class C: in/?

3. iḥtaraqa/?aḥraqa
20. inṭafaʔa/?aṭfaʔa
22. intahaa/?anhaa

Class D: t/∅

9. iltamma/lamma
10. intašara/našara
17. irtabaṭa/rabaṭa
21. irtafaʔa/rafaʔa
27. imtalaʔa/malaʔa

Class E: ∅/?

11. ġariqa/?aġraqa
18. ġalaa/?aġlaa
23. daara/?adaara
26. ḍaaba/?aḍaaba

Class F: ta/∅

12. tabaddala/baddala
16. taṭawwara/ṭawwara
19. taʔarjaḥa/?arjaḥa
24. tadahraja/dahraja
25. tajammada/jammada
28. taḥassana/ḥassana

Singular classes:

4. maata/qatala
7. badaʔa
15. daaʔa/xasira
29. jaffa/jaffafa

Armenian

Class A: ∅/c

1. artnanal/artnacnel
16. zarzanal/zarzacnel
21. barzranal/barzracnel
22. k'eršanal/k'eršacnel
28. lavanal/lavacnel
29. čoranal/čoracnel

Class B: v/∅

2. žardvel/žardel
3. ayrvel/ayrel
6. pak'vel/pak'el
7. sksvel/sksel
9. havakvel/havakel
10. əndarc'ak'vel/əndarc'ak'el
11. xegolvek/xegolek
12. poxvel/poxel
13. halvel/halel
14. kandvel/kandel
17. k'ap'vel/k'ap'el
19. č'oč'vel/č'oč'el
23. pttvel/pttel
24. glorvel/glorek
26. luc'vel/luc'el
30. č'eýkvel/č'eýkel

Class C: v/n

5. bacvel/bacanal
27. lcvel/lcnel

Class D: ∅/Vcn

8. sovorel/sovorecnel
18. eřal/eřacnel
31. k'angnil/k'angnecnel

Class E: č/cn

15. k'orčel/k'orcnel
20. hangčel/hangcnel
25. sařcel/sařcnel

Class F:

4. spanel/mernel

English

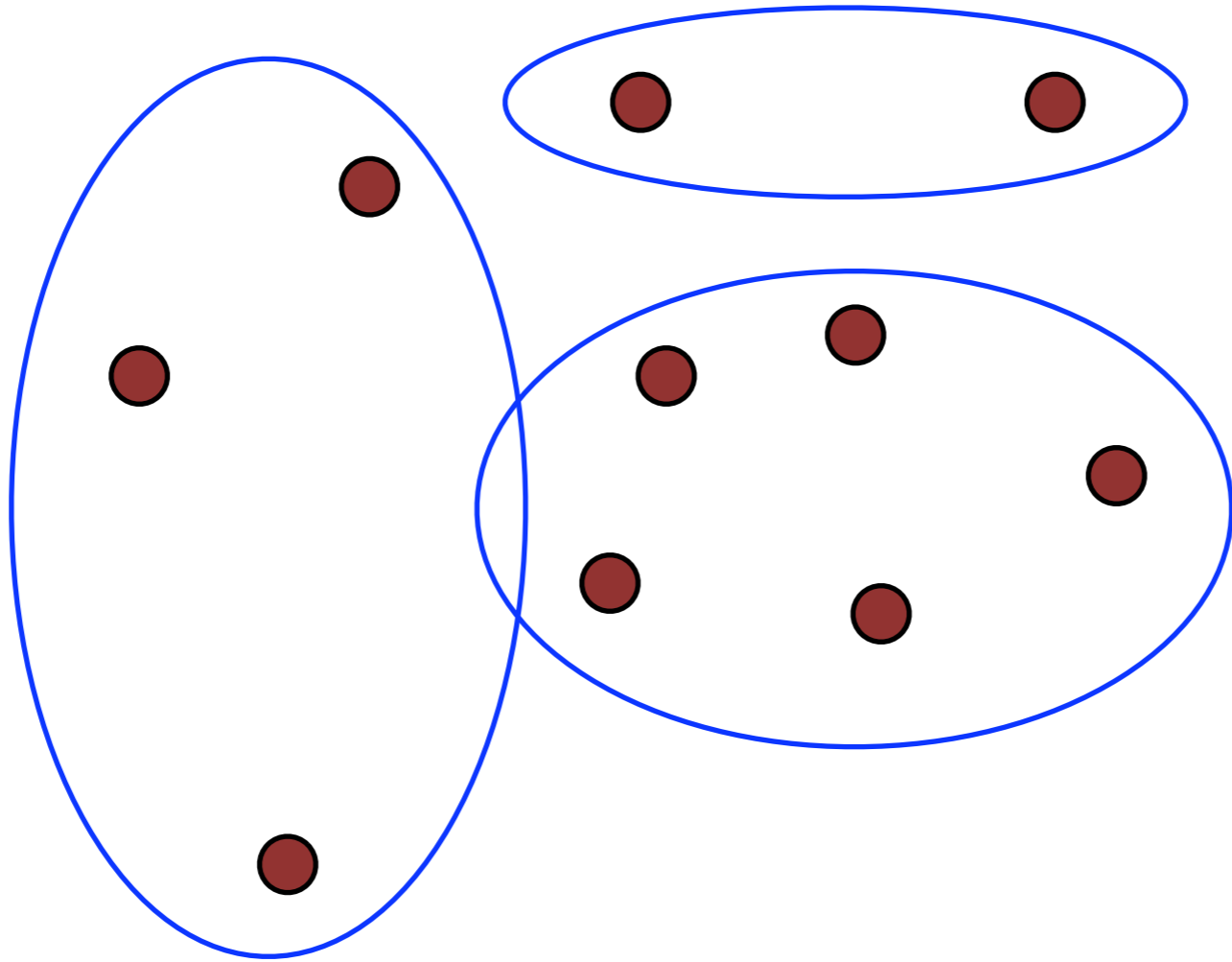
Class A: Identical

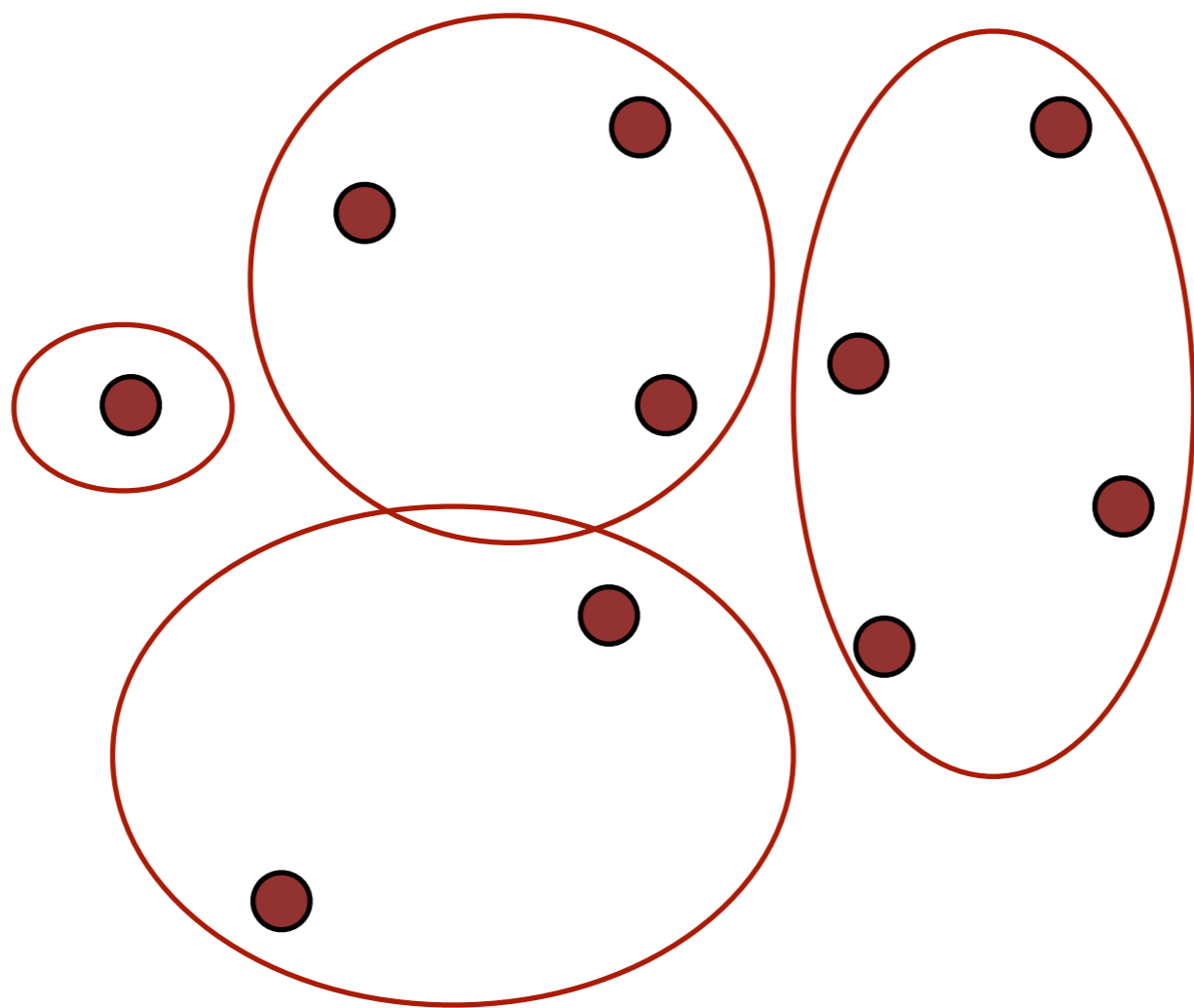
1. wake up
2. break
3. burn
5. open
6. close
7. begin
9. gather
10. spread
11. sink
12. change
13. melt
16. develop
17. connect
18. boil
19. rock
22. finish
23. turn
24. roll
25. freeze
26. dissolve
27. fill
28. improve
29. dry
30. split
31. stop

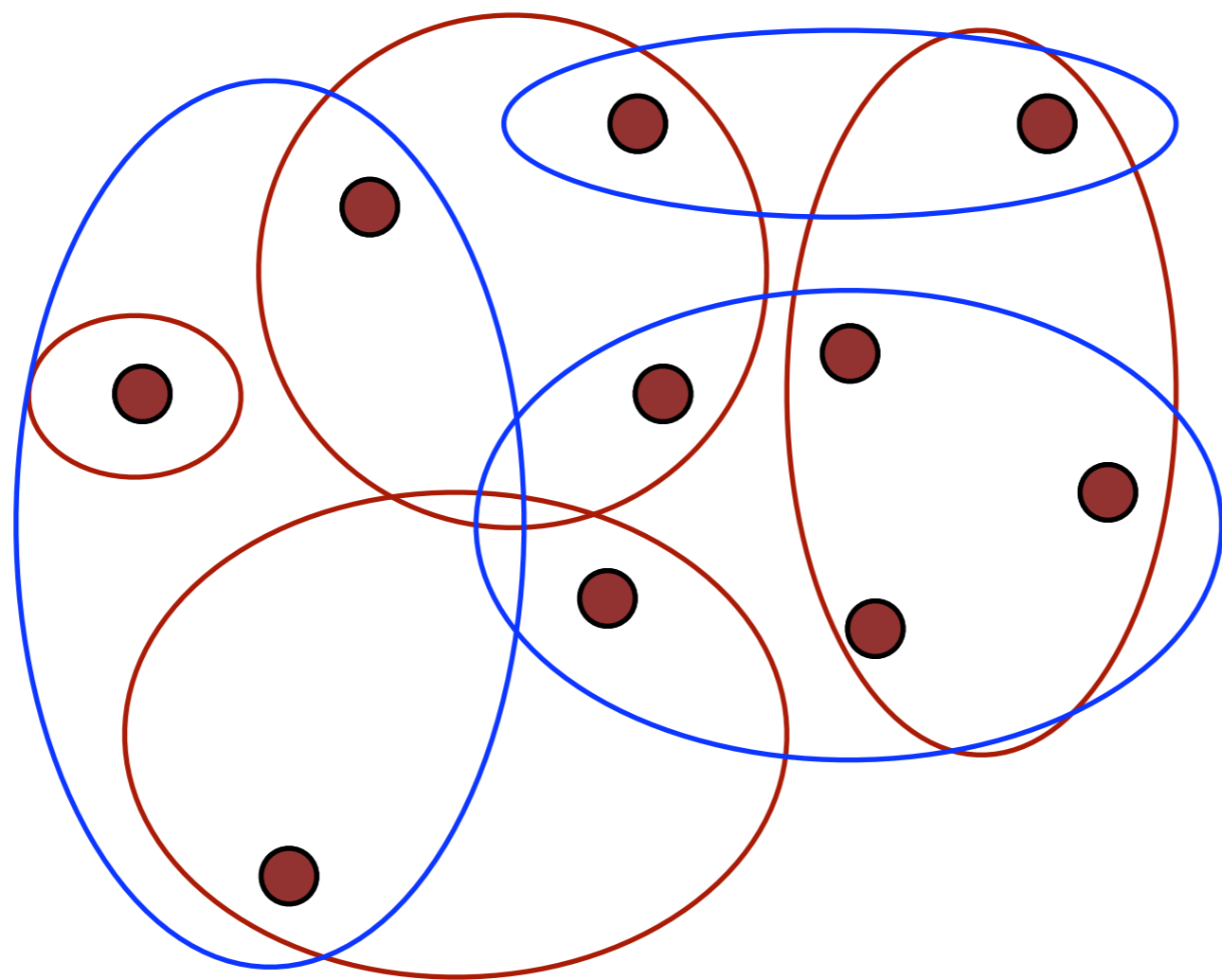
Singular classes:

4. die/kill
8. learn/teach
14. be destroyed/destroy
15. get lost/lose
20. go out/put out
21. rise/raise

Cysouw, Michael. 2010. Semantic maps as metrics on meaning . *Linguistic Discovery* 8(1). 70-95.







Krise 3: Universalien ?

- Die klassische Typologie sagt:
 - ▶ Absolute Universalien gibt es nicht (oder sind uninteressant)
- Deshalb
 - ▶ Implikationelle Universalien
- Problem
 - ▶ Es gibt fast keine überzeugende Universalien, die nicht schon Anfang der 70er Jahre bekannt waren
- Lösung: **Beschränkte Erwartungen**
 - ▶ Minimale empirische Effekte
 - ▶ Skalen und Semantische Karten

APPENDIX

The 31 inchoative/causative verb pairs in 21 languages
(Abbreviations as in Table 3)

Arabic

1. ist-ayqaza/?-ayqaza (A);
šaḥaa/šaḥḥaa (C)
2. in-kasara/kasara (A)
3. iḥ-t-araqa/?-aḥraqa (E)
4. maata/qatala (S)
5. in-fataḥa/fataḥa (A)
6. in-qafala/qafala (A)
7. badaʔa (L)
8. darasa/darrasa (C);
ta-ʕallama/ʕallama (A)
9. il-t-amma/lamma (A)
10. in-t-ašara/našara (A)
11. ġariqa/?-aġraqa (C)
12. ta-baddala/baddala (A)
13. in-šahara/šahara (A);
saaḥa/sayyaḥa (C)
14. damara/dammara (C)
15. daaʕa/xasira (S);
fuqida/faqada (A)
16. ta-ṭawwara/ṭawwara (A)
17. ir-t-abata/rabata (A)
18. ġalaa/?-aġlaa (C)
19. ta-ʔarjaḥa/ʔarjaḥa (A)
20. in-ṭafaʔa/?-aṭfaʔa (E)
21. ir-t-afaʕa/rafaʕa (A)
22. in-t-ahaa/?-anhaa (E)
23. daara/?-adaara (C)
24. ta-daḥraja/daḥraja (A)
25. ta-jammada/jammada (A)
26. ḍaaba/?-aḍaaba (C)
27. im-t-alaʔa/malaʔa (A)
28. ta-ḥassana/ḥassana (A)
29. jaffa/jaffafa (C)
30. in-šaqqqa/šaqqqa (A)
31. waqqafa/waqqafa (C)

Armenian (citation form suffix *-al/-el*)

1. artna-n-al/artna-cn-el (C)
2. žard-v-el/žard-el (A)
3. ayr-v-el/ayr-el (A)
4. spa-n-el/mei-n-el (S)
5. bac-v-el/bac-an-al (E)
6. pak'-v-el/pak'-el (A)
7. sks-v-el/sks-el (A)
8. sovor-el/sovor-ecn-el (C)
9. havak-v-el/havak-el (A)
10. əndarc'ak'-v-el/əndarc'ak'-el (A)
11. xegol-v-el/xegol-el (A)
12. pox-v-el/pox-el (A)
13. hal-v-el/hal-el (A)
14. kand-v-el/kand-el (A)
15. k'or-č-el/k'or-cn-el (E)
16. zarga-n-al/zarga-cn-el (C)
17. k'ap'-v-el/k'ap'-el (A)
18. eṛ-al/eṛa-cn-el (C)
19. č'oc'-v-el/č'oc'-el (A)
20. hang-č-el/hang-cn-el (E)
21. barzra-n-al/barzra-cn-el (C)
22. verša-n-al/verša-cn-el (C)
23. ptt-v-el/ptt-el, ptt-ecn-el (A, E)
24. glor-v-el/glor-el (A)
25. saṛ-č-el/saṛ-ecn-el (E)
26. luc'-v-el/luc'-el (A)
27. lc-v-el/lc-n-el (E)
28. lava-n-al/lava-cn-el (C);
barelav-v-el/barelav-el (A)
29. čora-n-al/čora-cn-el (C)
30. č'eyk-v-el/č'eyk-el (A)
31. k'angn-el/k'angn-ecn-el (C)

English

see above Table 2.

Finnish

1. herätä/herä-ttää (C)
2. murt-ua/murtaa (A)
3. palaa/pol-ttaa (C)
4. kuolla/tappaa (S)
5. ava-utua/avata (A)
6. sulke-utua/sulkea (A)
7. alkaa (?)/aloittaa, alkaa
8. oppia/ope-ttaa (C)
9. kok-oontua/koota (A)
10. levitä/levi-ttää (C)
11. vaipua, laskea/laskea (S, L)
12. muutt-ua/muuttaa (A)
13. sulaa/sula-ttaa (C)
14. tuho-utua/tuhota (A)
15. hukk-ua, hukk-aantua/hukata
16. kehittä-yä/kehittää (A)
17. yht-yä/yhdistää
18. kiehua/kiehu-ttaa (C)
19. kiikkua/kiiku-ttaa (C)
20. sammua/sammu-ttaa (C)
21. kohota/koho-ttaa (C)
22. lopp-ua/lope-ttaa (E);
päätt-yä/päittää (A)
23. pyöriä/pyöri-ttää (C);
väänt-yä/vääntää (A)
24. vierä/vieri-ttää (C)
25. jäätyä/jäädy-ttää (C)
26. liueta/liuo-ttaa (C)
27. täytt-yä/täyttää (A)
28. parant-ua/parantaa (A)
29. kuivaa/kuivata
30. haljeta/halkaista
31. pysähtyä/pysähd-yttää (C)

French

1. se réveiller/réveiller (A)
2. se briser/briser (A)
3. brûler (L)
4. mourir/tuer (S)
5. s'ouvrir/ouvrir (A)
6. se fermer/fermer (A)
7. commencer (L)
8. apprendre (L)

9. s'assembler/assembler (A)
10. s'étendre/étendre (A)
11. s'enfoncer/enfoncer (A)
12. changer (L)
13. fondre/faire fondre (C)
14. être détruit/détruire (A)
15. se perdre/perdre (A)
16. se développer/développer (A)
17. se lier/liar (A)
18. bouillir/faire bouillir (C)
19. se balancer/balancer (A)
20. s'éteindre/éteindre (A)
21. se lever/lever (A)
22. finir (L)
23. se tourner/tourner (A)
24. rouler (L)
25. geler (L)
26. se dissoudre/dissoudre (A)
27. se remplir/remplir (A)
28. s'améliorer/améliorer (A)
29. sécher (L);
se dessécher/dessécher (A)
30. se fendre/fendre (A)
31. s'arrêter/arrêter (A)

Georgian

1. ga-i-yviz-ebs/ga-a-yviz-ebs (E)
2. i-mt'vrev/a-mt'vrevs (E)
3. i-c'v-is/c'v-av-s (A)
4. mo-k'vdeba/mo-k'lavs (S)
5. ga-i-γ-eba/ga-a-γ-ebs (E)
6. da-i-xur-eba/da-xur-avs (A)
7. da-i-c'q-eba/da-i-c'q-ebs (E)
8. i-sc'avl-is/a-sc'avl-is (E)
9. še-i-k'rib-eba/še-k'reb-s (A)
10. ga-vrcel-deba/ga-a-vrcel-ebs (E)
11. da-i-xrč-oba/a-xrč-obs (E)
12. še-i-cvl-eba/še-cvl-is (A)
13. ga-dn-eba/ga-a-dn-obs (C)
14. da-i-ngr-eva/da-a-ngr-evs (E)
15. i-k'arg-eba/k'arg-avs (A)
16. da-i-šl-eba/da-šl-is (A)
17. še-e-xam-eba/še-u-xam-ebs (A)
18. duγ-s/a-duγ-ebs (C)

Table 4. Expression types by verb pairs

	total	A	C	E	L	S	A/C
18. 'boil'	21	0.5	11.5	3	6	0	0.04
25. 'freeze'	21	2	12	3	4	0	0.17
29. 'dry'	20	3	10	4	3	0	0.30
1. 'wake up'	21	3	9	6	2	1	0.33
20. 'go out/put out'	21	3	7.5	5.5	3	2	0.41
11. 'sink'	21	4	9.5	5.5	1.5	0.5	0.42
8. 'learn/teach'	21	3.5	7.5	6	2	3	0.47
13. 'melt'	21	5	10.5	3	2.5	0	0.48
31. 'stop'	21	5.5	9	3.5	3	0	0.61
23. 'turn'	21	8	7.5	4	1.5	0	1.07
26. 'dissolve'	21	10.5	7.5	2	1	0	1.40
3. 'burn'	21	7	5	2	5	2	1.40
14. 'destroy'	20	8.5	5.5	5	1	0	1.55
27. 'fill'	21	8	5	5	3	0	1.60
22. 'finish'	21	7.5	4.5	5	4	0	1.67
7. 'begin'	19	5	3	3	8	0	1.67
10. 'spread'	21	11	6	3	1	0	1.83
24. 'roll'	21	8.5	4.5	5	3	0	1.89
16. 'develop'	21	10	5	5	1	0	2.00
15. 'get lost/lose'	21	11.5	4.5	4.5	0	0.5	2.56
21. 'rise/raise'	21	12	4.5	3.5	0	1	2.67
28. 'improve'	21	8.5	3	8	1.5	0	2.67
19. 'rock'	21	12	40	3.5	1.5	0	3.00
17. 'connect'	21	15	2.5	1.5	1	1	6.00
12. 'change'	21	11	1.5	4.5	4	0	7.33
9. 'gather'	21	15	2	3	1	0	7.50
5. 'open'	21	13	1.5	4	2.5	0	8.67
2. 'break'	21	12.5	1	4	3.5	0	12.50
6. 'close'	21	15.5	1	2.5	2	0	15.50
30. 'split'	20	11.5	0.5	5	3	0	23.00
4. 'die/kill'	21	0	3	1	1	16	—
total	636	243	164.5	128.5	69	31	

Scale of Likelihood of Spontaneous Occurrence

Appendix: Language-specific classes of causative/inchoative alternations

Arabic

Class A: C/CC

1. saḥaa/saḥḥaa
8. darasa/darrasa
14. damara/dammara
31. waqafa/waqqafa

Class B: in/∅

2. inkasara/kasara
5. infataḥa/fataḥa
6. inqafala/qafala
13. inṣahara/ṣahara
30. inṣaqqā/ṣaqqā

Class C: in/?

3. iḥtaraqa/?aḥraqa
20. inṭafaʔa/?aṭfaʔa
22. intahaa/?anhaa

Class D: t/∅

9. iltamma/lamma
10. intašara/našara
17. irtabaṭa/rabaṭa
21. irtafaʔa/rafaʔa
27. imtalaʔa/malaʔa

Class E: ∅/?

11. ġariqa/?aġraqa
18. ġalaa/?aġlaa
23. daara/?adaara
26. ḍaaba/?aḍaaba

Class F: ta/∅

12. tabaddala/baddala
16. taṭawwara/ṭawwara
19. taʔarjaḥa/?arjaḥa
24. tadahraja/dahraja
25. tajammada/jammada
28. taḥassana/ḥassana

Singular classes:

4. maata/qatala
7. badaʔa
15. daaʔa/xasira
29. jaffa/jaffafa

Armenian

Class A: ∅/c

1. artnanal/artnacnel
16. zarzanal/zarzacnel
21. barʒranal/barʒracnel
22. k'eršanal/k'eršacnel
28. lavanal/lavacnel
29. čoranal/čoracnel

Class B: v/∅

2. žardvel/žardel
3. ayrvel/ayrel
6. pak'vel/pak'el
7. sksvel/sksel
9. havakvel/havakel
10. əndarc'ak'vel/əndarc'ak'el
11. xegolvek/xegolek
12. poxvel/poxel
13. halvel/halel
14. kandvel/kandel
17. k'ap'vel/k'ap'el
19. č'oč'vel/č'oč'el
23. pttvel/pttel
24. glorvel/glorek
26. luc'vel/luc'el
30. č'eýkvel/č'eýkel

Class C: v/n

5. bacvel/bacanal
27. lcvel/lcnel

Class D: ∅/Vcn

8. sovorel/sovorecnel
18. eṙal/eṙacnel
31. k'angnil/k'angnecnel

Class E: č/cn

15. k'orčel/k'orcnel
20. hangčel/hangcnel
25. saṙčel/saṙcnel

Class F:

4. spanel/mernel

English

Class A: Identical

1. wake up
2. break
3. burn
5. open
6. close
7. begin
9. gather
10. spread
11. sink
12. change
13. melt
16. develop
17. connect
18. boil
19. rock
22. finish
23. turn
24. roll
25. freeze
26. dissolve
27. fill
28. improve
29. dry
30. split
31. stop

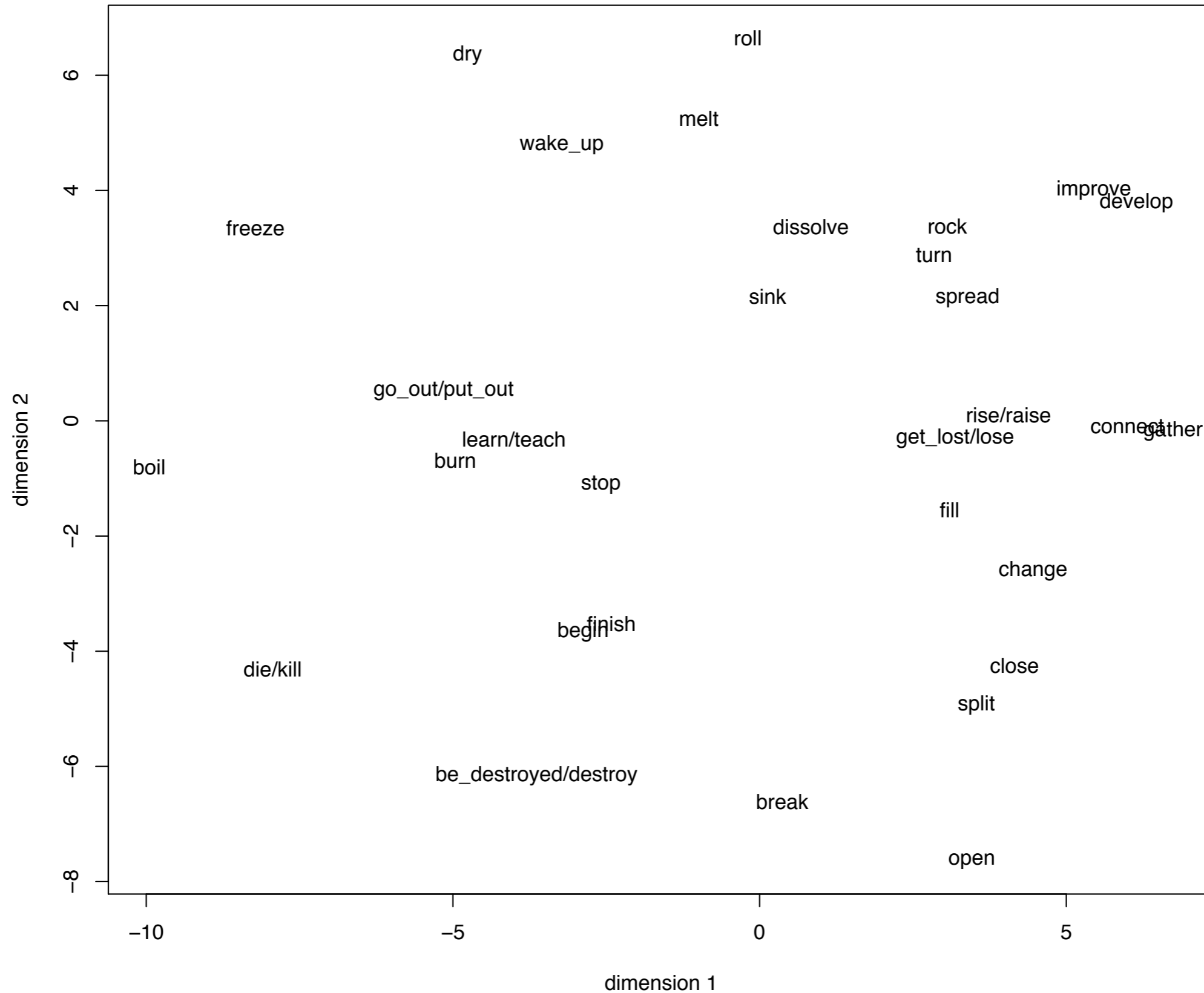
Singular classes:

4. die/kill
8. learn/teach
14. be destroyed/destroy
15. get lost/lose
20. go out/put out
21. rise/raise

Cysouw, Michael. 2010. Semantic maps as metrics on meaning . *Linguistic Discovery* 8(1). 70-95.

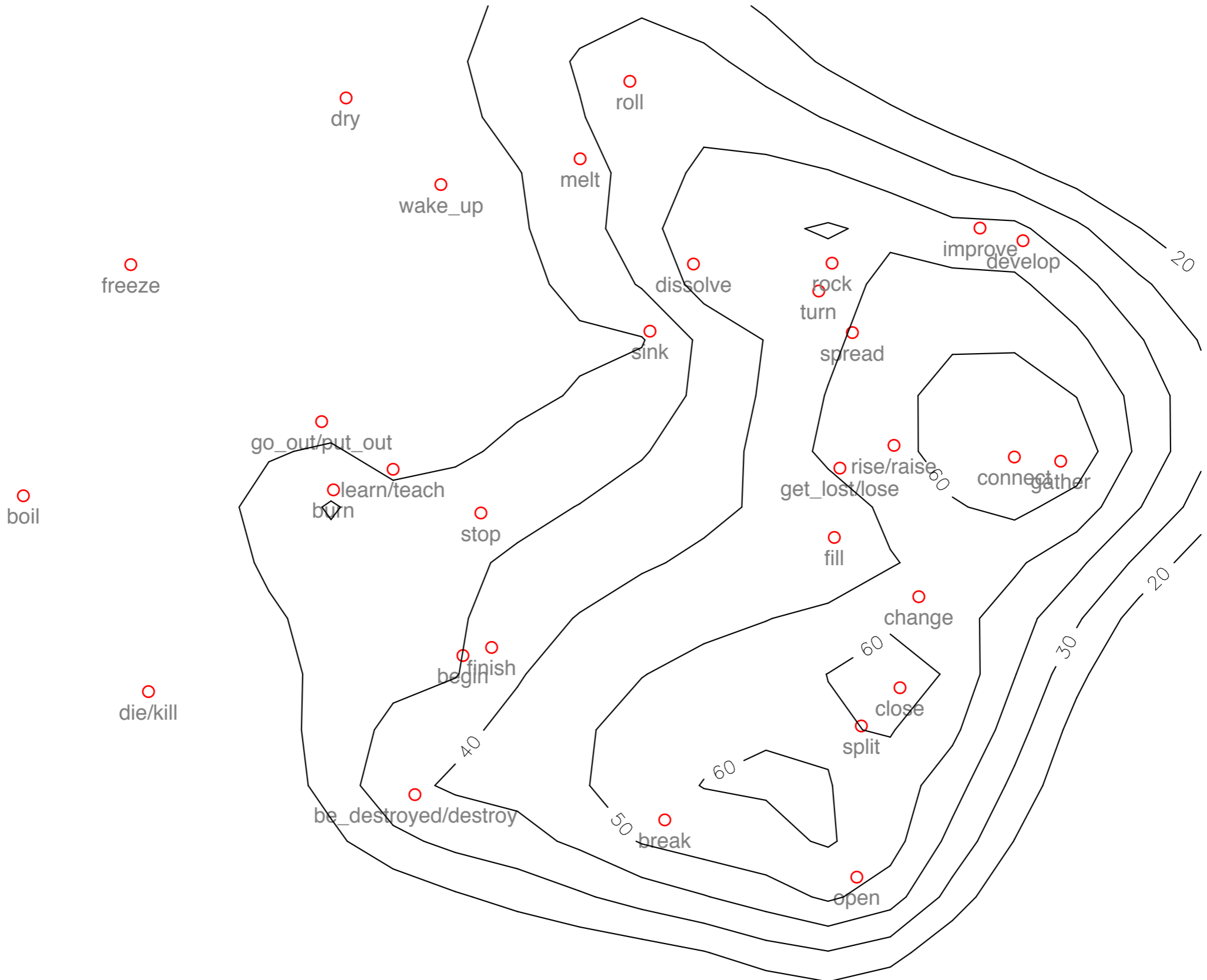
wake up	0	17	16	20	17	16	19	15	17	12	16	17	13	18	18	16	17	16	14	13	14	16	12	15	15	11	13	15	13	16	12	
break	17	0	13	19	10	12	16	19	14	15	15	13	15	13	18	16	15	17	13	16	16	14	14	16	18	14	14	16	17	7	13	
burn	16	13	0	20	16	17	16	18	16	16	18	16	15	19	19	19	17	15	14	17	16	15	17	14	15	15	19	19	14	14	15	
die/kill	20	19	20	0	21	21	21	21	21	21	20	21	21	18	21	21	20	18	21	19	20	20	20	21	19	20	20	21	20	20	20	
open	17	10	16	21	0	10	16	18	12	14	16	13	16	15	16	16	15	19	14	17	14	13	15	18	19	15	11	16	19	10	14	
close	16	12	17	21	10	0	13	16	11	15	17	13	15	17	15	14	11	19	12	16	14	13	12	15	18	13	14	14	19	12	15	
begin	19	16	16	21	16	13	0	14	15	16	18	14	16	18	19	17	17	15	15	18	18	11	16	16	16	16	16	16	18	18	17	15
learn/teach	15	19	18	21	18	16	14	0	17	16	18	16	17	16	18	18	18	17	14	18	16	14	15	15	16	16	17	19	19	19	13	
gather	17	14	16	21	12	11	15	17	0	11	15	11	14	18	16	10	9	20	9	17	10	14	12	12	19	12	14	12	17	12	16	
spread	12	15	16	21	14	15	16	16	11	0	14	13	10	15	13	14	10	19	12	17	11	14	11	14	17	8	10	13	15	14	13	
sink	16	15	18	20	16	17	18	18	15	14	0	17	14	17	16	15	16	18	13	16	18	17	13	16	18	13	16	14	16	16	16	
change	17	13	16	21	13	13	14	16	11	13	17	0	16	17	16	12	11	19	12	18	13	13	13	15	17	14	12	13	17	12	16	
melt	13	15	15	21	16	15	16	17	14	10	14	16	0	17	16	16	15	16	11	16	16	16	12	9	15	10	14	14	12	15	15	
be destroyed/destroy	18	13	19	18	15	17	18	16	18	15	17	17	17	0	19	20	17	18	18	17	19	17	16	18	18	15	16	19	19	16	16	
get lost/lose	18	18	19	21	16	15	19	18	16	13	16	16	16	19	0	16	15	21	17	17	15	18	15	18	19	15	14	16	19	17	15	
develop	16	16	19	21	16	14	17	18	10	14	15	12	16	20	16	0	11	20	11	18	14	16	10	12	18	13	14	8	16	15	15	
connect	17	15	17	20	15	11	17	18	9	10	16	11	15	17	15	11	0	19	12	18	11	17	11	15	19	12	13	14	16	13	15	
boil	16	17	15	18	19	19	15	17	20	19	18	19	16	18	21	20	19	0	18	17	20	16	18	17	16	15	18	20	16	18	16	
rock	14	13	14	21	14	12	15	14	9	12	13	12	11	18	17	11	12	18	0	17	12	16	10	8	15	11	14	12	15	13	14	
go out/put out	13	16	17	19	17	16	18	18	17	17	16	18	16	17	17	18	18	17	17	0	16	15	15	18	14	14	15	17	14	17	15	
rise/raise	14	16	16	20	14	14	18	16	10	11	18	13	16	19	15	14	11	20	12	16	0	14	14	16	18	13	14	14	16	13	15	
finish	16	14	15	20	13	13	11	14	14	14	17	13	16	17	18	16	17	16	16	15	14	0	17	16	16	14	15	15	15	16	13	
turn	12	14	17	20	15	12	16	15	12	11	13	13	12	16	15	10	11	18	10	15	14	17	0	12	15	9	9	12	16	13	11	
roll	15	16	14	21	18	15	16	15	12	14	16	15	9	18	18	12	15	17	8	18	16	16	12	0	14	12	17	12	14	17	16	
freeze	15	18	15	19	19	18	16	16	19	17	18	17	15	18	19	18	19	16	15	14	18	16	15	14	0	17	17	19	13	19	14	
dissolve	11	14	15	20	15	13	16	16	12	8	13	14	10	15	15	13	12	15	11	14	13	14	9	12	17	0	11	13	12	14	15	
fill	13	14	19	20	11	14	16	17	14	10	16	12	14	16	14	14	13	18	14	15	14	15	9	17	17	11	0	13	17	12	14	
improve	15	16	19	21	16	14	18	19	12	13	14	13	14	19	16	8	14	20	12	17	14	15	12	12	19	13	13	0	15	14	16	
dry	13	17	14	20	19	19	18	19	17	15	16	17	12	19	19	16	16	16	15	14	16	15	16	14	13	12	17	15	0	16	17	
split	16	7	14	20	10	12	17	19	12	14	16	12	15	16	17	15	13	18	13	17	13	16	13	17	19	14	12	14	16	0	16	
stop	12	13	15	20	14	15	15	13	16	13	16	16	15	16	15	15	15	16	14	15	15	13	11	16	14	15	14	16	17	16	0	

Figure 2. Multidimensional scaling of the 31 meanings.



Cysouw, Michael. 2008. Generalizing scales, in: Marc Richards & Andrej Malchukov (eds.), *Scales*. 379-396. (Linguistische Arbeits Bericht). Institut für Linguistik, Universität Leipzig: Leipzig.

Anticausative



Causative

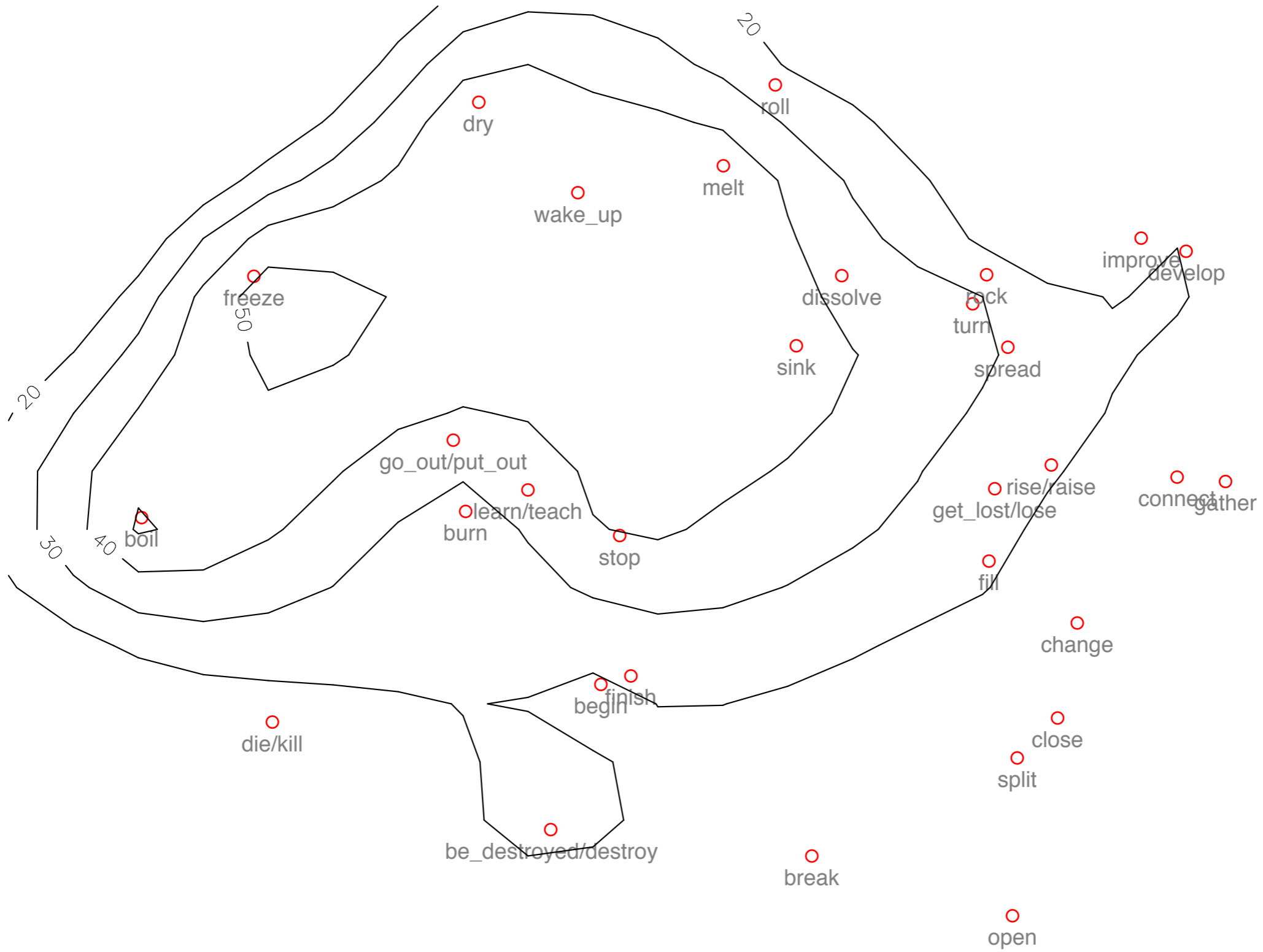
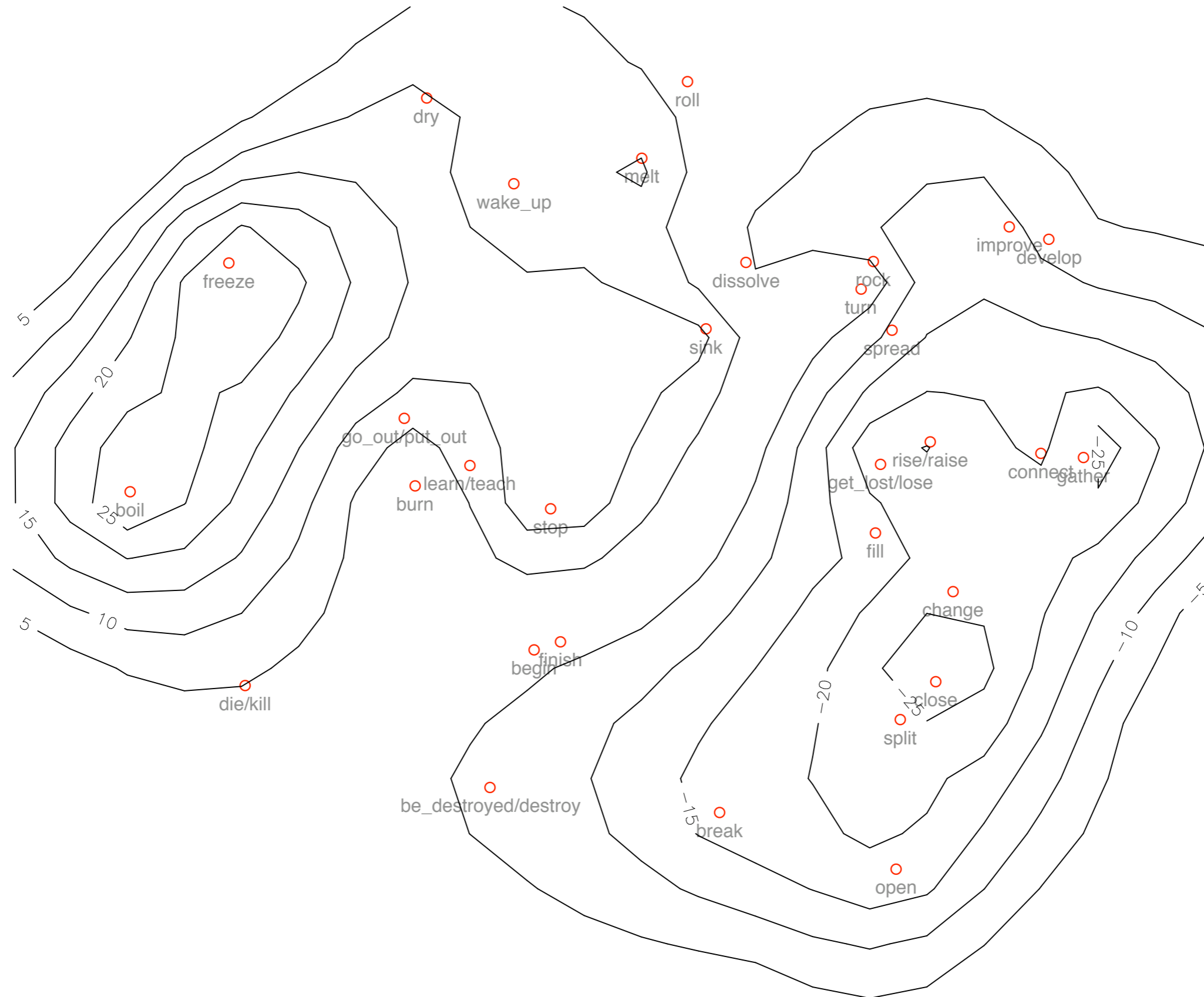
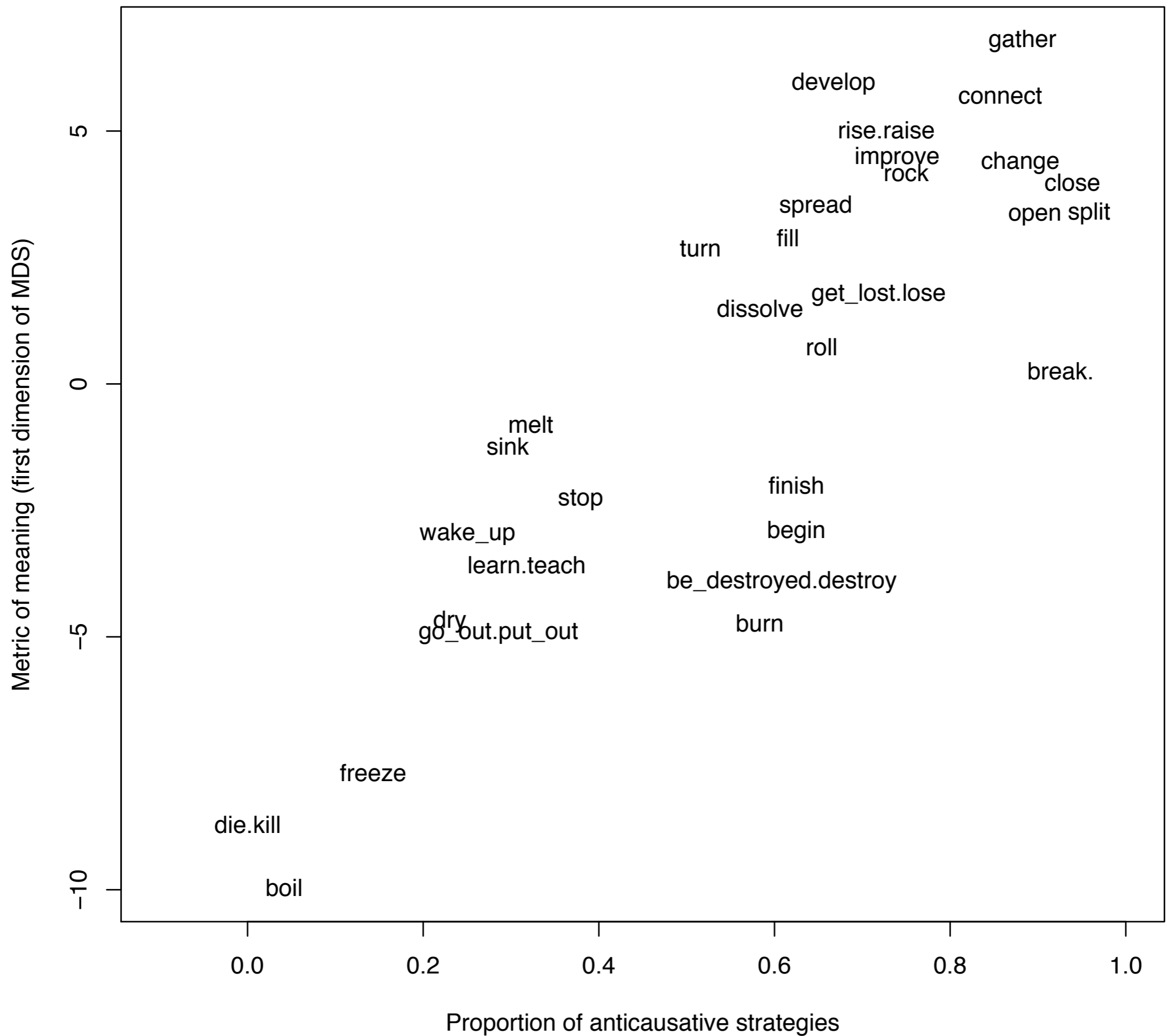


Figure 5. Average difference between causative and inchoative form, shown as an overlay over the scale of function.





Krisen der Sprachtypologie

- Ist die vorhandene Sprachvielfalt groß genug ?
 - ▶ **Ja, aber nichts wegwerfen und Variation ausnutzen**
 - ▶ **Dynamische Typologie**
- Welche Kategorien können wir benutzen ?
 - ▶ **Keine universelle Kategorien sind Notwendig**
 - ▶ **Sprachinterne Kategorien reichen aus**
 - ▶ **System Typologie**
- Wo sind denn jetzt die Universalien ?
 - ▶ **Versteckt, und sicher nicht ohne Ausnahmen**
 - ▶ **Es gibt gute generalisationen in der Form von semantische Karten**