

The nature of split intransitivity (Italian and Mandarin)



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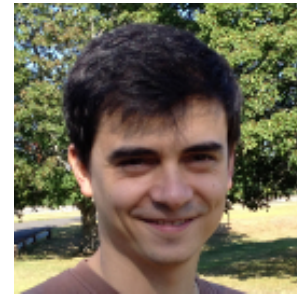
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Binary and syntactic

The classic approach to split intransitivity is the Unaccusativity Hypothesis (Permuter 1978, Burzio 1986, Levin and Rappaport-Hovav 1995, and many others).

[NP... ... [V ___ ...]]



[NP... ___ [V ...]]



change of location:

venire (come)
arrivare (arrive)
cadere (fall)
entrare (enter)

change of state:

morire (die)
nascere (born)
fiorire (bloom)
marcire (rot)

state:

rimanere (remain)
sopravvivere (survive)
bastare (be enough)
apparire (appear)

controlled motional:

ballare (dance)
nuotare (swim)
volare (fly)
correre (run)

controlled non-motional:

ridere (laugh)
lavorare (work)
suonare (play)
telefonare (call)

Number of classes: 2

Source of the classes: syntax

Type of grammar: (binary) categorical

“Gradient” and semantic

Sorace 2000 and subsequent work proposes the Lexico-Semantic hypothesis. Under this theory, split intransitivity is driven by lexical semantic features like telicity, agentivity, and atomicity.

+telic
-agentive
+atomic

<some mix>

-telic
+agentive
-atomic



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Number of classes: 5+ (Sorace identifies 7 in Italian!)

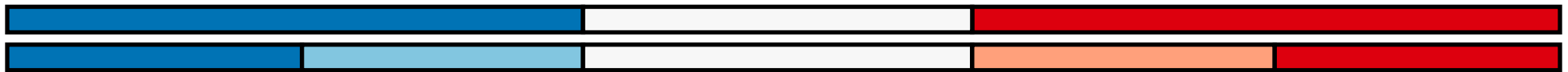
Source of the classes: semantics

Type of grammar: (multi) categorical?

The plan

Test several verbs (3 or 4) from 5 lexical-semantic categories (by hypothesis) using multiple diagnostics in Italian and Mandarin.

(In Mandarin, we will also test diagnostics that could potentially differ in their source: syntax or semantics. But there is no distinction in the results, so this will not figure prominently.)



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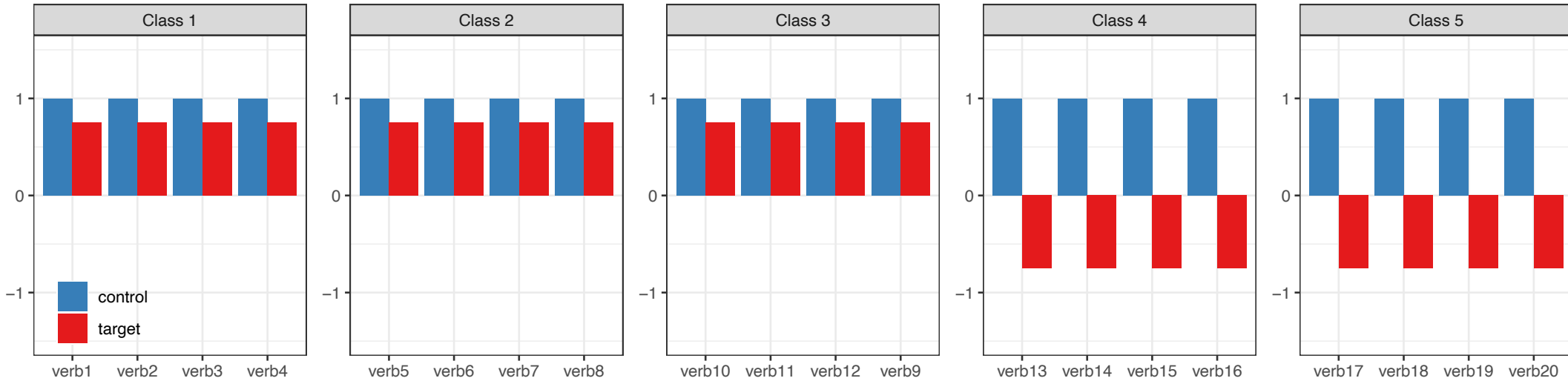
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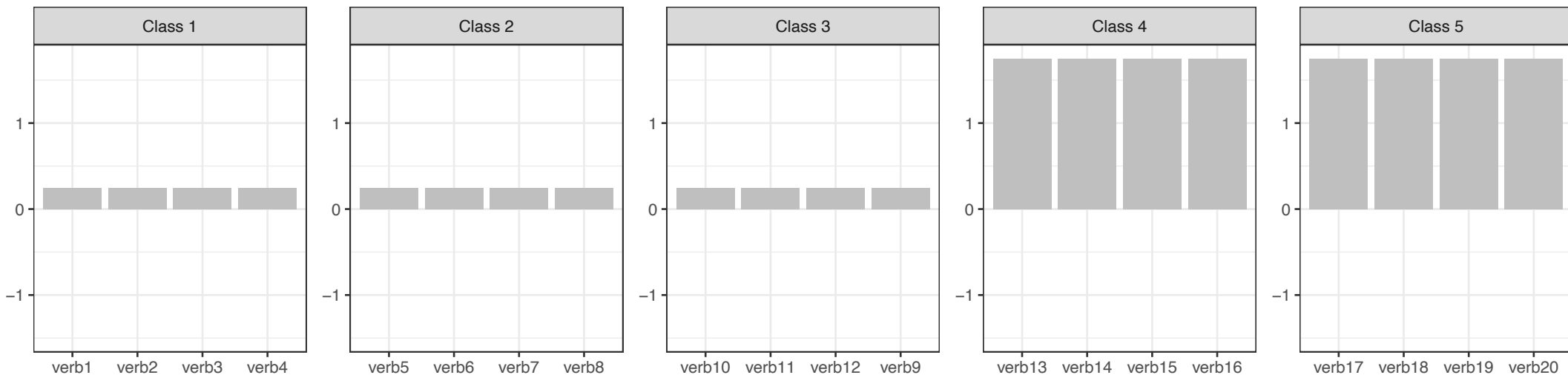
And we will use hierarchical agglomerative clustering (plus three measures of cluster fit) to explore how many categories appear in our results.

The predicted patterns for the unaccusative hypothesis

We will present the data two ways. The means of **both conditions**:

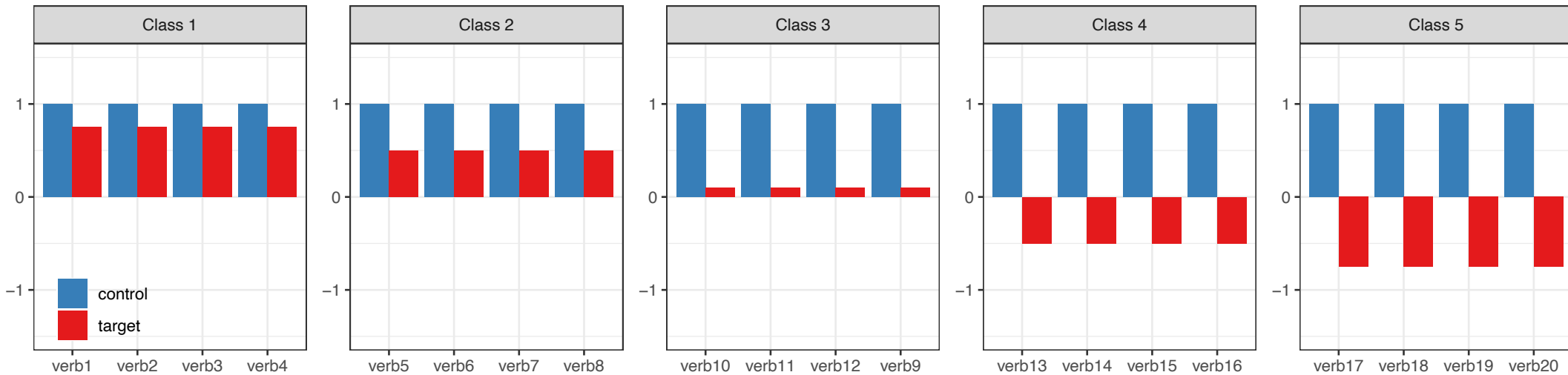


And the **effect** - the difference between conditions:

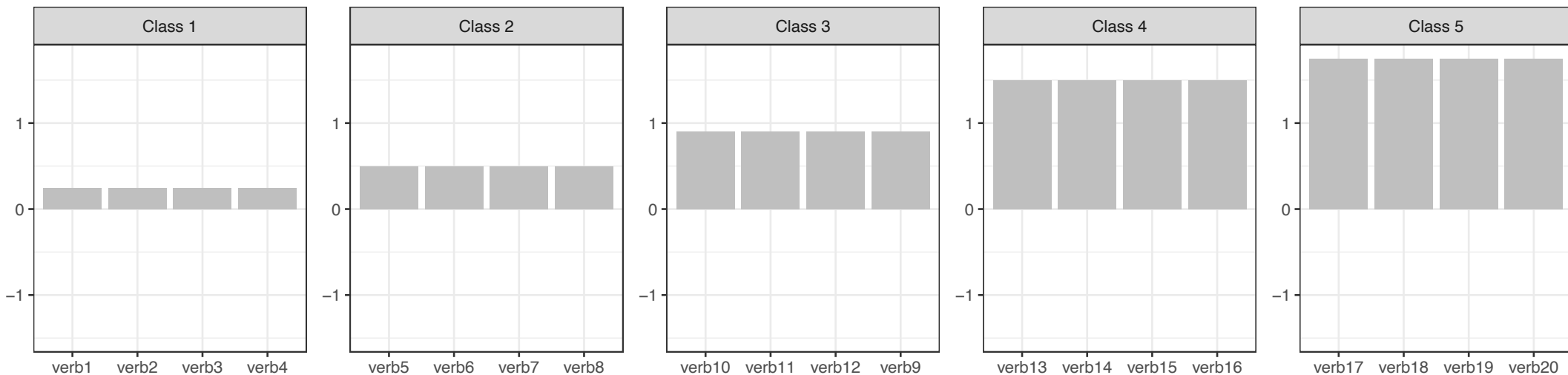


The predicted patterns for the lexico-semantic hypothesis

We will present the data two ways. The means of **both conditions**:

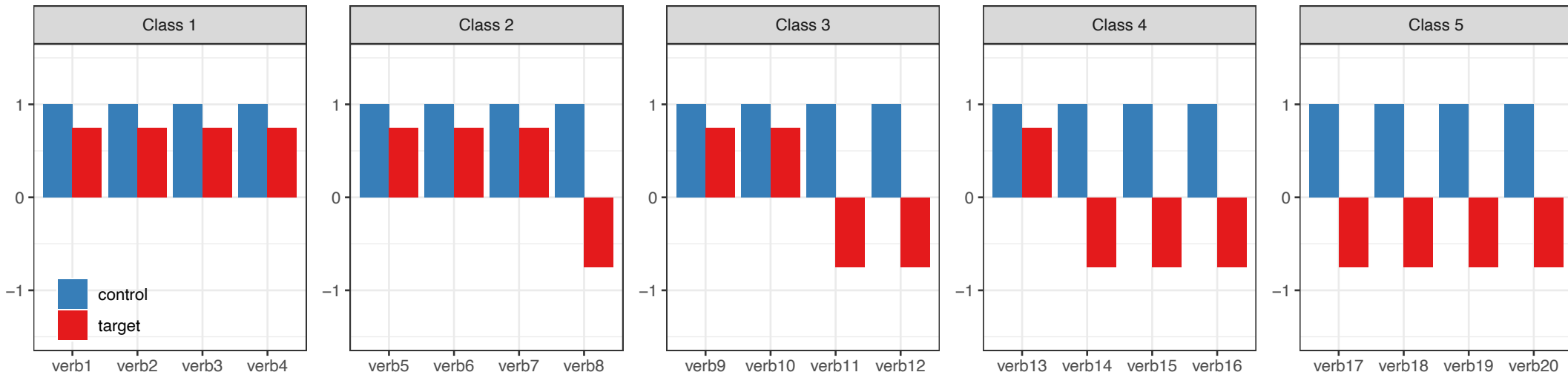


And the **effect** - the difference between conditions:

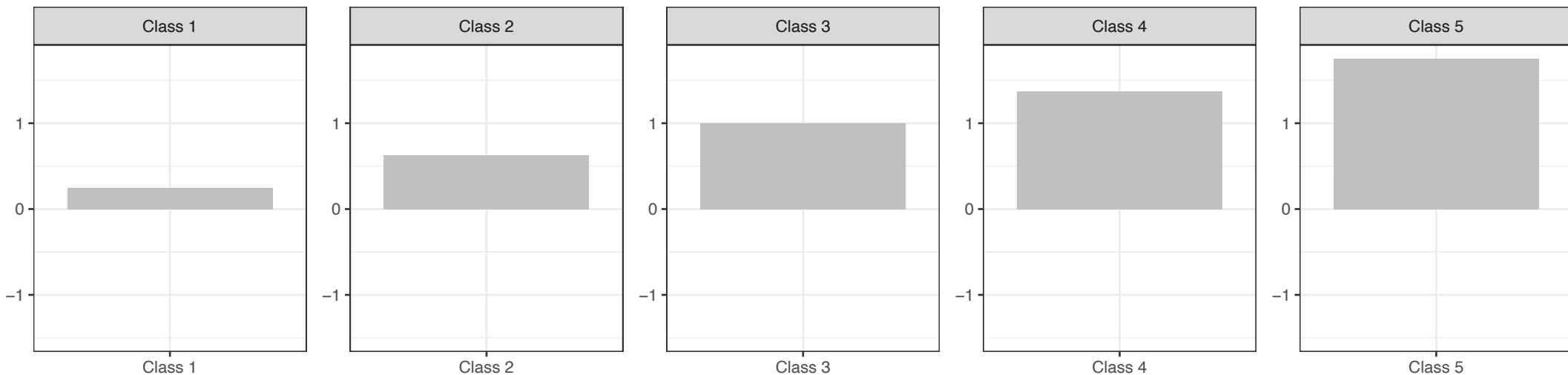


What we will **NOT** do: average over the a priori classes

Because if they accidentally mixed binary types:



Averaging over the effects for the class could give the illusion of gradient:



Mandarin: aspect

For **Mandarin**, we chose three: aspect marking with *le/zhe*, pre/post-verbal subjects, and floating numeral quantifiers.

Perfective (*le*)

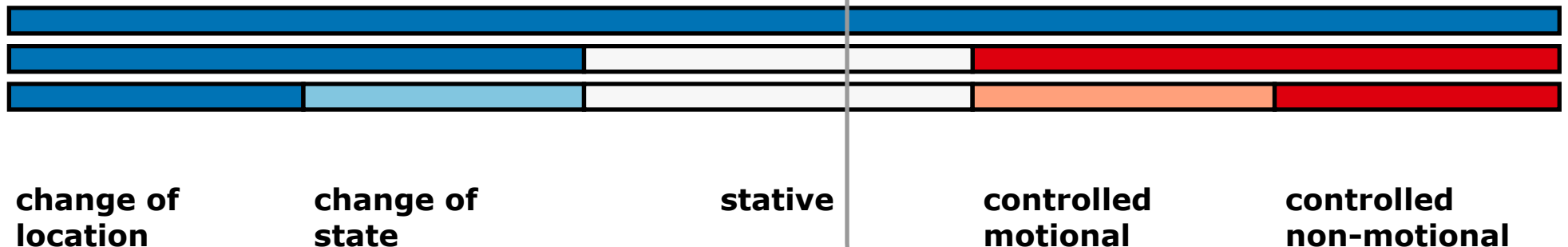
Yisheng shuo liang-ge bingren zai-taijie shang dao-*le*.
doctor say two-CL patient at-stairs on fall-**PERF**

Aspect is plausibly tied to telicity. So this could have a semantic source, and potentially diverge from syntactic diagnostics.

Imperfective (*zhe*)

Yisheng shuo liang-ge bingren zai-taijie shang dao-*zhe*.
doctor say two-CL patient at-stairs on fall-**IMPF**

The general claim is that *zhe* is possible/better with unergatives.



Mandarin: pre/post-verbal subjects

For **Mandarin**, we chose three: aspect marking with le/zhe, pre/post-verbal subjects, and floating numeral quantifiers.

Preverbal subject

Jiaolian shuo **liang-ming xuanshou** zai-yundongchang shang daoxia-le.
coach say **two-CL athlete** at-playground on fall down-PERF

Postverbal subject

Jiaolian shuo zai-yundongchang shang daoxia-le **liang-ming xuanshou**.
coach say at-playground on fall down-PERF **two-CL athlete**

The general claim is that **postverbal subjects are possible/better with unaccusatives**.

This is presumably a syntactic diagnostic.



change of
location

change of
state

stative

controlled
motional

controlled
non-motional

Mandarin: Floating numeral quantifiers

For **Mandarin**, we chose three: aspect marking with le/zhe, pre/post-verbal subjects, and floating numeral quantifiers.

No floating (-FNQ)

Na-wei nianqingde jiankaolaoshi shou **si-ge** **xusheng** ganfan zai kaochang-zhong **dao** xia-le
that young proctor say **four-cl** **student** just.now at exam sit-in **fall** down-perf

Floating (+FNQ)

Na-wei nianqingde jiankaolaoshi shou **xusheng** ganfan zai kaochang-zhong **dao** xia-le **si-ge**
that young proctor say **student** just.now at exam sit-in **fall** down-perf **four-cl**

The general claim is that **floating (+FNQ) is possible/better with unaccusatives**.

This is presumably stranding from a post-verbal subject, so it is also syntactic.



change of
location

change of
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stative

controlled
motional

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non-motional

The verbs, classified a priori

Sorace 2000 identifies 7 categories, but because we want to test all verbs with all participants (within-subjects), we have reduced this to 5.

	change of location:	change of state:	state:	controlled motional:	controlled non-motional:
Italian	venire (come) arrivare (arrive) cadere (fall) entrare (enter)	morire (die) nascere (born) fiorire (bloom) marcire (rot)	rimanere (remain) sopravvivere (survive) bastare (be enough) apparire (appear)	ballare (dance) nuotare (swim) volare (fly) correre (run)	ridere (laugh) lavorare (work) suonare (play) telefonare (call)
Mandarin	lai (come) chuqu (go out) dao (fall)	si (die) xiaoshi (disappear) chuxian (appear)	tingliue (stay) diu (be lost) xingcun (survive)	tiaowu (dance) youyong (swim) tiao (jump)	ku (cry) gongzuo (work) wan (play)
Japanese	kuru (come) hairu (enter) ochiru (fall)	shinu (die) kieru (disappear) arawareru (appear)	nokoru (remain) iru (be) todomaru (stay)	odoru (dance) oyogu (swim) hashiru (run)	warau (laugh) hataraku (work) asobu (play)
Korean	ota (come) tulekata (enter) ttelecita (fall)	cwutka (die) salacita (disappear) nathanata (appear)	namta (remain) issta (be) memwuluta (stay)	ketta (walk) swuyenghata (swim) ttwita (run)	wusta (laugh) wulta (cry) nolta (play)

Some experimental details

Italian experiment Ne and ASC: 20 verbs split into 4 surveys, with each participant taking all 4 surveys (1 week apart). Each survey contained 1 verb from each of the 5 categories for each of the diagnostics. 5 verbs x 2 conditions x 2 diagnostics = 20 items plus 20 fillers = 40 items. 45 participants across Italy.

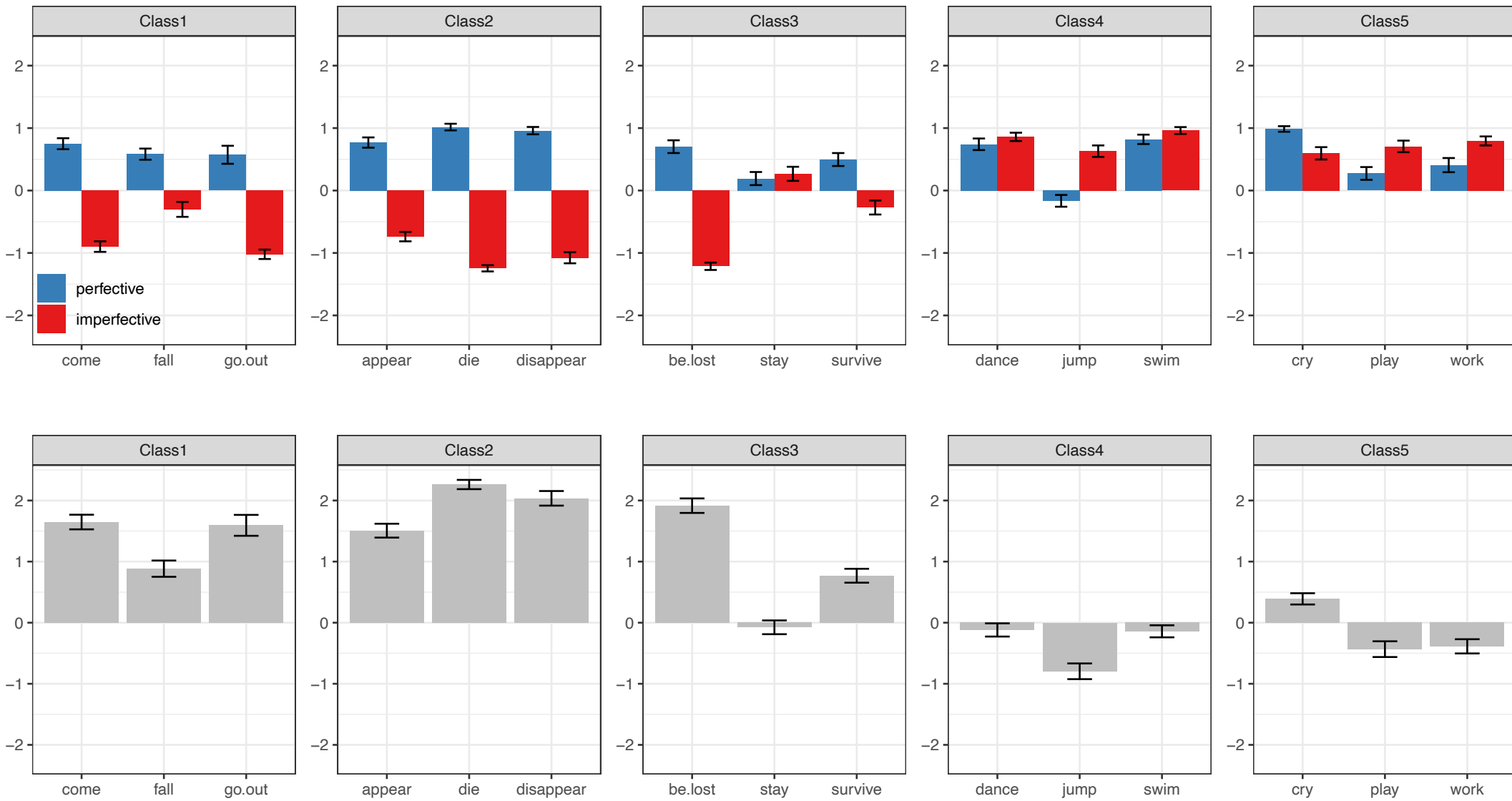
Italian experiment Ne with PPs: 20 verbs split into 4 surveys, with each participant taking all 4 surveys (1 week apart). Each survey contained 1 verb from each of the 5 categories. 5 verbs x 2 conditions = 10 items plus 17 fillers = 27 items. 41 participants across Italy.

Mandarin experiment aspect: 15 verbs x 2 conditions = 30 items plus 60 fillers = 90 items. 57 university students in Chengdu.

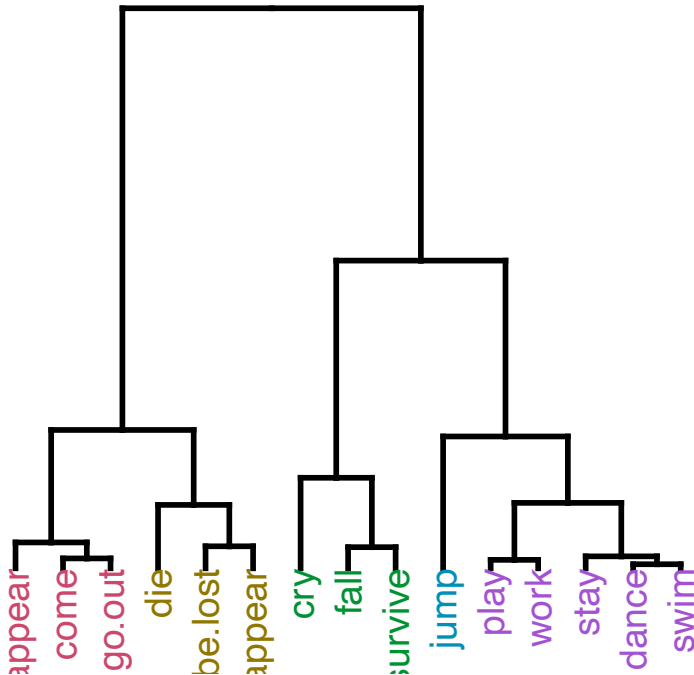
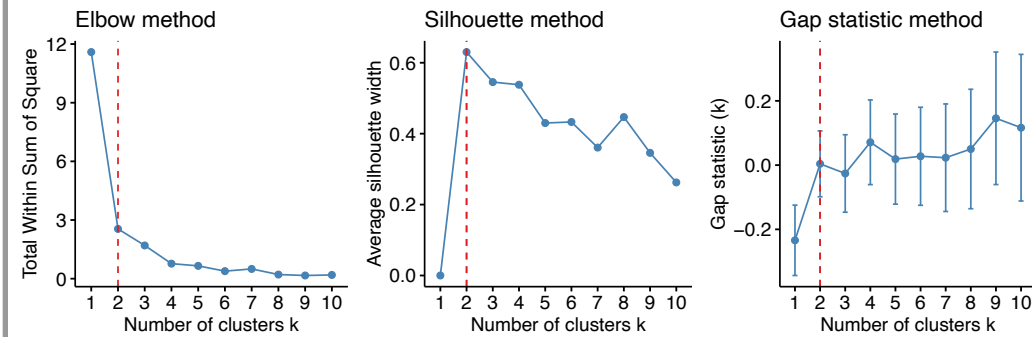
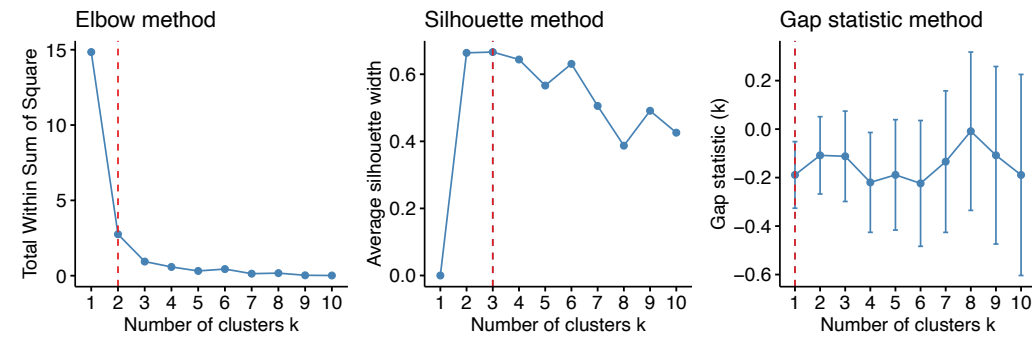
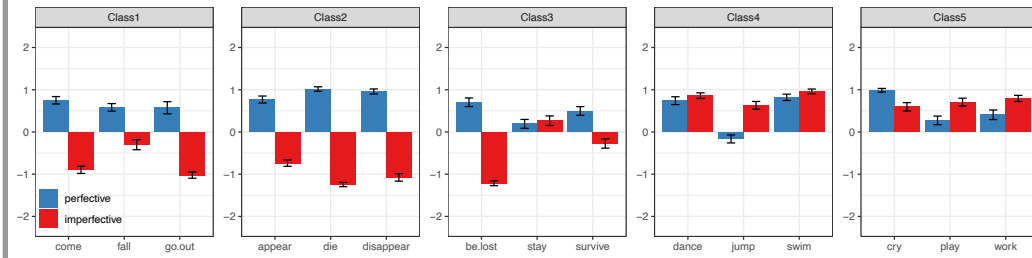
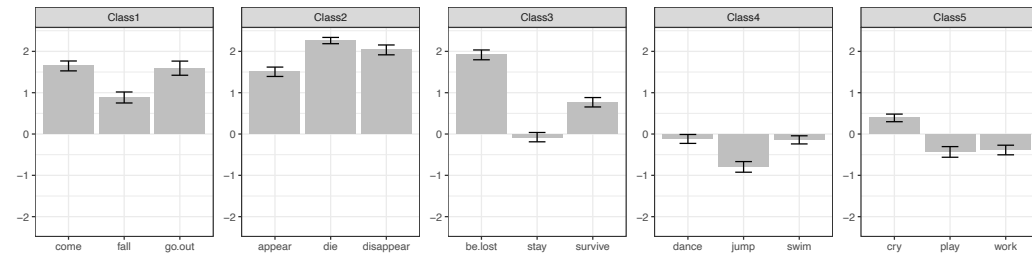
Mandarin experiment pre/postverbal subjects: 15 verbs x 2 conditions = 30 items plus 60 fillers = 90 items. 51 university students split between Chengdu and the US.

Mandarin experiment FNQ: 15 verbs x 2 conditions = 30 items plus 68 fillers = 98 items. 57 university students in Chengdu.

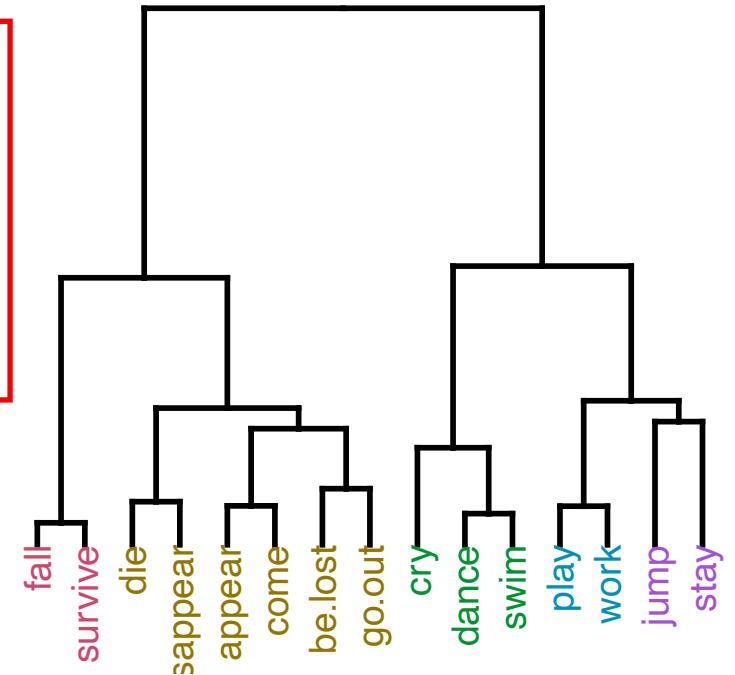
Mandarin: aspect



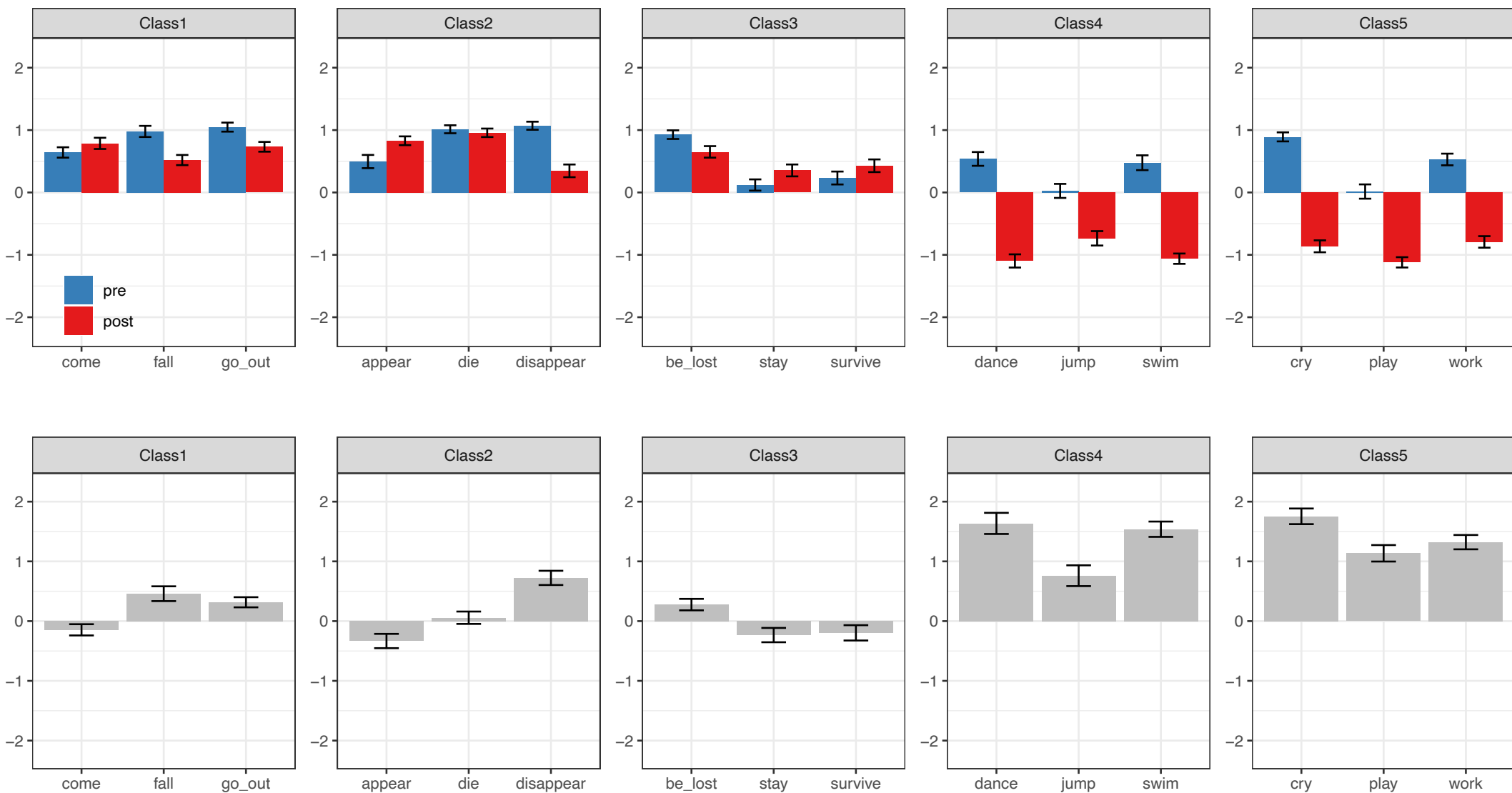
Mandarin: aspect



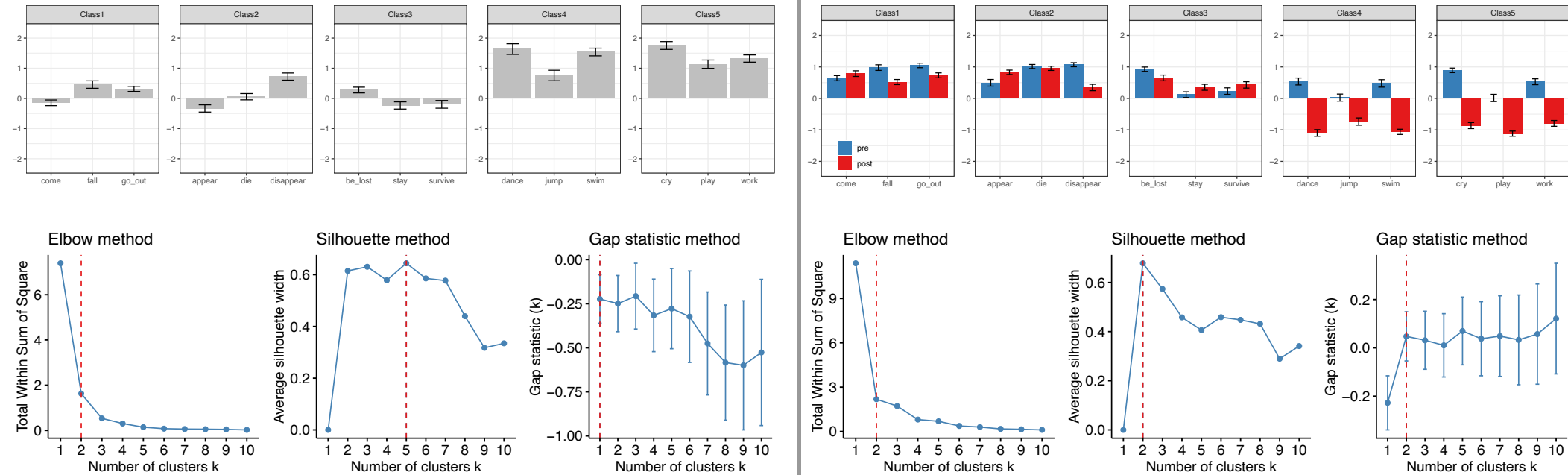
All but one analysis picks out 2 clusters. And they look more like unaccusativity. (Though could be semantic only.)



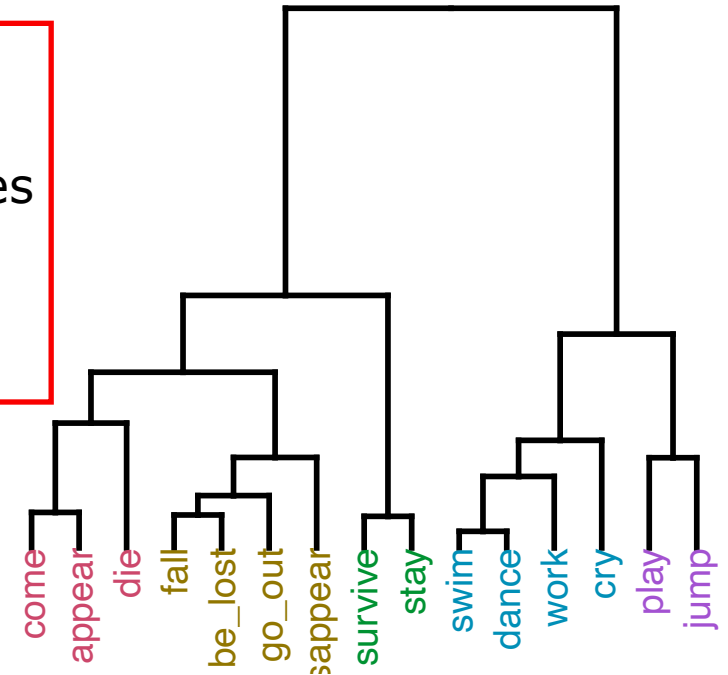
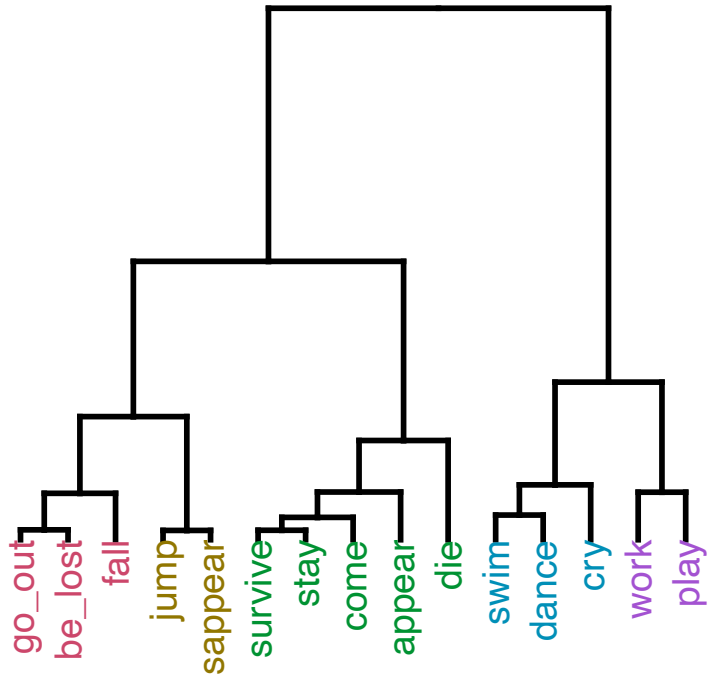
Mandarin: pre/post-verbal subjects



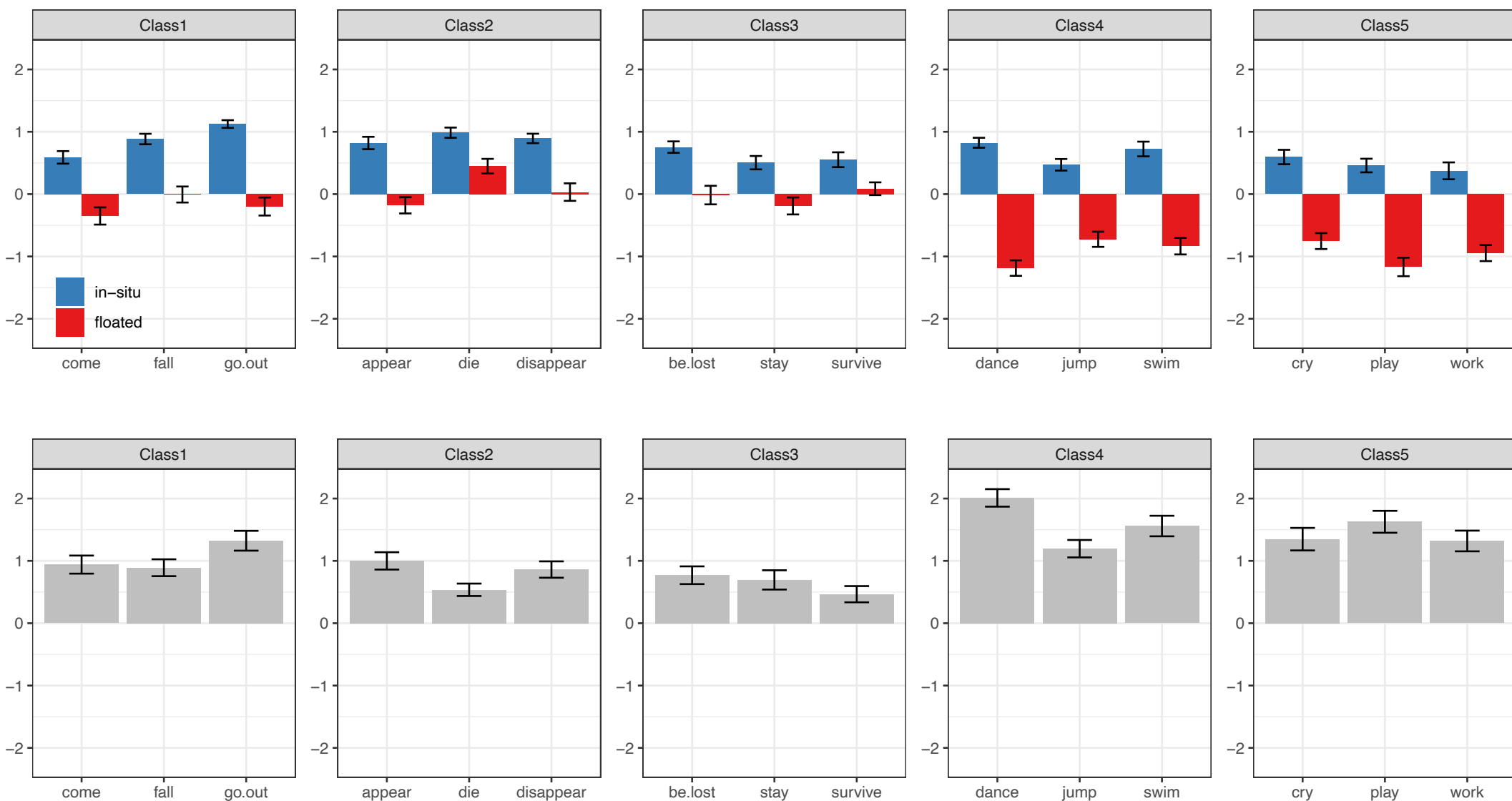
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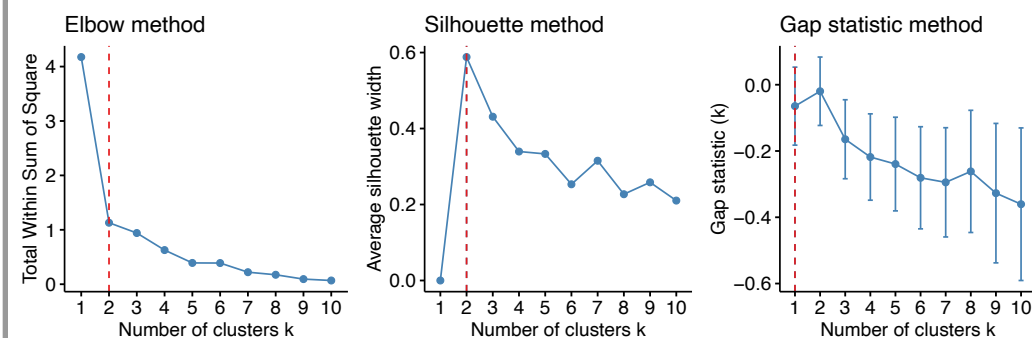
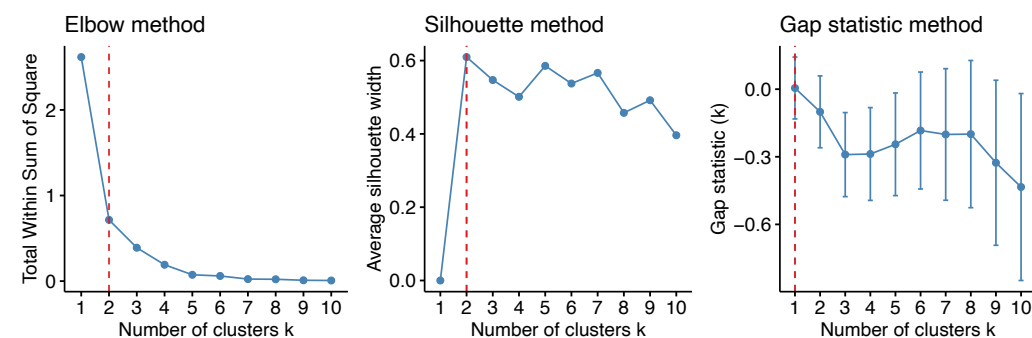
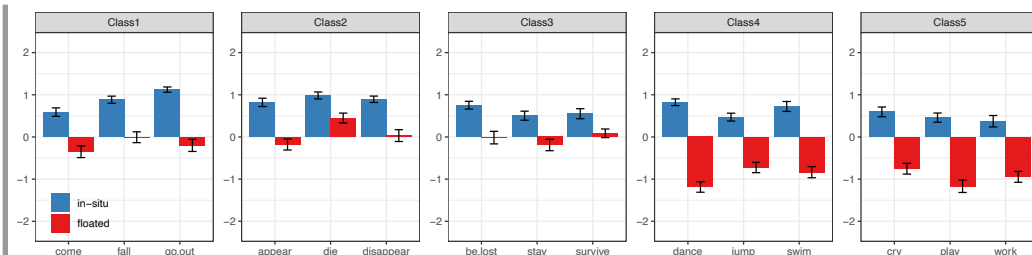
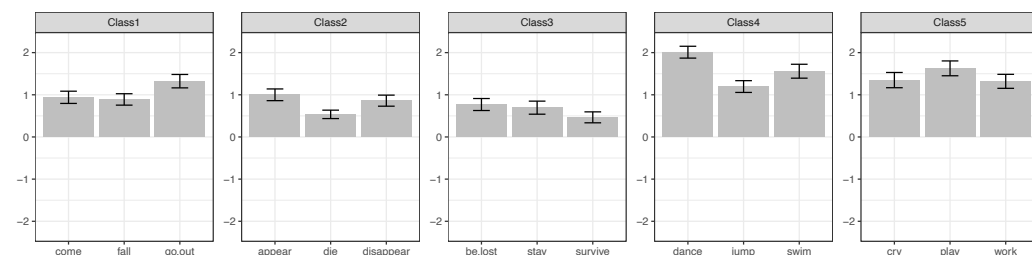
Again, most pick out two clusters, and the one that selects 5 gives similar numbers for 2-7. These look more like unaccusativity.



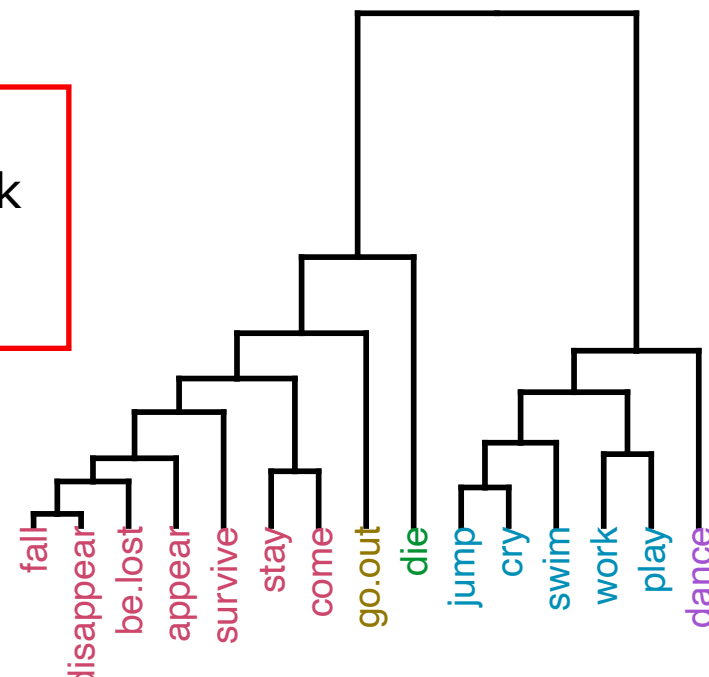
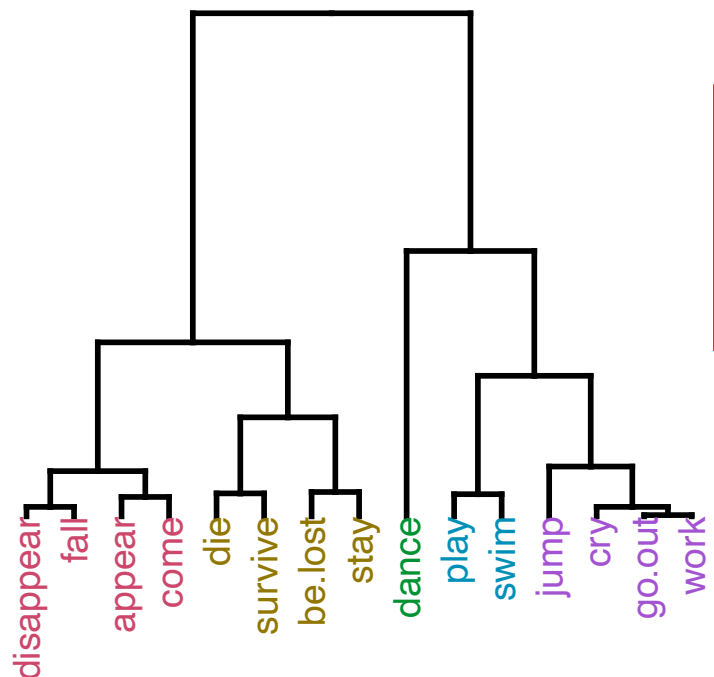
Mandarin: floating quantifiers



Mandarin: floating quantifiers



All analyses pick out 2 or 1 cluster. These look more like unaccusativity.



The nature of split intransitivity

The classic approach to split intransitivity is the Unaccusativity Hypothesis (Permutter 1978, Burzio 1986, Levin and Rappaport-Hovav 1995, and many others).

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[NP... ___ [V ...]]



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Number of classes:

2

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syntax

Type of grammar:

(binary) categorical

And maybe ne-cliticization is not (or no longer) a split intransitivity diagnostic (at least for the speakers we recruited).