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Specific and non-specific perception verbs and lexical typology

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I am very grateful to Johanna Nichols whose talk at the Workshop “Resulting states” at Stockholm University on November 22, 2015 has inspired me to start looking at the typology of perception verbs.

Specific perception verbs:
Restricted exposure of a percept to a perceiver

Obscured perception verbs:
Emphasis on difficulty in discrimination

The lexical character of specificity in Baltic – unlike Russian where it is integrated into a rigid grammatical aspect system – is more favorable for uncovering the underlying semantic factors of specificity, which differ across perceptual systems. Restrictedness of exposure is a scale rather than a dichotomy, and cross-linguistic comparison in parallel texts reveals that specificity is a scale with much variation as to where the borderline between specific and non-specific perception verbs is drawn in the languages of the area. Obscured perception verbs, which emphasize difficulty in discrimination, are another set of condition-oriented perception verbs in Baltic and Russian and are closely related to specific verbs synchronically and diachronically.

(1) Lithuanian: restricted exposure time specifying lack of information pick up

Važiuoja *blondinė* *automobiliu,*
drive.PST.3 blonde.NOM.SG car.INS.SG
nepamato *medžio,*
NEG.see[SPEC].PRS.3 tree.GEN.SG
trenkiasi. Iš sumaitotos mašinos iššliaužia visa kruvina ir sako: - Bet aš juk pypinau.
'A blonde is driving. She does not see the tree [and collides. She saves herself out of the destroyed car all bloody and says: -But I tooted.]'

(http://webcache.googleusercontent.com/search?q=cache:gZNmaRIXx3gJ:pazintys.draugas.lt/srautas.cfm%3Ftitle%3DVaziuoja-blondine-automobiliu-nepamato-medzio-trenkiasi-Is-sumai%26irasas%3D191095+&cd=1&hl=en&ct=clnk&gl=se)

(2) Latgalian: specific and obscured ‘see’

Es *panamu* *tū* *bulkas* *gobolu* *i*
I take.PRS.1SG that.ACC.SG roll.GEN.SG piece.ACC.SG and
īraugu – *nazkaids* *papeirs*
see[SPEC].PRS.1SG some.NOM.SG paper.NOM.SG
tam *pīlipis.* *Vēļ* *vīnā* *styurī*
that.DAT.SG attach.PST.PA.NOM.SG.M still one.LOC.SG corner.LOC.SG
var ***saredzēt*** *taidu* *kai* *pīcdasmytū*
can.PRS.3 **see[OBSC].INF** such.ACC.SG as fiftieth.ACC.SG.DEF
numeri.
number.ACC.SG
‘I take this piece of bread and see – some kind of paper is attached to it. In one corner you can still make out something like the number fifty.’

(J. Pūrmalīts/Jezups Lelis in Kursīte & Stafecka 2003: 224)

(Non-)specific perception verbs in Lithuanian and Latvian

	Lithuanian		Latvian	
	SPEC	NSPEC	SPEC	NSPEC
‘see’	*pa-matyti, iš-vysti*	*matyti*	*ie-raudzīt*	*redzēt*
‘hear’	*iš-girsti*	*girdėti*	*iz-dzirst (iz-dzirdēt)*	*dzirdēt*
‘feel, taste’	*pa-justi*	*jausti (justi)*	*sa-just*	*just*
‘smell’	*už-uosti, su-uosti*	*uosti*	*sa-ost*	*ost*

Obscured perception verbs in Baltic and Russian

	Lithuanian	Latvian	Russian
‘see’	*į-žiūrėti*, *į-žvelgti*	*sa-redzēt, sa-skatīt*	*raz-gljadet’*
‘hear’	*iš-girsti*	*sa-dzirdēt*, *sa-klausīt*	*ras-slyšat’*

Claims

=(Non-)specific perception verbs can be integrated in a **grammatical** aspect system as in Russian, but they can also be entirely **lexical** as in Baltic.

=(Non-)specific perception verbs are an **areal feature** of Central, East and Northern Europe (connected to the areal phenomenon of prefixal perfectivization; Arkadiev 2015).

=Specific perception verbs are **condition-oriented** in their aspectual structure and not participant-oriented.

=**Restrictedness of exposure is a scale** rather than a dichotomy which manifests itself in very different cutoff points between specific and non-specific in different languages.

=(Non-)specific perception verbs are a **challenge for** traditional approaches to **lexical aspect**.

Perception verbs and lexical typology

"experience" vs. **"activity"** vs (Viberg 1984), or
"cognitive" vs. **"active"** (Rogers 1971).

"Base paradigm" of perception verbs (Viberg 1984, 2001)

	Experience	**Activity**	Phenomenon-based
SIGHT	***see***	***look***	*look (like)*
HEAR	***hear***	***listen***	*sound*
FEEL	***feel***	***feel/touch***	*feel (like)*
SMELL	***smell***	***smell***	*smell of/stink*
TASTE	***taste***	***taste***	*taste like*

Viberg's lexicalization and markedness hierarchy

sight > hearing > touch/taste/smell

Further important contributions to the lexical typology of perception verbs (selected)

EVANS, NICHOLAS & DAVID WILKINS. 2000. In the mind's ear: The semantic extensions of perception verbs in Australian languages. *Language* 76.3, 546–592.

IBARRETXE-ANTUÑANO, IRAIDE B. 1999. *Polysemy and metaphor in perception verbs: a cross-linguistic study*, Diss., University of Edinburgh.

NAKAGAWA, HIROSHI. 2012. The importance of TASTE verbs in some Khoe languages. *Linguistics* 50.3, 395–420.

SWEETSER, EVE. 1990. *From Etymology to Pragmatics. Metaphorical and cultural aspects of semantic structure*, Cambridge: Cambridge University Press.

Opportunistic (*see*, *hear*, *feel*)
like "find" (e.g. Swahili *ona* 'see, find').
express the opportunity for perception

Explorative (*look*, *listen*, *touch*)
like "seek" (e.g., English *"look" for*)

No neat border line, e.g., in ambulatory vision (Mark 5:15)

English(leb)	*and they **came to** **see** what it was that had happened.*
Finnish (1992)	*Ihmisiä **lähti** **katsomaan**, mitä oli tapahtunut.*
German (lut)	*Und sie **gingen hinaus, zu** **sehen**, was da geschehen war.*
German Bernese	*D Lüt sy **cho** **luege**, was da passiert isch.*

Ecological psychology (James J. Gibson)

Ambient and **ambulatory vision**:
"One sees the environment not just with the eyes but with the eyes in the head on the shoulders of a body that gets about" (Gibson 1979: 222).

Mutuality of the **animal** and the **environment** (Gibson 1979: 8).

The world of ecological reality consists of meaningful objects and events
The senses are active **perceptual systems.** Perception is not a passive response to a stimulus but an act of **information pickup** (Gibson 1979: 56–57).
If the **exposure period** is not very short, **the eye will never stay still** and scan the pattern to which it is exposed (Gibson 1979: 1).
"**experience of a stable visual world**" (Gibson 1979: 222)

Biases in the study of perception verbs (and partly more generally in semantics)

=discrete features
=dual nature models
=participant orientation
=aspectual event types
=nominalism
=physiology
=paradigmatic model of lexical field
=vision

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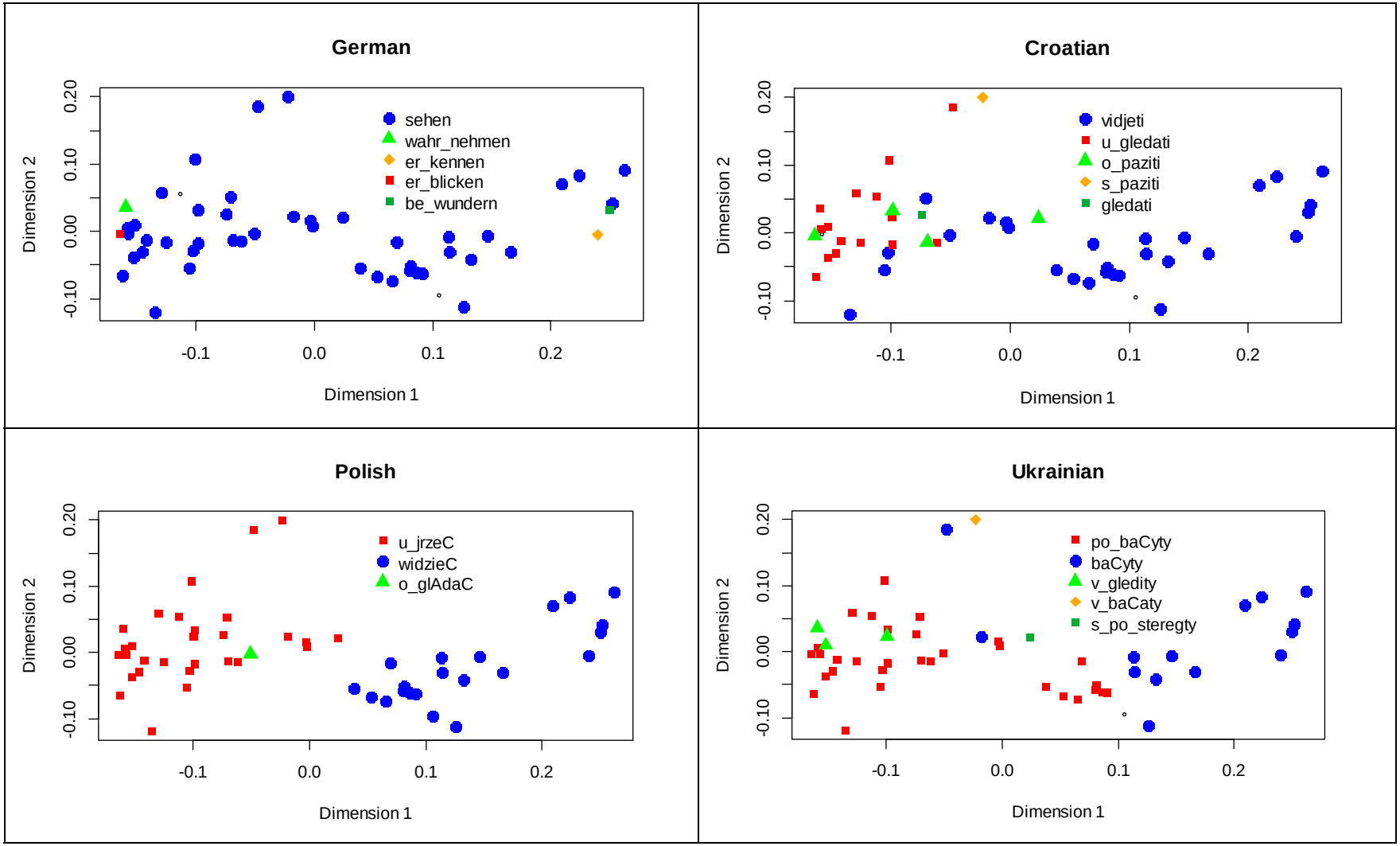
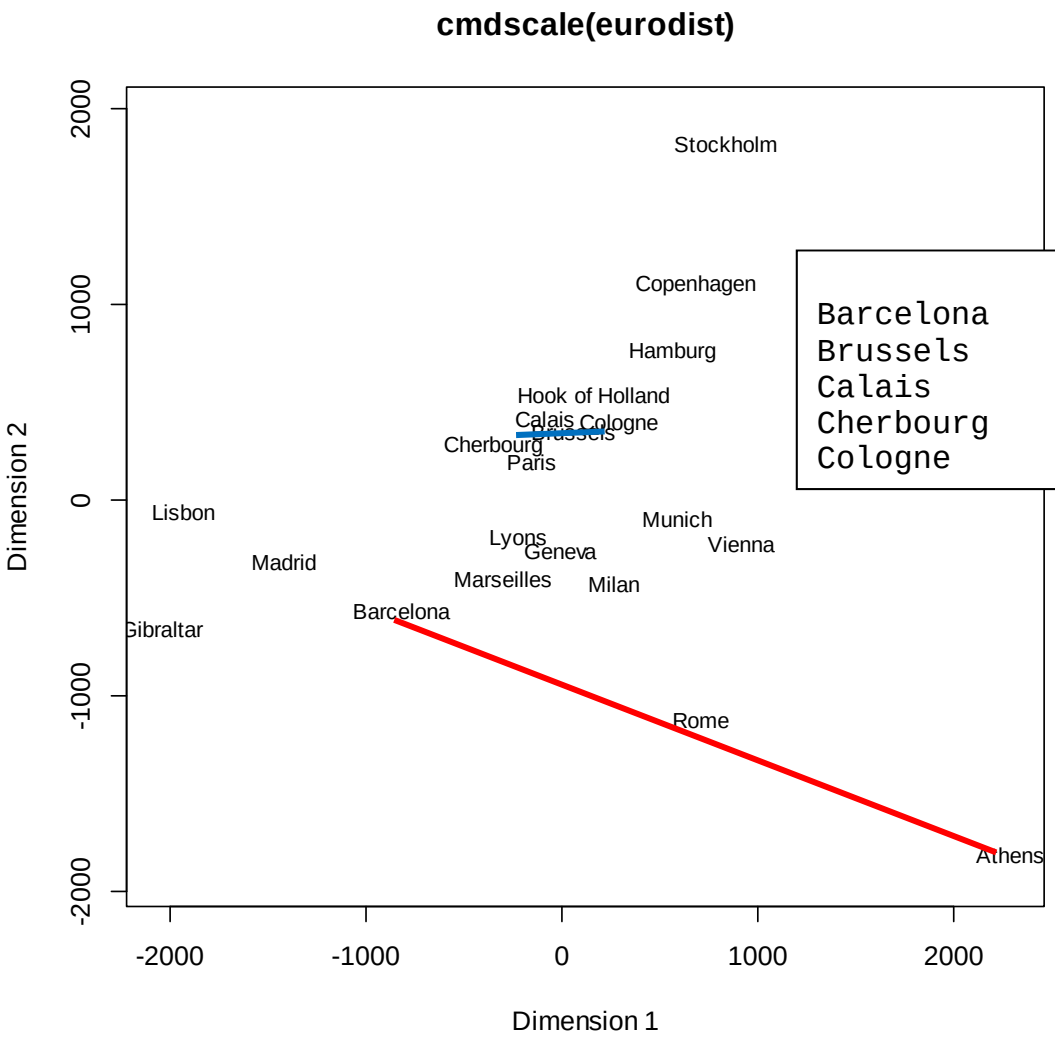
More specific vs. less specific 'see' is a cline (N.T. Mark)



Multidimensional scaling builds a similarity space from a distance matrix



	Athens	Barcelona	Brussels	Calais	Cherbourg
Barcelona	**3313**				
Brussels	2963	1318			
Calais	3175	1326	204		
Cherbourg	3339	1294	583	460	
Cologne	2762	1498	206	409	785

Doculects	Lg2	Lg2	Lg3	Lg4
Contexts				
A	bi	li	ol	me
B	bi	li	ux	me
C	up	sa	er	si
Distances	1=4/4		0.25=1/4	

Specificity cline illustrated with nine contexts from Mark

		deu	lav 1965	swe 2000	ltg	ces	lit 1998	ukr	oss
5:6	And when he **saw** Jesus from a distance, he ran and knelt down before him.	x	x	x	x	x	x	x	x*
14:69	And the female slave, when she **saw** him, began to say again to the bystanders:		x	x	x	x	x	x*	x
1:16	as he was passing by along the Sea of Galilee, he **saw** Simon and Andrew, Simon's brother,			x	x	x	x*	x	x
16:5	And as they were going into the tomb, they **saw** a young man dressed in a white robe sitting on the right side,				x	x	x	x	x
16:7	You will **see** him there, just as he told you."					x	x	x	x
2:16	And the scribes of the Pharisees, when they **saw** that he was eating with sinners and tax collectors,						x*	x	x
6:48	And he **saw** them being beaten in their rowing because the wind was against them...							x	x
2:12	...they were all amazed and glorified God, saying, "We have never **seen** anything like this!"								x
13:2	And Jesus said to him, "Do you **see** these great buildings?"	+							

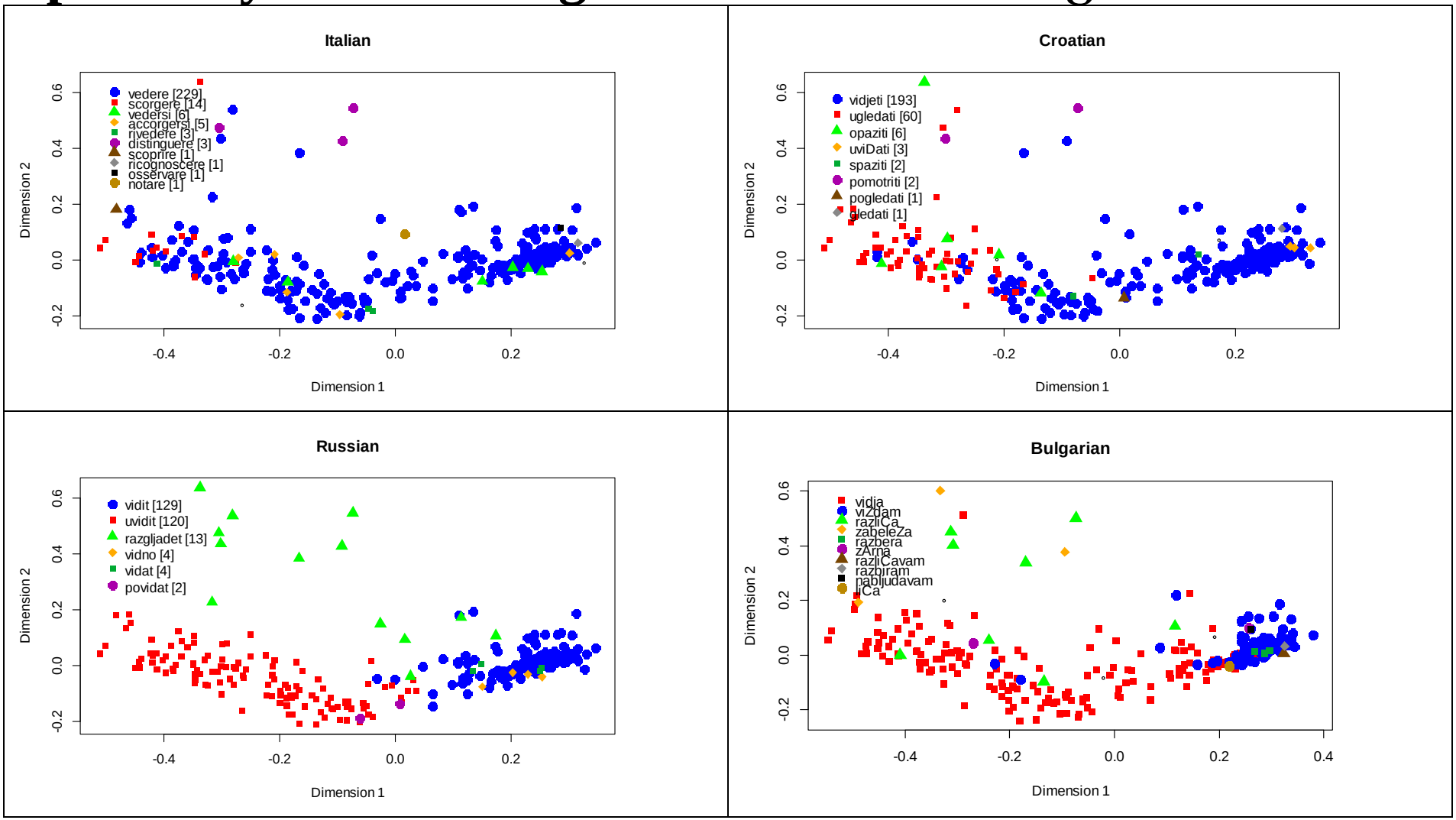
Specificity cline

(approximation based on examples in Mark for visual perception):

A: see from a distance (5:6) >
  B: recognize while approaching (14:69) >
    C: see one or few persons for the first time (1:16) >
      D: see an event or a crowd (16:15) >
        E: see in future tense (16:7) >
          F: see an event in progress (2:16; 6:48) >
            G: experiential (2:12) >
              H: present tense with speech act participant as subject (13:2)

Particular verbs for ‘see (from distance)’, connected with specificity?
Mandinka *hayinaŋ* and Tagalog *tumanaw*

Specificity cline in Bulgakov's *Master i Margarita*



Specificity cline in Bulgakov's *Master i Margarita*

	BG	RU	LV	HR	DE	EE	EN
Surprising object	vidja	uvidet'	ieraudzīt	ugledati	erblicken	silmama	He was already downstairs and **saw just by the exit a door leading to some closet**.
New object	vidja	uvidet'	ieraudzīt	ugledati	erblicken	nähema	the consternated bookkeeper thought and, looking around, **saw something else**:
Old object	vidja	uvidet'	ieraudzīt	opaziti	sehen	nähema	Then Margarita **saw Woland again**.
Fact	vidja	uvidet'	ieraudzīt	vidjeti	sehen	nähema	Here everyone **saw that it was no ghost at all**,
Future	vidja	uvidet'	redzēt	vidjeti	sehen	nähema	you **will see these supposed banknotes disappear**
Experiential perfect	vidja	videt'	redzēt	vidjeti	sehen	nähema	and finally Sempleyarov,...a most educated man, **had seen this magician**,
Present	viždam	videt'	redzēt	vidjeti	sehen	nähema	**I see** you're interested in my globe.

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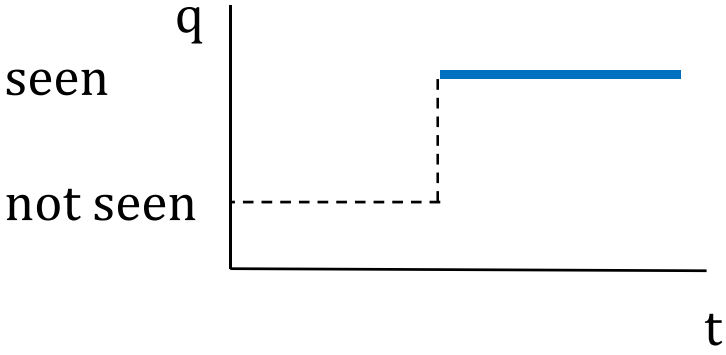
Dual nature models: Lexical aspect of 'see'

Following Vendler (1967: 138) linguists quite unanimously ascribe to 'see' a dual nature of **state (3a)** and **achievement (3b)**

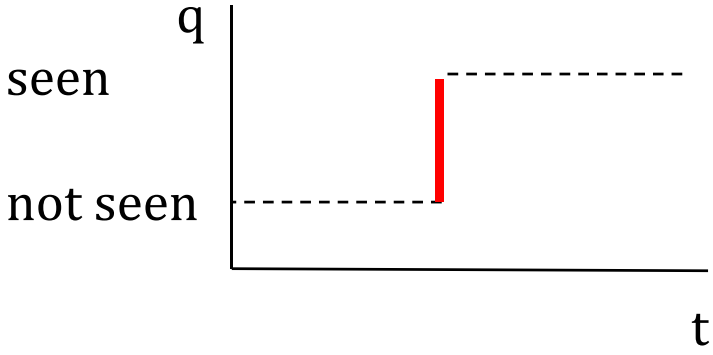
(3a) ***I see Mount Tamalpais.***
(3b) ***I reached the crest of the hill and saw Mount Tamalpais.***

State and achievement profiling of English *see* according to Croft (2012)

a)



b)



In Russian perfectives of verbs of perception (***uvidet'*** **'see[PFV]'**) profile the inceptive phase unlike imperfectives (***videt'*** **'see[IPFV]**) (Croft 2012: 120)

No clear cutoff point between states and achievements

А ты, если швейцар, должен знать, что ***увидев*** *такого человека, ты должен, не медля ни секунды, начинать свистеть.*
Och om du är vaktmästare här och ***får syn på*** *en sådan person så är det din skyldighet att blåsa i visselpipan ögonblickligen.*
And you, if you're a doorman, ought to know that on ***seeing*** *such a man, you must, without a moment s delay, start blowing your whistle*

Кот моментально вскочил со стула, и все ***увидели****, что он сидел на толстой пачке рукописей.*
Katten hoppade omedelbart ner från stolen och alla kunde ***se*** *att han suttit på en tjock packe manuskript*
The cat instantly jumped off the chair, and everyone ***saw*** *that he had been sitting on a thick stack of manuscripts.*

(Bulgakov's *Master i Margarita*, Parasol corpus)

Language-particular dichotomies seduce linguists and philosophers to think of semantic distinctions in terms of dichotomies

All languages categorize, but different languages draw borders at different places. This is why cross-linguistic research is indispensable in semantic studies because it is the only empirical way to overcome language-specific categorization.

Cross-linguistic research is indispensable for the study of semantics, but for studying semantic distinctions there is not necessarily a need of world-wide stratified samples (which are needed, for instance, in areal typology). For semantic studies, it is sometimes useful to consider minor differences across genealogically or areally very closely related languages.

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Participant orientation in aspectual structure (Croft 2012)

Three dimensional representation of *Sue broke the coconut for Greg with a hammer*; *q* dimension given with shorthand diacritics.

argument structure construction	argument phrases	aspectual contour	qualitative scale points	predicate (and satellites)
S.OBL	*Greg*	... | ---	benefit	
		↑		*for*
OBJ	*coconut*	... | --->	be broken	
		↑		*break*
A.OBL	*hammer*	... | - | ...	impact	
		↑		
SBJ	*Sue*	... | - | ...	apply force	

Condition-orientation of opportunistic perception verbs

The aspectual structure of perception events is at least partly determined by the conditions for perception, which cannot be modeled in terms of subevents connected to participants.

The relevance of conditions is responsible for "the strange fact that for the physical perception verbs, the stative reading of *see* etc. (but not the inchoative) is equivalently expressed by *can see*, etc." (Dowty 1979, 132).
See and *can see* are often very close in their effect.

(Visual) Perception is usually immediate and nearly effortless. This is not true for other kinds of events. *I can write a book* is not the same thing as *I am writing/have written a book*.

Constancy of perception and constrainedness by external factors

Rock (1983, 340): people hardly differ in their perceptions. Hence conditions for information pickup implicate information pickup (but conditions for, say, writing or thinking do not implicate a particular kind of writing or thinking).

Difficulty of perception as a relevant factor for specificity

(4) Russian (J. Kazakov *Arktur – gončij pes*, 3)

I	*ešče*	*on*	*slyšal*	*tončajšie*	*zvuki,*
and	still	3.NOM.SG.M	hear.PST.SG.M	fine.SUPER.NOM.PL.M	sound.NOM.PL
kakix		*my*	*nikogda*	*ne*	***uslyšim***
which.GEN.PL		we.NOM	never	not	**hear[PFV].PRS.1.PL**

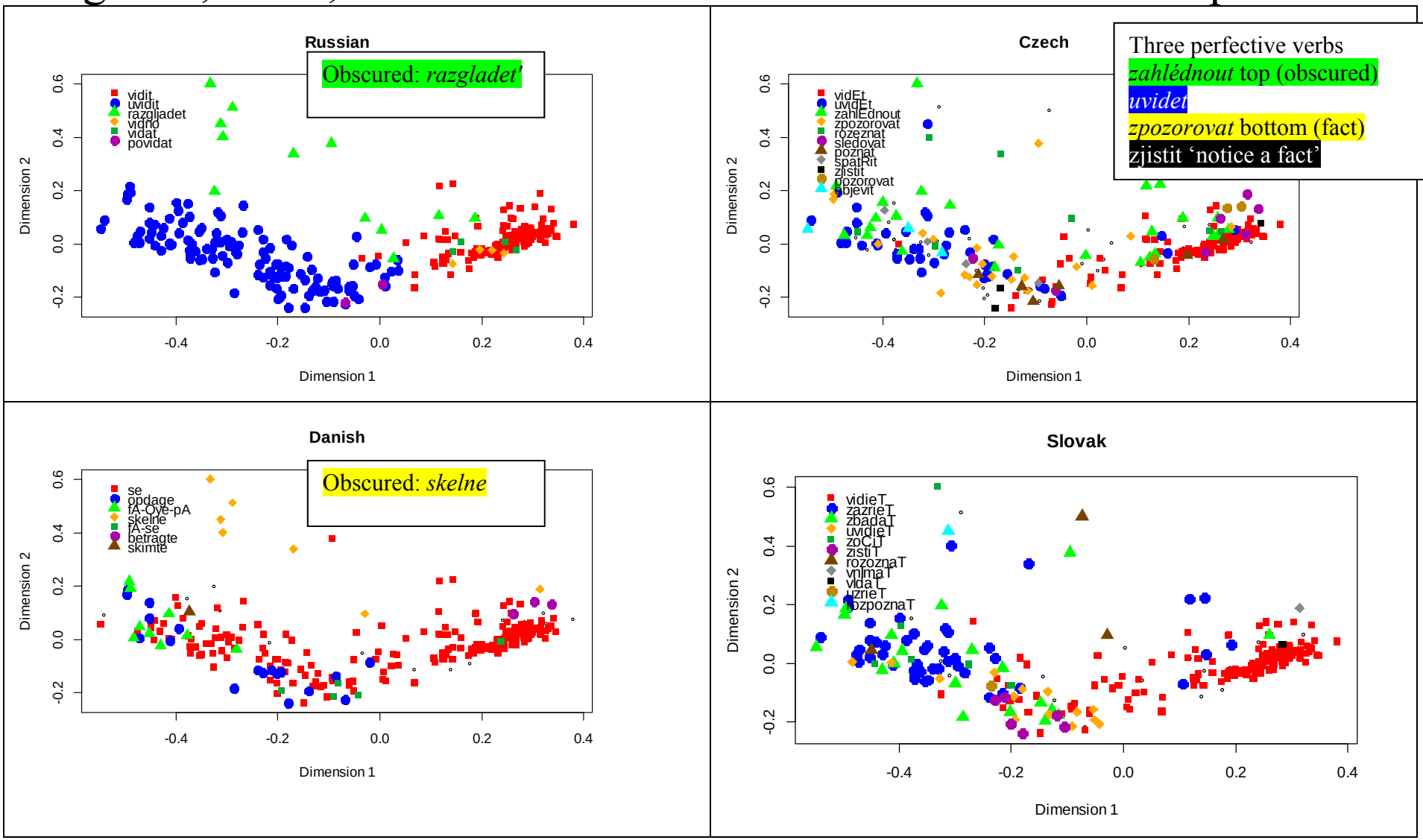
'And he (the dog) heard the finest sounds, which we never can hear.'

Obscured perception verbs

(5) Russian obscured ‘hear’ and ‘look’ (Bulgakov, *Master i Margarita*)
i prislušalsja – v komnatax moix igral patefon. Èto vse,
čto ja ***rasslyšal***. *No* ***razgljadet’*** *ničego ne mog.*
what I.NOM **hear[OBSC].PST.M.SG** but **listen[OBSC].INF** nothing.GEN not can.PST.M.SG
‘[and listened - a gramophone was playing in my rooms. That was all] I heard, but I could not see anything.’

(6) Latvian obscured ‘hear’ and ‘look’ (Bulgakov, *Master i Margarita*)
un ieklausījos — manās istabās spēlēja patafons. Tas bija viss,
ko ***sadzirdēju***. *Bet* ***saskatīt*** *nevarēja nekā.*
what.ACC **hear[OBSC].PST.1.SG** but **listen[OBSC].INF** NEG.can.PST.3.SG nothing.GEN

Bulgakov, MDS, Dimension 2: obscured verbs and fact-S complements



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‘See’, ‘feel’, etc. is not only state or achievement: accomplishment

(7) Mandarin: ‘see/hear’ = ‘look/hear-perceive’ (Mark 8:18)
ni^{3} *men* *you*^{3} *yan*^{3}*jing* ***kan***^{4} *bu*^{2}***jian***^{4} *ma,* *you*^{3} *er*^{3}*duo,* ***ting***^{1} *bu*^{2} ***jian***^{4} *ma*
you.PL have eye **watch** not **perceive** Q have ear **listen** not **perceive** Q
‘Although you have eyes, do you not see? And although you have ears, do you not hear?’

(8) Latvian: accomplishment ‘taste’ verb (V. Bulgakov, *Master i Margarita*)
Taustīdamies *gar* *sienām,*
touch.CVB.SG.M.RFL along wall.DAT.PL
Ivans *ieraudzīja* *gaismas* *strēlīti* *zem* *durvīm,*
Ivan.NOM see[SPEC].PST3 light.GEN.SG streak.ACC.SG under door.DAT.PL
sataustīja *rokturi*
touch[OBSC].PST.3 handle.ACC.SG
un ne visai stipri parāva.
‘Having bumped into the wall a few times, Ivan saw a faint streak of light under a door, felt for the handle, and pulled it gently.’

‘See’, ‘hear’, etc. is not only state or achievement: parallelism with ‘read’

(9) Lithuanian: parallelism of ‘read’, ‘hear’ and ‘see’
(pazintys.draugas.lt/narys.cfm?narys=384885)

Viską *galiu* *žiūrėti* *ir* *skaityti,* *bet* *sunkiau*
all.ACC can.PRS.1SG look.INF and read.INF but difficult.COMP.ADV
viska (sic!) *ką* ***pamatei,***
all.ACC what.ACC **see[SPEC].PST.2SG**
perskaitei *ar* ***išgirdai*** *suprasti...*
through.read.PST.2SG or **hear[SPEC].PST.2SG** understand.INF
‘I can watch and read all kinds of things, but it is more difficult to understand all that I have seen, read and heard...’

(pazintys.draugas.lt/narys.cfm?narys=384885)

‘See’, ‘is not only state or achievement: activity

Vision is often following a moving object (**pursuit movement**, Gibson 1979, 213), which is rather an activity than a state.

(10) Lithuanian (J. Aputis, *Skruzdėlynas Prūsijoje* 84)

Mergaitė	*pašoko*	*nuo*	*kėdutės,*	*nuskubėjo*	*prie*	*durų,*
girl.NOM.SG	jump.PST.3	from	chair.DIM.GEN.SG	PVB.hurry.PST.3	to	door.GEN.PL

Joris	*Globys*	***matė***	*jos*	*tamsias*	*įsitempusias*	
J.	G.NOM.SG	see[NSPEC].PST.3	3.GEN.SG.F	dark.ACC.SG	stretch.PST.PA.ACC.PL.F	
kojas.		*Tarpdury*	*ji*	*sustojo*	*[…]*	
leg.ACC.PL		doorway.LOC.SG	3.NOM.SG.F	stop.PST.3		

‘The girl jumped up from the chair, hurried to the door. Joris Globys saw her dark and stretched legs. In the doorway she stopped.’

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Nominalism vs. realism

The nominalist metaphysical view gives primacy to language or other symbolic systems as the sole possible source for general or abstract terms, as opposed to realists or phenomenologists who believe that generalizations also exist in other terms than linguistic or symbolic. To put it very simply, nominalists believe that only by studying language or other symbolic systems can we learn something about the world or at least about how humans conceive of the world. Realists believe that the world can be studied also without making reference to words.

Nominalist approaches in the study of perception verbs (examples)

Gruber (1967) investigates the meaning of English *look* and *see* by considering the underlying strings into which they are inserted. He comes to the conclusion that both *look* and *see* are motion verbs of some sort because they can be used with directional prepositions as in *It is easy to see through this glass*.

Sweetser (1990, ch. 2) uses etymologies as a major source for investigating differences between the sense modalities in order to explain differences in metaphorical extensions of one or another sense modality.

Nominalism and realism as two perspectives

The nominalist bias entails a strong underrepresentation of references to the psychological literature in studies of perception verbs. The approach adopted here is that the linguistic expression of perception and the phenomenology of perception are unlikely to be entirely irrelevant to each other even though it cannot be taken for granted that all aspects of the phenomenology are relevant for linguistics and vice versa.

Nominalism and realism are taken here as two perspectives with neither of them having primacy over the other one.

Put differently, sometimes we might be able to learn things about perception verbs from studying first what perception is like. Sometimes we might be able to learn things about perception by studying how perception verbs are used.

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Bias toward physiology

Linguists often view perception as physical or physiological. Horie (1993, 3) distinguishes between
Directly/physically Perceived Events (*I heard John singing a song*) and Indirectly/mentally Perceived Events (*I thought that he was singing a song*).
Cognitive linguistics emphasizes the notion of embodiment according to which mental and linguistic categories are created on the basis of experience and under constraints imposed by our bodies (see, e.g., Lakoff & Johnson 1980; Ibarretxe-Antuñano 1999, 18). Sweetser (1990, 28) views cognitive uses of perception verbs as instances of a mind-as-body conceptual metaphor.

Alternative views

Perception can be conceived of as strongly determined by external circumstances (the environment) as in Gibson's (1979) ecological psychology or it can be viewed as cognitive as in Rock's (1997) approach according to which perception is generally indirect and thought-like.

Perception chain with lower-level perception (here the hearing of sound) and higher-level perception (here the hearing of speech)

(11) Lithuanian: non-specific and specific 'hear' (J. Aputis, *Prieš lapų kritimą* 24):

o	*ten*	*Benutis*	***girdi***	*aimanuojant*	*moteriškę:*
and	there	Benutis.NOM.SG	**hear[NSPEC].PRS.3**	wail.PRS.PA	woman.ACC.SG
-Dievuliau,	*dar*	*vieną...*	***Išgirdus***	*tuos*	*žodžius* [...]
God.DIM.VOC	still	one.ACC.SG	**hear[SPEC].PST.PA**	that.ACC.PL	word.ACC.PL

'and there Benutis hears a woman wailing: 'My God, another one...' Having heard those words...'

Physiological bias

The widespread belief that perceiving is experiencing a stimulus and that seeing is seeing light and colors in the retinal picture.

The concept of stimulus comes originally from physiology where it means energy exciting a reflex response in a nerve cell, and was extended to psychology where it became particularly popular in behaviorism.

However, what holds for a nerve cell does not necessarily hold for the whole body containing that nerve cell. According to Gibson (1979, 50) perception “is not a response to a stimulus, but an act of information pickup”. In vision, the receptors in the retina are stimulated, but the pairs of mobile eyes in a head that can turn attached to a body that can move are activated for information pickup.

Fact intermediate between "physiological" and "cognitive"

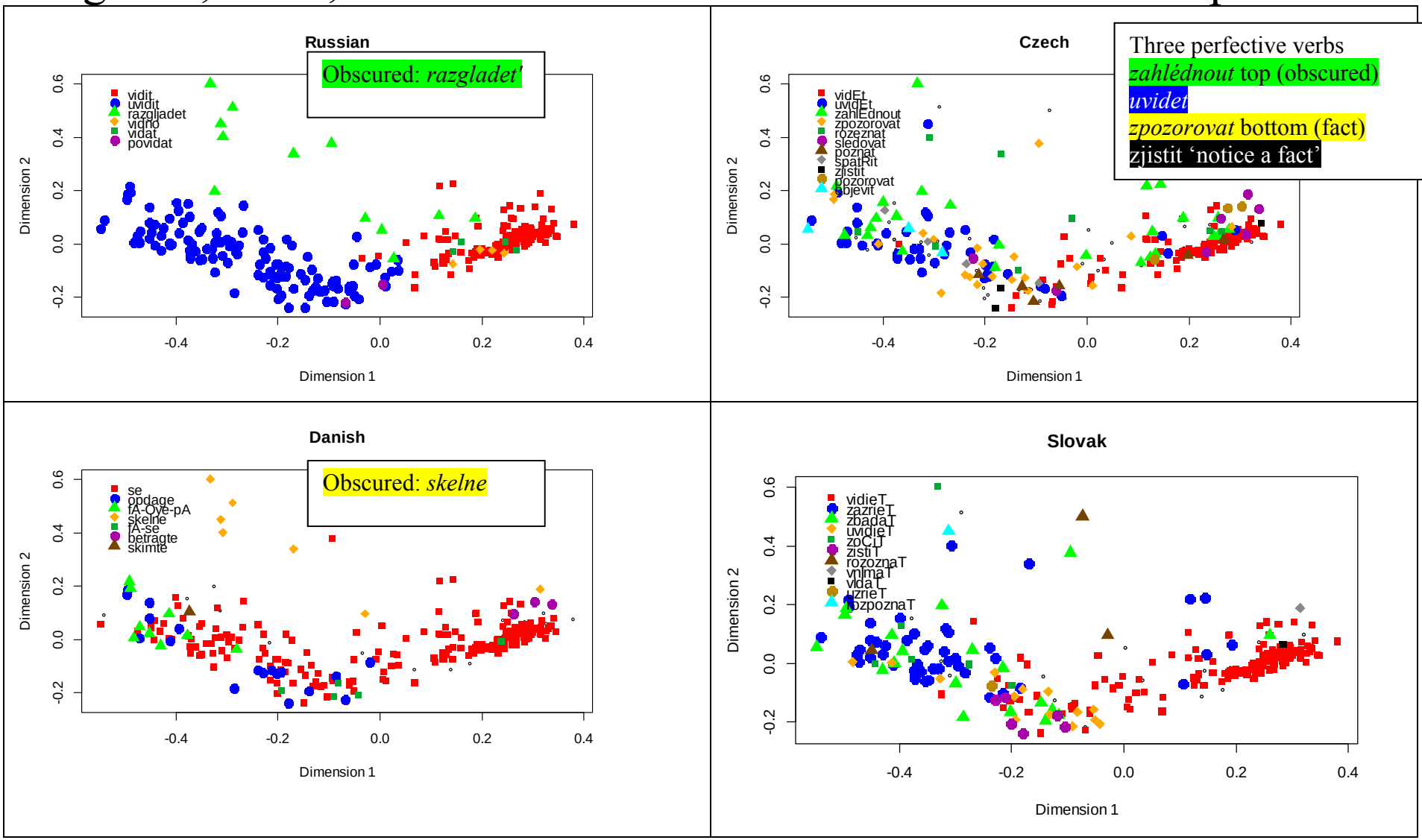
EO *Rimskij eligis sian poshhorloghon, **konstatis**, ke ghi montras kvin minutojn post la dua, kaj tute furiozighis .*

CZ *Rimský vytáhl hodinky, a když **zjistil**, že ukazují dvě a pět minut, definitivně se rozzuřil .*

HU *Rimszkij elővette óráját, **megállapította**, hogy két óra elmúlt, és végképp dühbe gurult .*

EN Rimsky took out his watch, **saw** that it read five minutes past two, and flew into a complete rage .

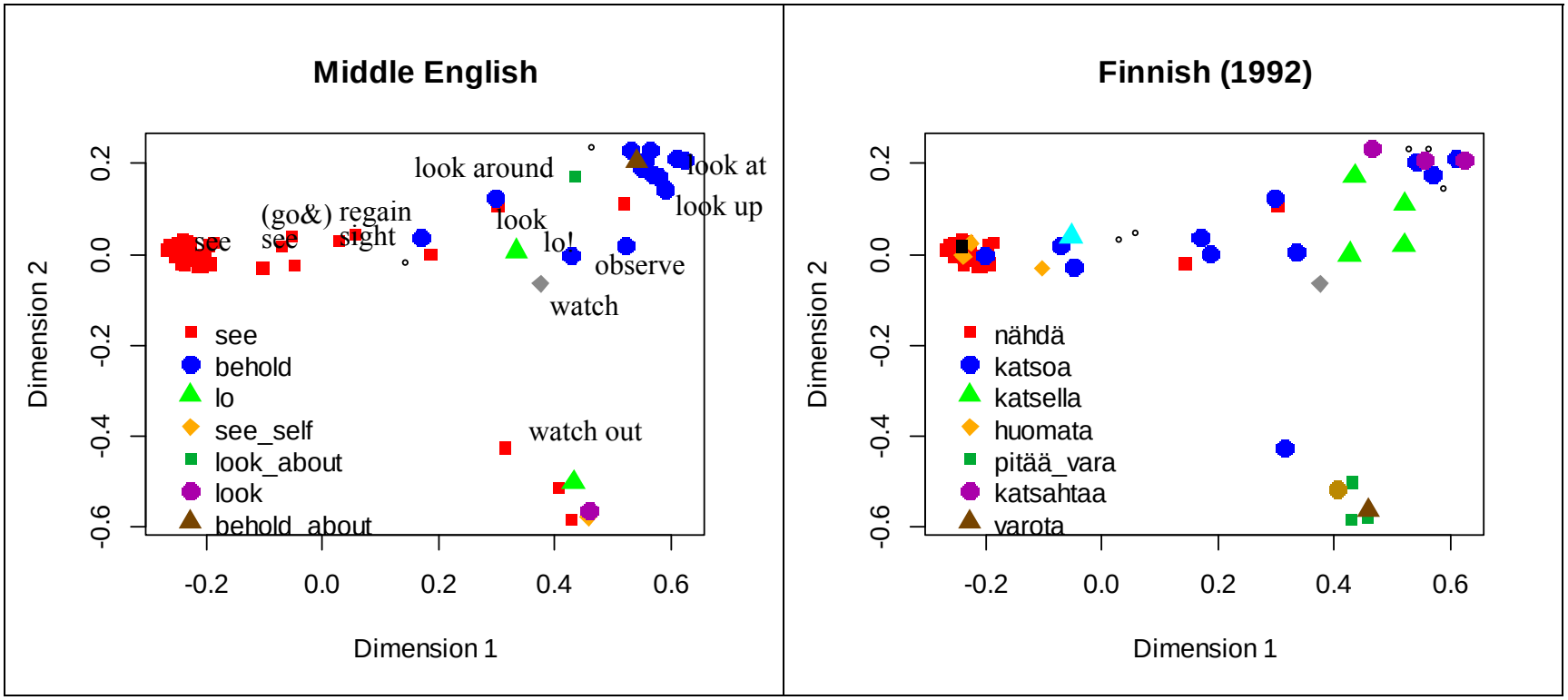
Bulgakov, MDS, Dimension 2: obscured verbs and fact-S complements



Biases in the study of perception verbs (and partly more generally in semantics)

=discrete features
=dual nature models
=participant orientation
=aspectual event types
=nominalism
=physiology
=paradigmatic model of lexical field
=vision

Semantic map of visual perception verbs (N.T., Mark)



Ambulatory vision (Mark 5:15):

English(leb) *and they **came to** **see** what it was that had happened.*
Finnish (1992) *Ihmisiä **lähti** **katsomaan**, mitä oli tapahtunut.*

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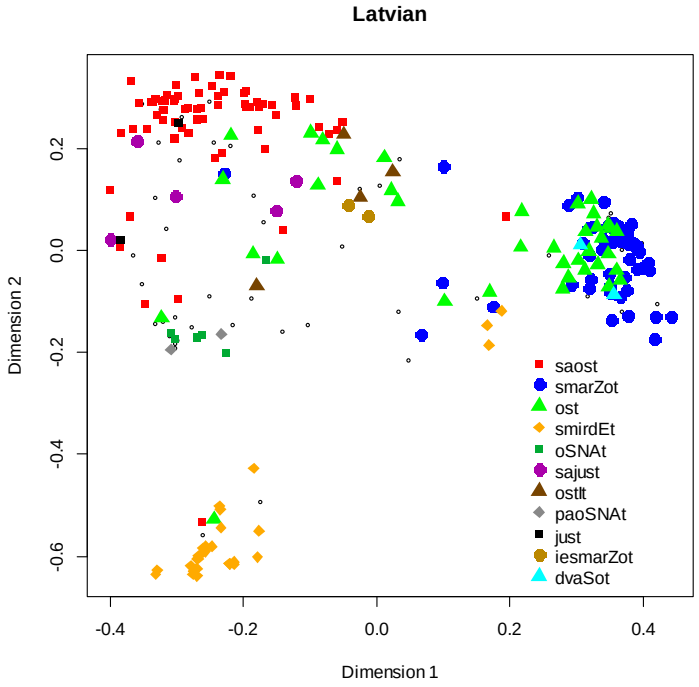
Smelling is not like seeing when it comes to lexical aspect

(12) Latvian: **specific 'smell'** in coordination with **non-specific 'see'**
(P. Süskind, *Das Parfüm*)

tajā	*mirklī,*	*kad*	*viņš*	***saoda***	***un***	***redzēja,***
that.LOC.SG	moment.LOC.SG	when	3.NOM.SG.M	**smell[SPEC].PST.3**	**and**	**see[NSPEC].PST.3**

'in that moment, as he **saw** **and** **smelled** [how irresistible its effect was]'
‚in diesem Moment , da er sah und roch , wie unwiderstehlich es wirkte'



ParaSol is a parallel aligned corpus of texts in Slavic and some other languages, developed by Ruprecht von Waldenfels
http://www.parasolcorpus.org/

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'in that moment, as he **saw** **and** **smelled** [how irresistible its effect was]'
in diesem Moment , da er sah und roch , wie unwiderstehlich es wirkte

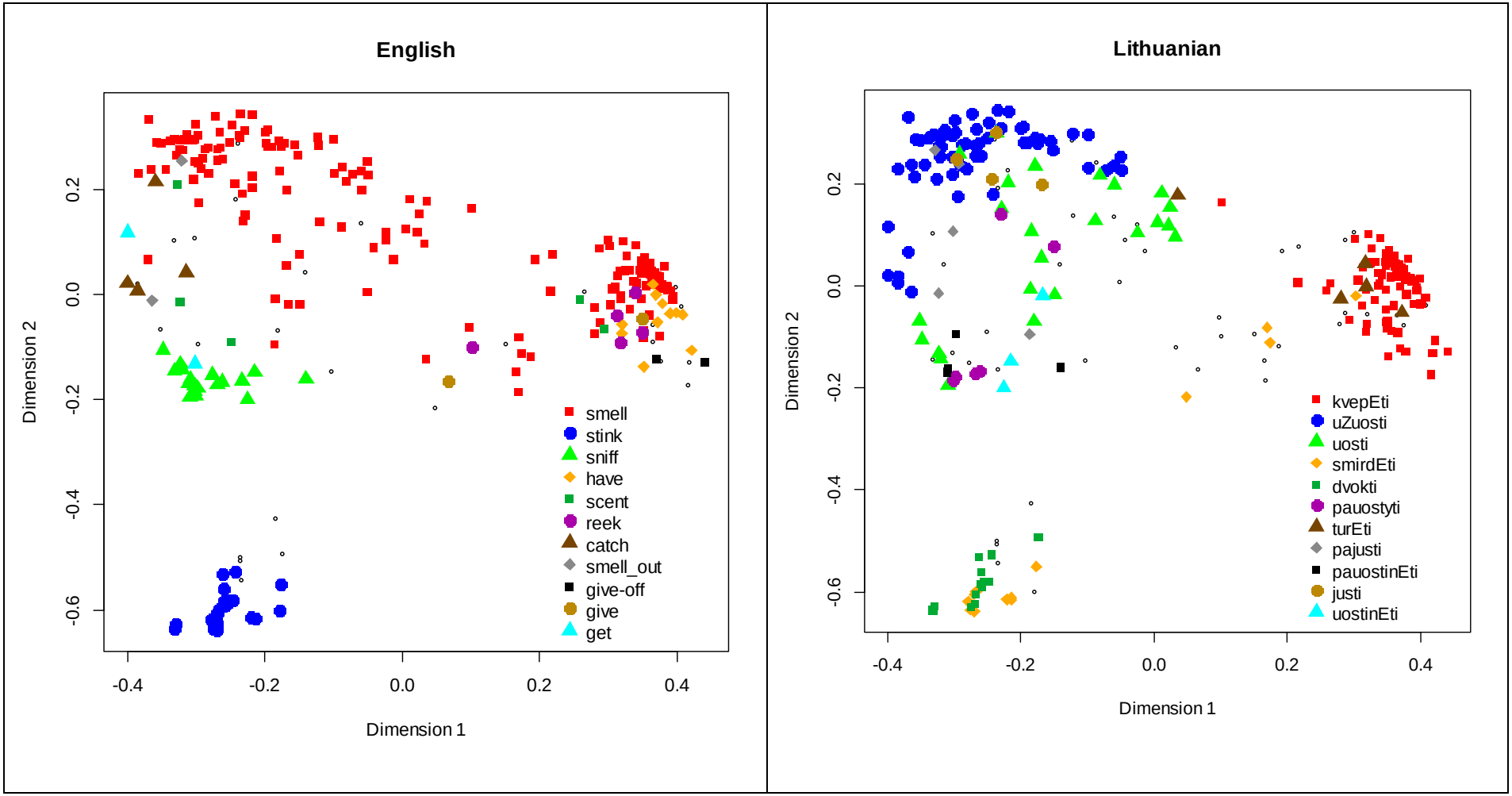
Spanish	*en aquel instante en que **vio** y **olió***
Georgian	*im momentši, rodesac' **dainaxa** da **šeiqnosa** ,*
Czech	*v tom okamžiku , kdy **viděl** a **cítil***
Russian	*в этот момент , когда он **видел** и **обонял** ,*
Ukrainian	*в ту мить , коли Гренуй **бачив** і **відчував** ,*
Slovene	*v tistem trenutku , ko je **videl** in **navohal** ,*
Croatian	*u trenutku kad je **vidio** i **nanjušio***
Serbian	*u tom trenutku , kada je **video** i **namirisao***
Macedonian	*во тој момент кога **виде** и **помириса***
Bulgarian	*в мига , в който **зърна** и **помириса***

Differences between ‘smell’ and ‘see’

The different behavior of ‘smell’ may be related to the fact that smelling is a more explorative sense than ‘see’. Smelling is an accompaniment of breathing as taste is of eating (Gibson 1966, 136). “Repeated sniffing probably maximizes the absorption of [...] vapor when its concentration is low” (Gibson 1966, 145).

Odor adaptation: “after about fifteen minutes of smelling a particular aroma you effectively no longer perceive the scent”; Herz 2007, 84), which makes smelling potentially less stative than other sense modalities.

Semantic map of ‘smell’ (based on MDS of 24 European languages)



Biases in the study of perception verbs (and partly more generally in semantics)

=nominalism
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=aspectual event types
=dual nature models
=participant orientation

Claims

=(Non-)specific perception verbs can be integrated in a **grammatical** aspect system as in Russian, but they can also be entirely **lexical** as in Baltic.

=(Non-)specific perception verbs are an **areal feature** of Central, East and Northern Europe (connected to the areal phenomenon of prefixal perfectivization; Arkadiev 2015).

=Specific perception verbs are **condition-oriented** in their aspectual structure and not participant-oriented.

=**Restrictedness of exposure is a scale** rather than a dichotomy which manifests itself in very different cutoff points between specific and non-specific in different languages.

=(Non-)specific perception verbs are a **challenge for** traditional approaches to **lexical aspect**.

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