Co-Expression patterns of nominal predication in Indo-Iranian

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NACIL 1

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“It is certainly a curious development that the study of linguistic variation has become, over the past several decades, a named and recognized branch of the field of linguistic. No other field that I know of has developed a separate branch for the study of variation in its object, while the main group of researchers devote themsleves (SIC) single-mindedly to the pursuit of invariance.” (William Labov, 1993)

h/t Charlie Farrington, for finding this quote for me.

Introduction

- Usually, linguists speak of **six nominal predication** functions (Hengeveld 1992, Stassen 1997, Payne 2007, *inter alia*).
- These are most commonly defined as:
  - **Equation (following Payne 2007:111-113):** predicating the equivalence of referent between two constituents
  - **predicate property / predicate attribute (following Payne 2007:111-113):** predicating that the referent of some expression (the topic) has some property (the predicate).
  - **proper inclusion (following Payne 2007:111-113):** predicating that the referent of some expression (the topic) belongs to a group designated by another expression (the predicate).

Definitions

- **predicative possession (following Langacker 1993, Heine 1997):** predicating a control of one entity in relation to another, or an intimate relationship between the two (e.g., inalienable possession).
- **predicate locative (following Payne 2007:111-113, Creissels 2013, 2014):** predicating the location of one referent (figure) in relation to another (the ground)
- **existential (following Payne 2007:111-113, Creissels 2013, 2014 "inverse locative"):** predicating the existence of the referent of some expression (the figure) in some location (the ground).

Definitions

(1a) *dēn ān* ***baw-ēd***
religion DEM be.PRS-3SG
“religion is this” (Middle Persian, Shaked 1979)

(1b) *pašēmān* ***baw-ēd***
regretful be.PRS-3SG
"he is regretful” (Middle Persian, Shaked 1979)

(1c) *ōy az harw dō ōh* ***baw-ēd***
DEM from all two DEM be.PRS-3SG
“he is one of those two” (Middle Persian, Williams 1990)

Definitions

(1d) *čēon=šān xwadāy ud dahibed … ne* ***būd***

as=3PL lord and ruler … NEG be.PST.3SG

“because they had no lord, ruler, leader …” (MP, Vahman 1988)

(1e) *dušmenān pad rāh* ***būd*** *h-ēnd*

enemy-PL by road be.PRS be.PRS-3PL

“the enemies are on the road” (Middle Persian, Williams 1990)

(1f) ***būd*** *dastwar kē=š ēdōn guft*

be.PST.3SG priest REL=3SG thus say.PST.3SG

“there was a priest who said thus:” (Middle Persian, Shaked 1979)

Introduction: [NP NP COP]

(2a) *īrĩǰ kuř=aš biya*

irij son=3SG be.PST.3SG

“Irij was his son” (Gorani, Mahmoudveysi et al. 2012)

(2b) *ma na ţing bhĩ-l-u*

1SG.NOM NEG firm be-PST-MSG

“(I said) I was not firm” (Palula, Liljegren & Haider 2015)

(2c) *me āɣā gāleš bie*

1SG.GEN mister galesh be.PST.3SG

“My husband was a galesh (cow-herd)” (Ziyarti, Shokri et al. 2013)

Introduction: [NP NP COP]

- Infrequently, NP NP COP expressed predicative location, or predicative possession:

(3a) *usā āsā faransa biya*
master then France be.PST.3SG
“At that time, the master was in France” (Gorani, Mahmoudveysi et al. 2012)

(3b) *aŋgrar santa kilagaḍa as-e*
Tuesday market Kilagada be-PRS.3SG
“(there’s) a Tuesday market in Kilagada” (Kupia, Christmas & Christmas 1973)

Introduction: [NP NP COP]

- Infrequently, NP NP COP expressed predicative location, or predicative possession:

(4a) *harw kas ciš=ē ast*
every person thing=INDEF be.PRS.3SG
“Every person has one thing” (Middle Persian, Shaked 1979)

(4b) *uk^{h}=rə dulhi=k c^{h}awa nidz=b^{h}əi-lə*
3SG=GEN wife=3SG.POSS son NEG=be-PST
“his wife did not give birth to a son ” (Darai, Dhakal 2013)

Introduction

- Situations in which two functions are expressed by the same grammar (i.e., by clauses with the same structural coding means) is behind many arguments that "**Possessors are locations**" (Jackendoff 1983, Baron & Herslund 2001, Freeze 2001, Sørensen 2001, DeLancey 2002 *inter alia*)

- Across Western Europe, we find ***the garden has lots of weeds*** and similar clauses, where predicative location is encoded by the means normally used to express predicative possession.

- Further, in many other languages (e.g., Tibetan, Mongolian) synchronically active locative markers are used to flag possessors.

Introduction

- But given examples (2) – (4), the co-expression of the six nominal predication functions goes (way) beyond co-expressions of possession and location.

- **What are the co-expression tendencies of the six nominal predication function in (a sample of) Indo-Iranian languages?**

(spoiler alert: complicated!)

- **Can we somehow measure the degree to which pairs of these functions are expressed by the same configurations of structural coding means in Indo-Iranian (and beyond)?**

(spoiler alert: It's also complicated, but I think so!)

Two previous studies

- Clark 1978
  - Compares what she calls “locatives” (predicative possession, predicate location, existential)
  - a (convenience?) sample of **elicited** data from 30 languages.
  - Gives separate consideration to
    (1) the copula / verb used
    (2) the relative word order,
    (3) (some) flagging.
  - Many interesting patterns (e.g., existential / predicate locative mostly distinguish by word order), but coding means are never considered as an ensemble.

Two previous studies

- Stassen 2013a (WALS entry)
  - Asks whether predicate locative is expressed like “core” nominal predication (equation, predicate property, proper inclusion)
  - Restricts scope to the copula alone,
  - But acknowledges “mixed” languages (see also Stassen 1997) which is often the result of grammaticalization of motion / posture verbs as copulas and other processes.
  - To get around “mixed” languages and the binary coding required by WALS, Stassen excludes uses of such copulas which are related to time-stability, and is left with a binary variable.
  - He also acknowledges that a binary answer is a simplification (but it should be remembered that **every** measure would be a simplification).

In this talk:

- I wish to argue that (following Payne 2009):
  - (a) we can, and should, take into account **entire configurations of structural coding means as an ensemble**, not just the copula;
  - (b) we can take into account **multiple ways of encoding a single function**, without "time-stability" or other restrictions.
  - (c) we can try to provide some **numeric measure of dissimilarity** the differences in the grammar used to encode two functional domains, thus enable cross-linguistic comparison.
- Note, that such a measure (like **every** measure, e.g., Stassen's 2013a WALS entry) **reduces information.**

Method

- Published naturalistic texts in a set of Indo-Iranian languages (a subset of my dissertation data)
- Extracted all instances of clauses expressing the six functions as defined above, and coded each one for:
  - **Function**: the nominal predication functional domain it expresses.
  - **Copula**: the copula (or not copula) used.
  - **Flagging**: the flagging of the different non-copular constituents
  - **Indexing** / agreement on the copula (when available)
  - **Relative word order** of the copula and the two constituents.

Method

(5a) *čēon=šān xwadāy ud dahibed … ne būd*

as=3PL lord and ruler … NEG be.PST.3SG

“because they had no lord, ruler, …” (MP, Vahman 1988)

(5b) *harw kas ciš=ē ast*

every person thing=INDEF be.PRS.3SG

“Every person has one thing” (Middle Persian, Shaked 1979)

(5c) *ud ōy wirāz rāy haft xwah būd h-ēnd*

and DEM wiraz to seven sister be.PST be.PRS-3PL

“and Wiraz had seven sisters” (Middle Persian, Vahman 1988)

Method

Function	**Verb type**	**ARG1**	**ARG2**	**Indexing**	**Worder**
Possession	B-copula	NP	Clitic pronoun	1	21v
Possession	H-copula	NP	NP	1	21v
Possession	B-copula	NP	NP *rāy*	1	21v

Table (1)

Method

Predicative possession and equation encoded by [NP NP]:

(6a) *se raza goṭek maizi*

DEM king INDEF wife

“the king had one / a wife” (Kotia Oriya, Gustafsson 1973)

(6b) *mo-r munos oricondor raza*

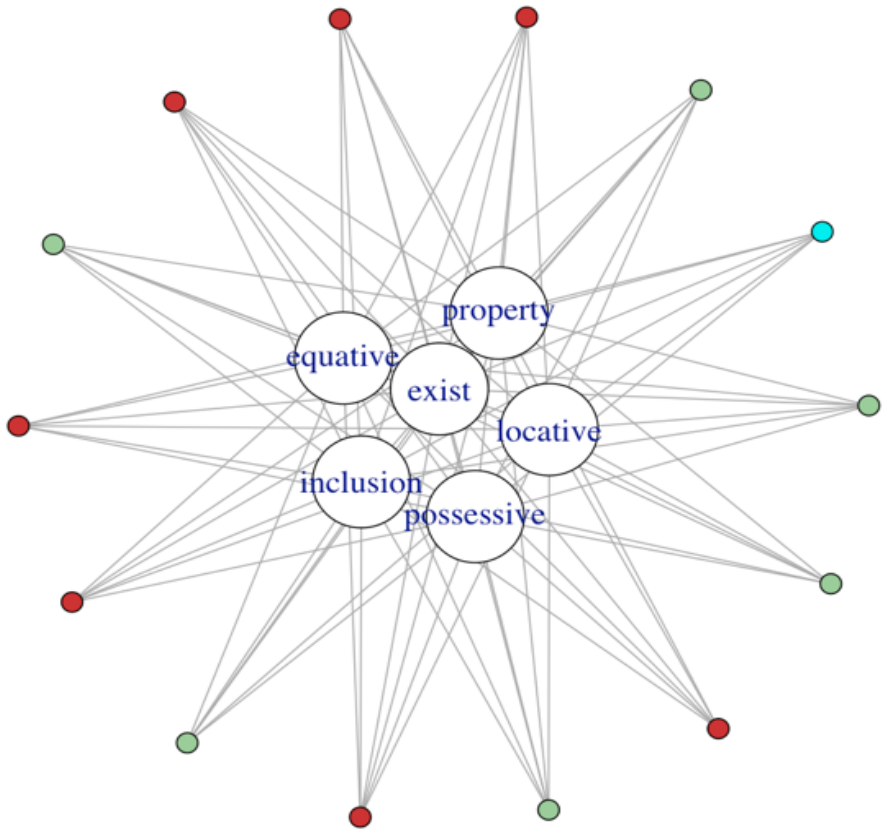
1SG-GEN man PN king

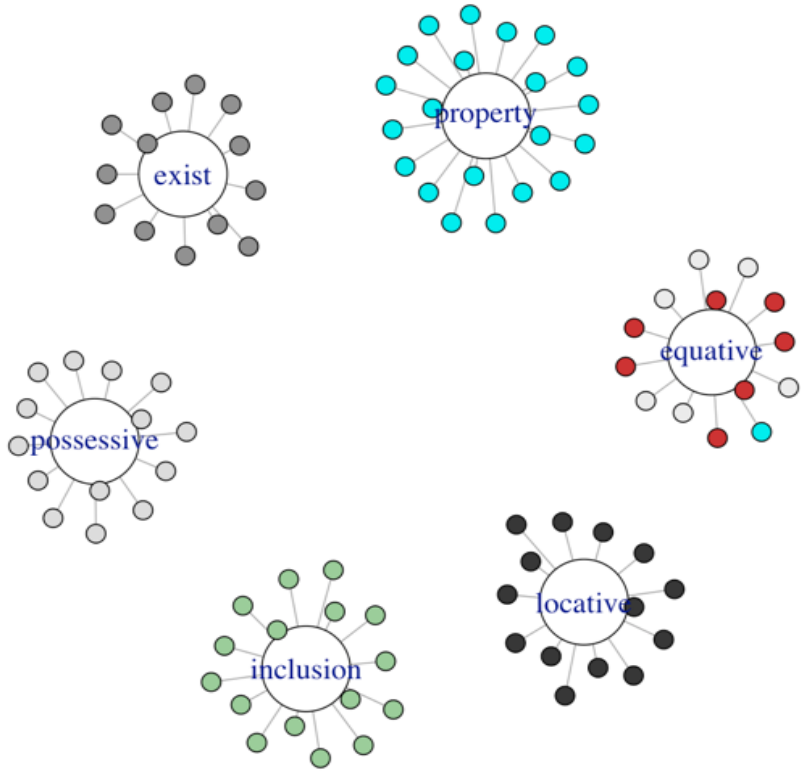
“My husband is king Oricondor” (Kotia Oriya, Gustafsson 1973)

Method

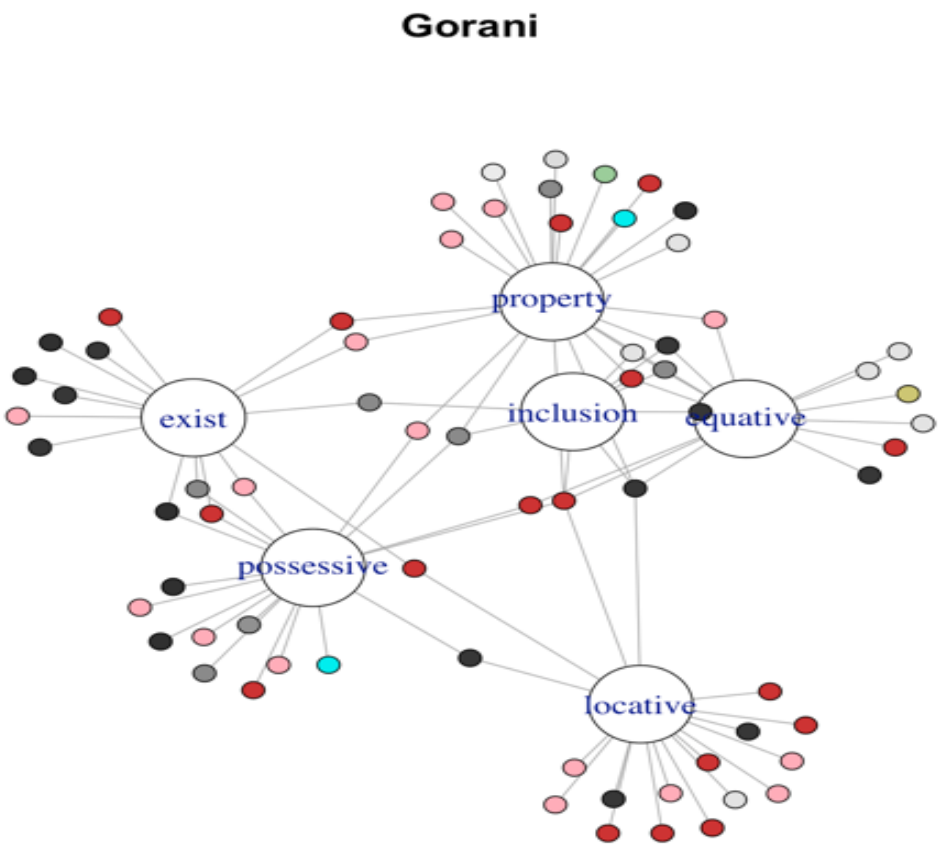
- Tables like table 1 can be visualized as bipartite (bi-modal networks), often used in social-network research.
- Bimodal networks: two types of nodes, each can be connected only to nodes from the other type (e.g., members of a community and institutions).
- Here: one node type represent the six nominal predication functions, and the other the configurations of coding means attested expressing them.
- Each configuration is represented **only once** regardless of its relative frequency.
- Implemented using the R Igraph package (Csardi & Nepusz 2006).

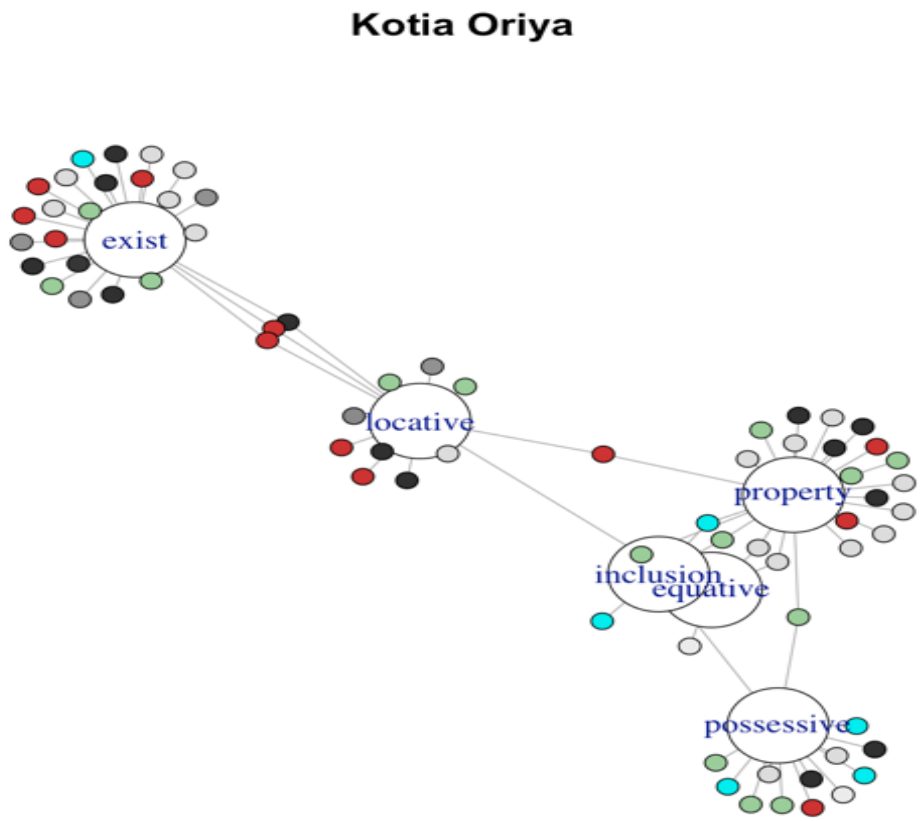
Extreme bipartite networks





Some results





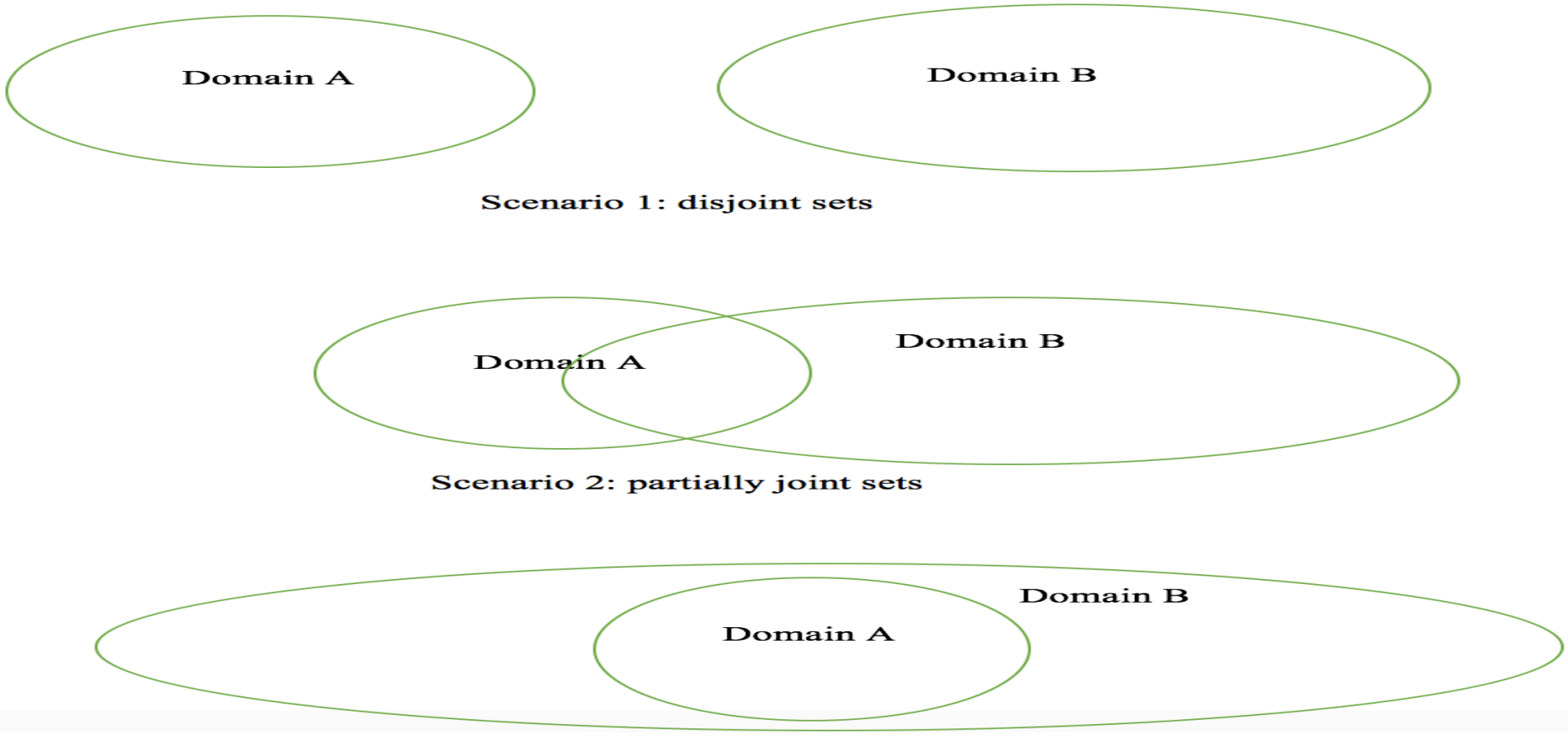
But:

- This does not really help us to compare the degree to which two functions are encoded by the same means in two different languages.

- To do that, I propose to test how close the relationship between the sets of configurations of coding means expressing two functions, A and B, to proper set inclusion:

$$Dissimilariry\ (A,B) = 1 - \frac{\#\ \text{of configurations shared by A and B}}{MIN\ (\#\ expressing\ A, \#\ cexpressing\ B)}$$

But:


Domain A
Domain B
Scenario 1: disjoint sets
Domain A
Domain B
Scenario 2: partially joint sets
Domain B
Domain A

Predicate Locative vs. “core” nominal predication

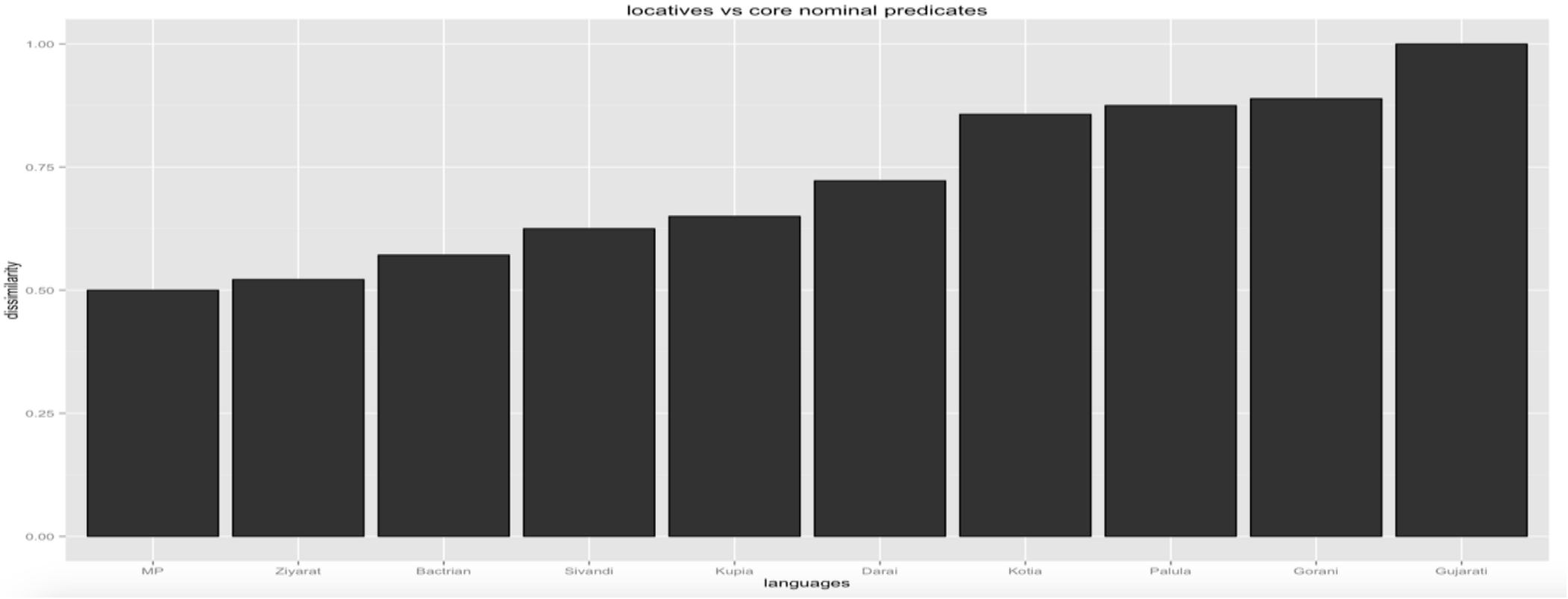
- Asking the same question as Stassen 2013, but:

(1) Not limiting scope to copula, but also including other coding means.
(2) Not posing the “time stability” restriction.

- To what degree does **“states are locations”** interact with the expression of predicate locative and core nominal predication (equation, predicative property, proper inclusion).

Predicate Locative vs. “core” nominal predication

- Cross-linguistic variation



Predicate Locative vs. “core” nominal predication

- What cxns drive the similarity:
- NP NP copula used for locative (as seen above).
- The expression of predicative property / proper inclusion with locative adpositions:

(12a) *was ruwān ud frawahr-ān* ***andar ān rōd*** *būd h-ēnd*
many soul and fravashi-PL **in DEM river** be.PST be.PRS-3PL
“and many souls and fravashi were in that river” (Middle Persian, AWN)

(12b) *mardōm-ān* ***andar gumān*** *būd h-ēnd*
man-PL **in doubt** be.PST be.PRS-3PL
“men were full of doubt” (Middle Persian, AWN)

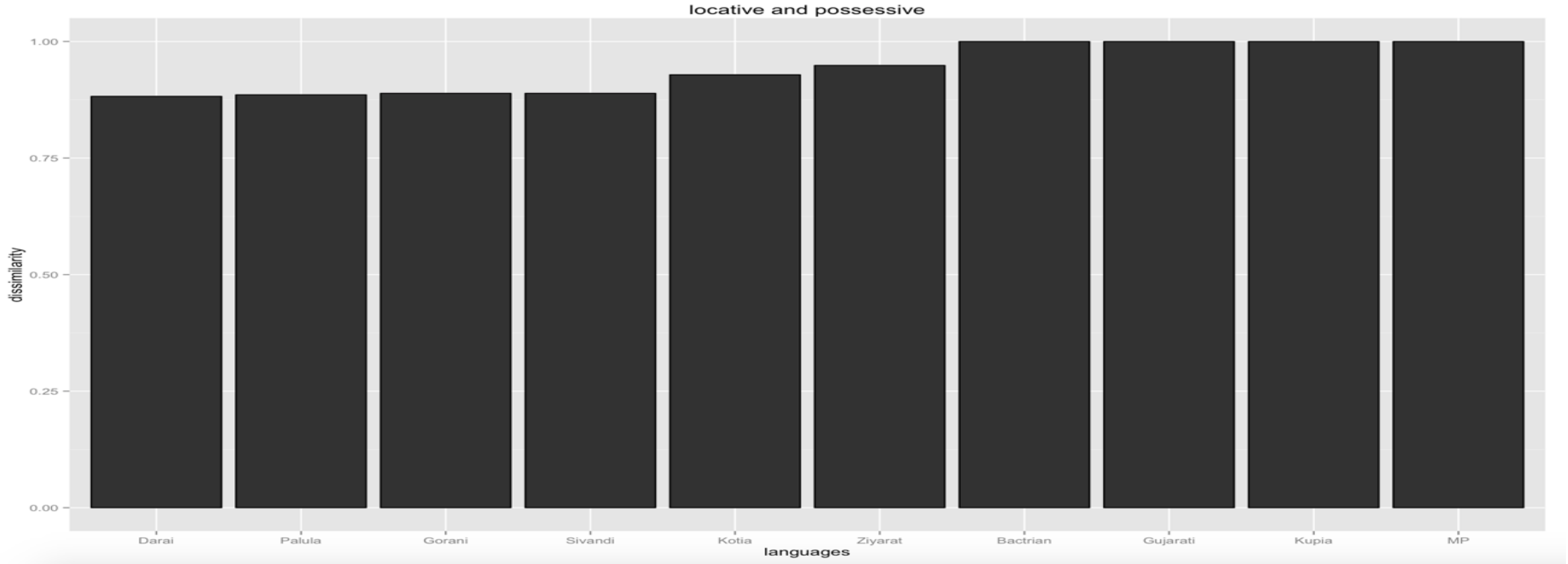
Predicative possession vs. the predicate locative / the existential

- I accept that there is a privileged semantic (cognitive) relationship between possessor and locations (e.g., Jackendoff 1993, Baron & Herslund 2001, DeLancey 2002 …)

- How does this relationship interact with **synchronic** co-expression of these functions in texts?

Predicative possession vs. the predicate locative / the existential

- Predicative possession vs. the predicate locative: mostly different.



Predicative possession vs. the predicate locative / the existential

- The little similarity here is driven by:
- Occasional innovative predicative possession cxns where the possessor is flagged by a synchronic locative marker:

(13) *kaʈéeri bi aɽíi=wee hín-i*
knife TOP 3sg.OBL=in be.PRS-F
“he had a knife” (Palula, Liljegern and Heider 2015)

- Occasional “indirect” co-expression: both function expressed by [NP NP COP].

Predicative possession vs. the predicate locative / the existential

- Predicative possession vs. the existential: more similarity in encoding, at least sometimes.
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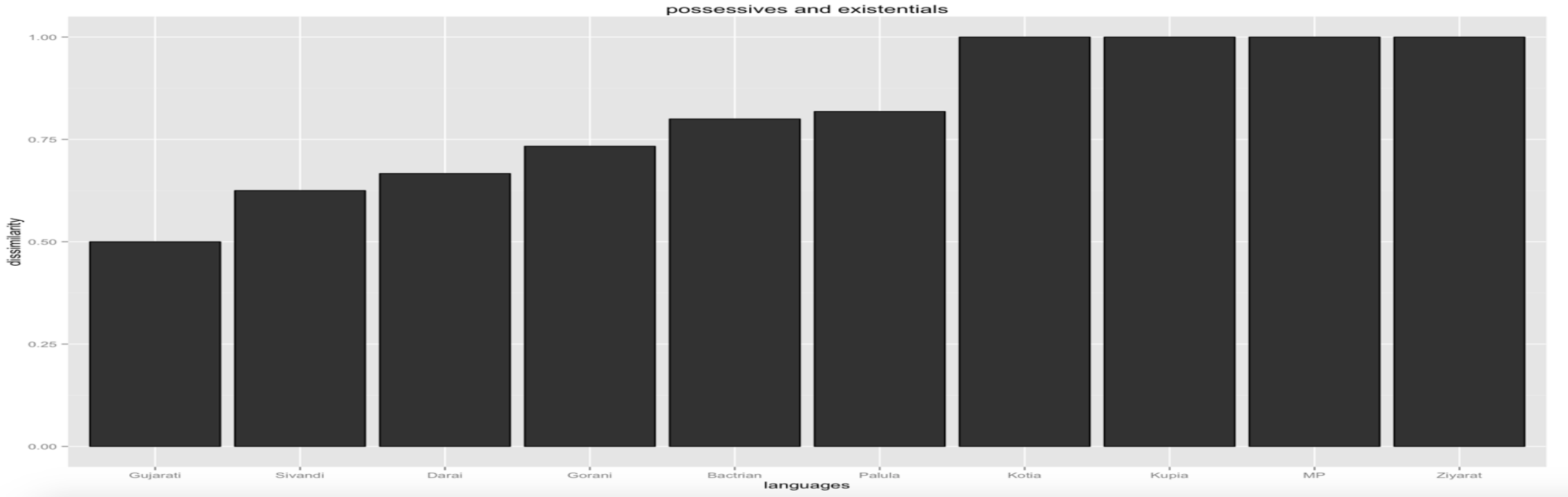

Summary

- We measured the degree to which the same grammar is used to encode different nominal predication functions in naturalistic texts.

- This degree varies across Indo-Iranian.

- So, across Indo-Aryan we find variation in the degree to which **“possessors are locations”** or **“states are locations”** interacts with the grammar of different nominal predication functional domains.

That’s it.

Predicate Locative vs. The existential