

Directionality in the development of future grams

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Introduction

What is future?

future grams = grammaticalized (non-zero!) expressions of future time reference.

future = prediction and adjacent functions (Bybee, Perkins, Pagliuca 1994)

future = {S,R} > E (Reichenbach 1947) or E after S (Comrie 1985)

Important observations

(i) Futures evolve from a **fairly restricted range of lexical sources** (Bybee et al. 1994: 244).

(ii) **Movement verbs figure more prominently** as sources than verbs or other lexical material of any other type (Bybee et al. 1994:267).

Research questions

(i) Do these statements hold true in the face of **new data**?

(ii) What may be the **reason** for the major role of movement verbs?

State of Research

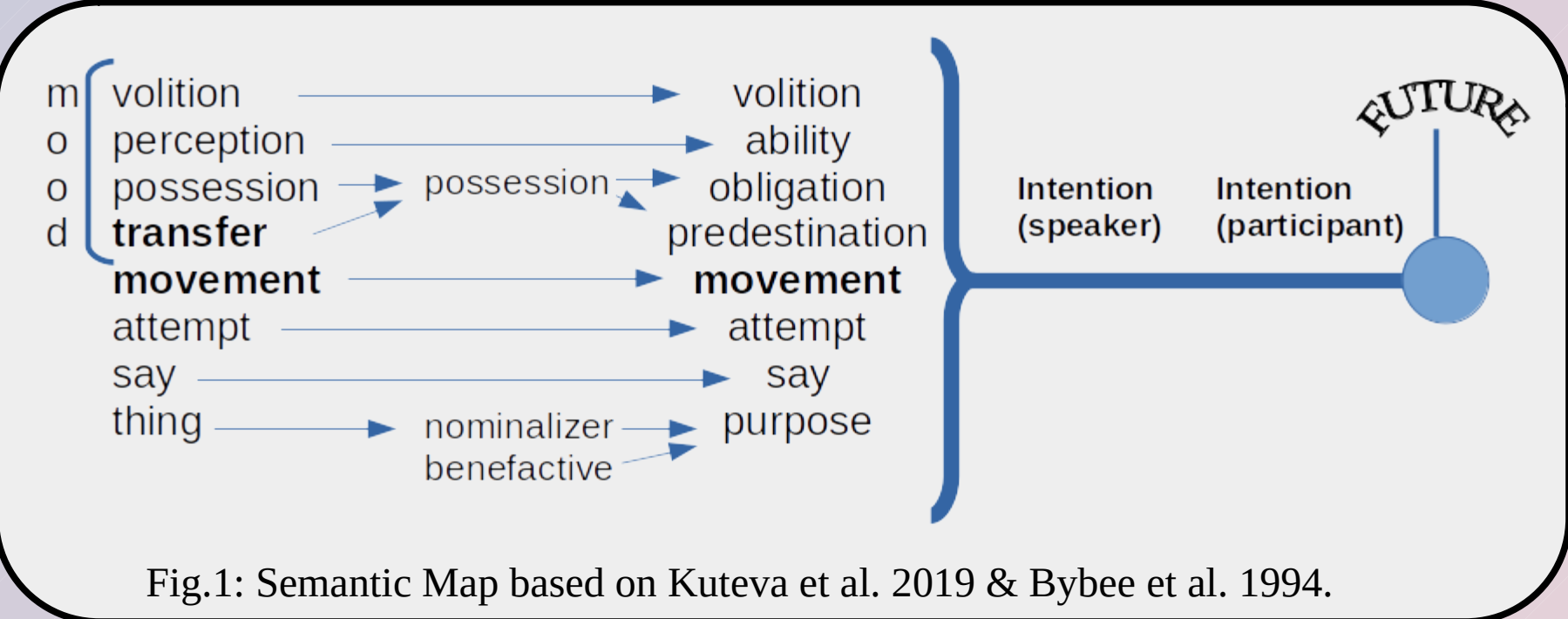


Fig.1: Semantic Map based on Kuteva et al. 2019 & Bybee et al. 1994.

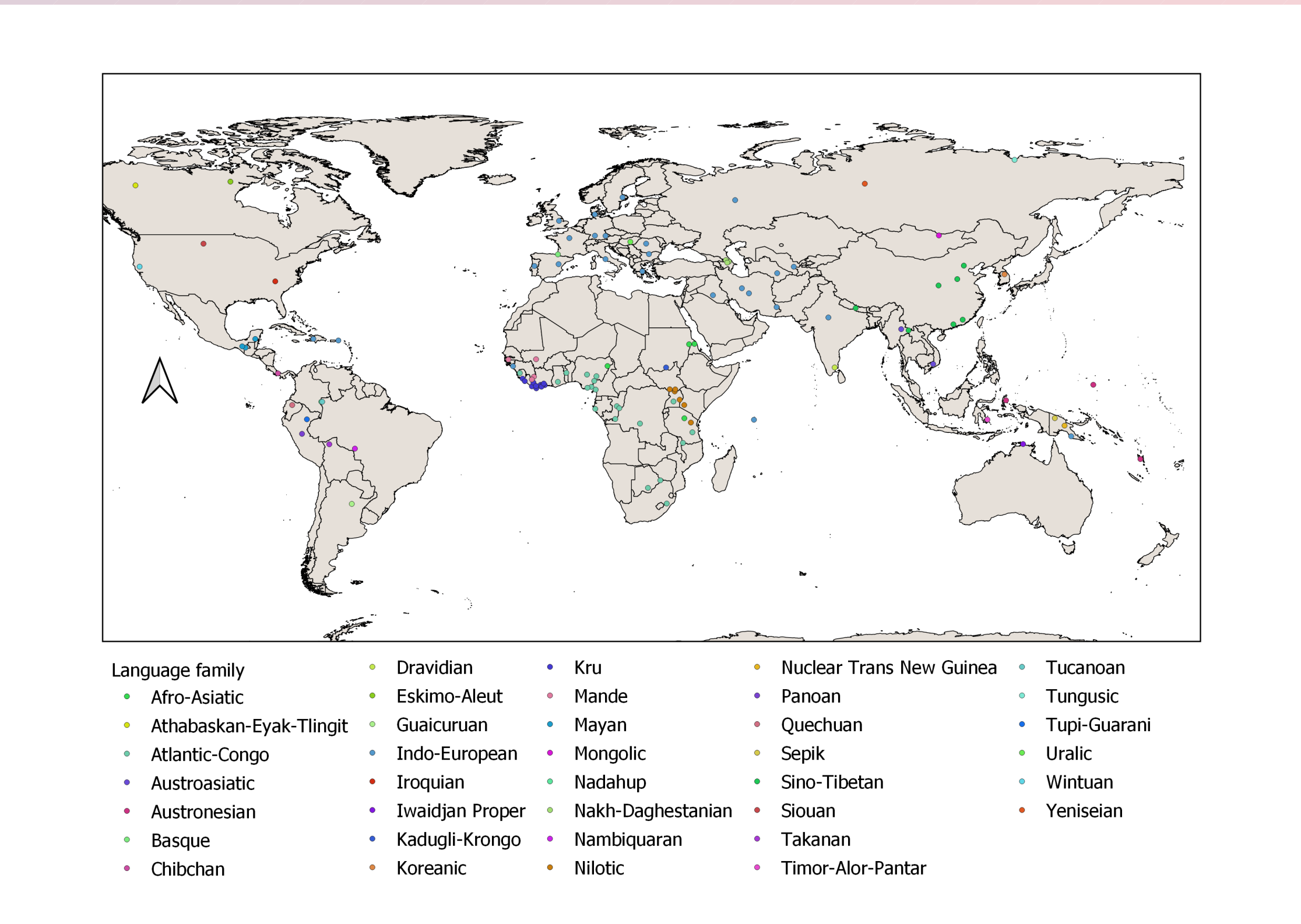
- **Primary vs. secondary future:** Bybee, Perkins, Pagliuca (1994) distinguish between primary futures and aspectual futures (developing via aspect). (My classification deviates from this, distinguishing primary futures and secondary futures; see below)
- **Future from Intention:** All primary futures develop via the meaning of intention (Bybee et al. 1994; Heine et al. 1991, cf. Figure 1)
- **Future from human agent predicates** (Bybee et al. 1994: 254, 270)

• "The more common sources for futures are those that yield the intention inference most easily — desire, strong obligation, and movement toward a goal." (Bybee et al. 1994:280)

Method

Data:

- **Unsampled collection** of **163 instances** of grammaticalization from 115 languoids from literature (secondary, tertiary)
- **Sources:** 3 overview works (Bybee et al. 1994, Kuteva et al. 2019, Bisang et al. forth.) and data from my MA



Map 1: Languages / language families included in the dataset.

Macro-area	Number of grams	Percentage
Africa	70	42.94%
Australia	1	0.61%
Eurasia	59	36.20%
North America	14	8.59%
Papunesia	9	5.52%
South America	10	6.13%
Total Result	163	100.00%

Tab.1: Grams per macro-area.

Family	Number of grams	Percentage
Indo-European	38	23.31%
Atlantic-Congo	27	16.56%
Kru	17	10.43%
Sino-Tibetan	13	7.98%
Nilotic	10	6.13%
Total Result	163	100.00%

Tab.2: Grams per language family.

Processing:

- (1) **retrieval format:** source realization + source function → target realization + target function
- (2) **semantic grouping of source:** using established groups (like movement), adding new ones, single items retain their label
- (3) **syntactic grouping of source** (predetermined): N, V, A, nominal category, verbal category, other
- (4) specialization & development route of target: immediate – near – remote – definite – unplanned – certain; modal – aspectual – primary

Examples

(1) 'take' (Transfer, verb) > future
Sinto (Indo-European)
Lav te jáva.
take:1.sg that go:1.sg
'I shall go.' (Ramat 1987: 15)

(4) 'wood' (wood, noun) > future
Hup (Nadahup)
tɪh ham-tég ʔũhniy
3sg go-**wood** maybe
'Maybe he will go.' (Epps 2008: 152)

(3) 'go' (movement, verb) > future (immediate)
Ecuadorian Quichua
puñu-k ri-ni.
sleep-NMLZ go:1.SG
'I am going to sleep.' (Marchese 1986: 111)

(5) 'then' (Temporal, adverb) > future
Bari (Nilotic)
Nan dé kón ...
1.SG **then** do
'I shall do ...' (Spagnolo 1933: 105–6)

(2) 'stop, stand' (Posture, verb) > future (immediate)
Beja (Afro-Asiatic)
ʔabu:k-i dha:j=ka i-ngadi=ja:t=ka
catch.N.AC-GEN DIR=DISTR 3SG.M-stop|PFV=COORD=DISTR
'Each time he was about to catch it...' (Vanhove 2020: 670)

(6) 'need' (obligation, verb) > future (immediate)
Basque
ikusi **bear** dut
see:PERF **need** 3.SG.ABS.have:1.SG.ERG
'I have to see/'I am about to see.' (Bybee, Perkins, Pagliuca 1994:259)

Results

Source: Syntactic group	Count	Percentage
other (adverb, connector, etc.)	14	8.59%
nominal category	1	0.62%
nouny	2	1.23%
verbal category	6	3.70%
verby	140	86.42%
Total Result	163	100.00%

Tab.3 syntactic grouping (lexical & grammatical).

Source: Semantic group	Count	Percentage
MOVEMENT	70	43.21%
VOLITION	23	14.20%
TEMPORAL	13	8.02%
POSSESSION	12	7.41%
COPULA	8	4.94%
OBLIGATION	8	4.94%
DIRECTIONAL	5	3.09%
TRANSFER	5	3.09%
CHANGE	2	1.23%
SPEECH	2	1.23%

Tab.4 10 most frequent semantic groups (lexical & grammatical)

Movement verbs are the most prominent source group for the development of future tense, possibly because of (1) goal-argument and (2) bivalent structure.

Semantic source groups (Table 4):

- the new data corroborates the three most important semantic groups mentioned by Bybee et al. (1994)
- **Movement is thrice as frequent** as the 2nd most frequent group of sources (volition)
- **expressions of directionality** (apart from movement) also rank in the list of frequent semantic groups
- **GO** and **COME**: the general verbs of movement are by far the most common (34x COME, 31x GO)

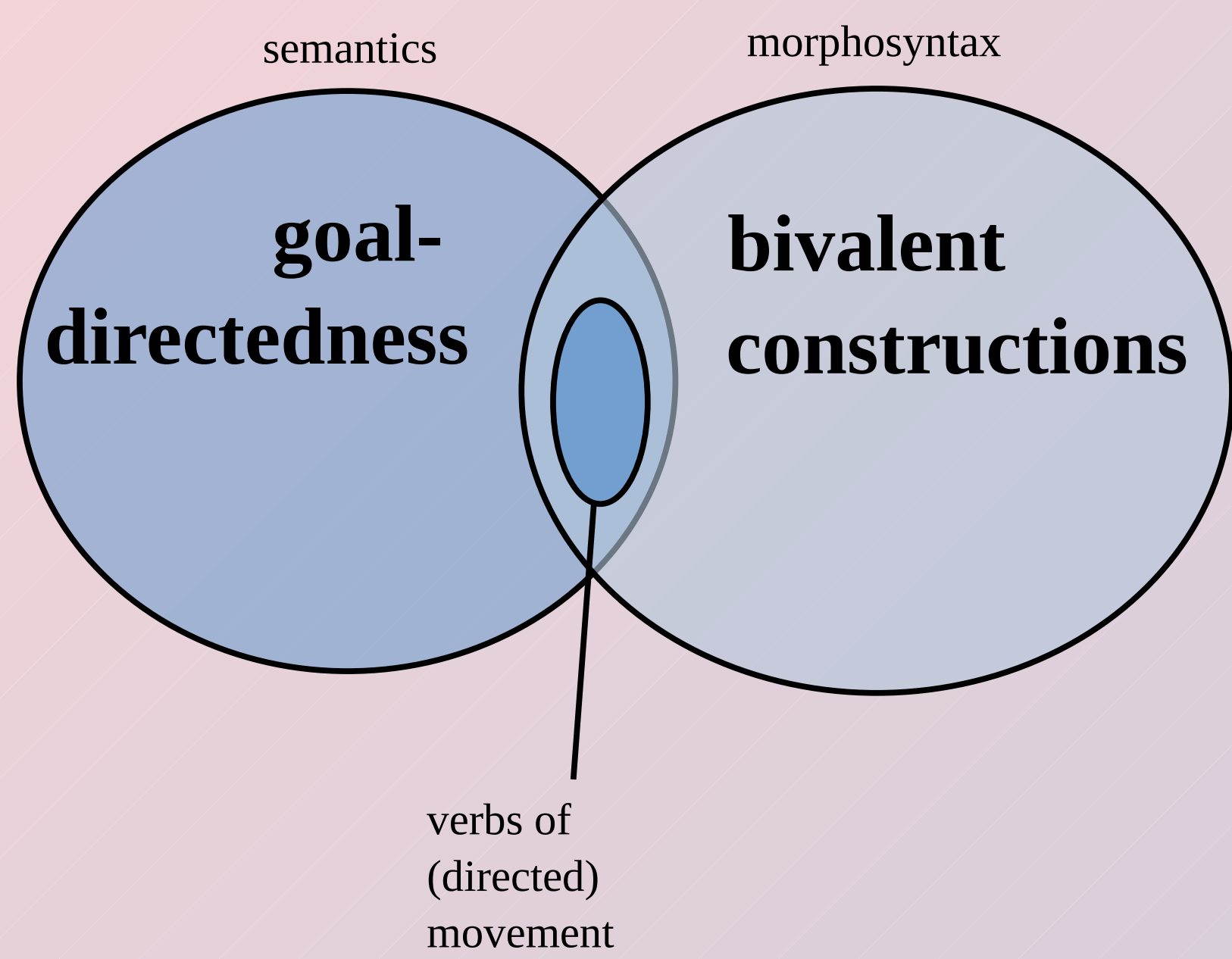
Syntactic source groups (Table 3):

- **verbs** are **by far the most important** syntactic group
- few nouns, no adjectives
- grammatical sources: **verbal categories more frequent** than nominal categories

Discussion

Verbs of (directed) movement are the most import source group.

A potential reason for this is that they are on the intersection of two groups with one property each facilitating reanalysis:



- 1) **Verbs** provide a fitting argument structure without need for additional elements.
- 2) **Directed movement** typically involves a GOAL argument, which may be reanalysed as slot for a main predicate.

Considering the results, one can speculate that the syntactic aptitude of the construction is more important than the 'ease' of semantic bridging.

Outlook

- Statistical analysis of the present data
- 3 hypotheses derived from preliminary results:
 - (H1) Inherently directional elements are more readily available for reanalysis and thus more common than elements which may carry directional meaning only in limited number of the constructions.
 - (H2) If directionality (goal-directedness) is the relevant property, then also bivalent directional non-movement verbs like look_at should appear as sources.
 - (H3) If apart from goal-directedness bivalency facilitates the reanalysis, other naturally bivalent verbs will be more common than verbs with one or three arguments.
- potential correlations between source type and target specialization, e.g. come_to > imminent future (cf. Bybee et al. 1994)
- types of syntactic integration (auxiliary/complement, serial verb construction, verbal compound, etc.)

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