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# More on the *as*-predicative: Granularity issues in the description of construction networks

Abstract: Usage-based construction grammar needs to determine which schematizations are really supported by usage: Previous research on argumentstructure constructions with object-related complements has assumed overarching constructions with a formally underspecified component (Gries et al. 2005, 2010; Gonzálvez-García 2009). These schematize over a number of formally different subconstructions. It has been shown, however, that paying attention to the formally different realisations of a constructional component may bring out the functional differential between subconstructions which are closely related within a construction network (Hampe 2011a). Based on the data used by Gries and colleagues (2010), this paper presents a fine-grained collostruction analysis of the as-predicative as a network of tightly related subconstructions and checks whether there is a functional difference between the subconstructions with nominal and adjectival as-complements. It is shown that the extended uses of the construction sketched out by Gries et al. (2005) are licensed by the subconstruction with nominal as-complement, rather than present a property of the overarching, most general pattern. Beyond this, the present paper locates the as-predicative within the network of all argument-structure constructions with phrasal object-related complements. In this context, it also discusses under which conditions the occurrence of a specific verb as a collexeme of more than one argument-structure construction can be seen as a verb-specific constructeme uniting several *allostructions* (Capelle 2006).

**Keywords:** *as*-predicative, construction network, constructeme, allostruction, collostruction analysis

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#### 1 Introduction

In usage-based construction grammar, syntactic constructions are viewed as symbolic units that vary along the parameters of (i) complexity and (ii) schematicity, such that any complex syntactic construction can in principle (and redundantly) be represented at various levels of schematicity. Crucially, mid- and low-level schemas have for some time been thought of as being of (potentially) greater importance to language use/users than those at the highest-possible level of schematization (cf. e.g. Langacker 2000: 159). Block (1) uses one of the best-researched argument-structure constructions, the English "Caused-Motion Construction" (cf. e.g. Boas 2003: 88–93; Goldberg 1995: 152–179; Hampe 2011a) to illustrate the relevant differences in an informal way, going from the fully schematic level (1a) down to more specific, i.e. partially lexically determined, levels (1b,c):

- (1) a. NP (agent) VERB NP (theme) PP (literal or metaphorical goal)
  - b. NP (agent) drive NP (theme) [ $_{PP \text{ (spatial goal)}} to \text{ [NP] ]}$
  - c. NP (agent) drive (metaph) NP (patient) [PP (resultant state) round the bend]

For obvious reasons, usage-based construction grammar employs both corpusand psycho-linguistic methods to capture relevant aspects of linguistic usage and the behaviour of language users (cf. e.g. Ellis and Simpson-Vlach 2009; Gries et al. 2005). Regarding corpus-linguistic analyses, the choice of the level of granularity at which a given construction is most adequately described has turned out to be an issue. The question is what schematizations are really supported by usage (for a discussion of a variety of aspects, cf. e.g. Gries 2011). In this paper, I'll return to this question by revisiting an English ASC known as the "as-predicative" (Gries et al. 2005, 2010).

# 2 The *as*-predicative in usage-based construction grammar

In their work on the *as*-predicative, Gries and colleagues (2005) investigate data from the ICE-GB and, in a second step, a bigger merged data set with improved retrieval from the ICE-GB and the BNC-sampler (Gries et al. 2010). They characterize the *as*-predicative as a complex-transitive argument-structure construction (henceforth *cxtr. ASC*) that exhibits an unusual formal versatility in the slot for

the object-related *as*-complement: Various kinds of phrases, viz. NPs, AjPs and metaphorical PPs, as well as non-finite clauses can fill this slot:<sup>1</sup>

- (2) a. Michelangelo was <u>hailed</u> as [NP] a genius]. (ICE-GB)
  - b. It is not possible for us to <u>see</u> this image  $\underline{as}$  [AiP holy]. (ICE-GB)
  - c. Prince Charles <u>regards</u> ... what exists ... <u>as</u> [ $_{PP}$  entirely at odds with the ... character of the surroundings]. (ICE-GB)
  - d. We <u>see</u> the hard ECU <u>as</u> [ $_{NFC-ing}$  being extremely useful] in the fight against inflation. (ICE-GB)

For the purpose of their work, however, Gries and colleagues abstract away from the formal diversity observed and posit an overarching ASC with a formally underspecified constituent, the object-related complement marked by the particle *as*:

(3) NP-subject (agent) *verb* NP-object (theme) + *as* + [complement constituent].

In line with previous analyses of ASCs, Gries and colleagues build their semantic description of the as-predicative on an analysis of the lexical items most strongly associated with the verb slot of the construction. They use a simple collexeme analysis (Stefanowitsch and Gries 2003) to determine the strength of this association (i.e. the "collostruction strength") for each single verb occurring in the construction (i.e. for each of its "collexemes") and employ the p-values of the Fisher Yates exact test as an association measure. Block (4) presents the top 20 collexemes in the verb-slot of the as-predicative in the order of decreasing collostruction strength (cf. Gries et al. 2010: 65).

(4) 1: regard, 2: describe, 3: see, 4: use, 5: treat, 6: know, 7: think of, 8: define, 9: consider, 10: view, 11: refer to, 12: recognis|ze, 13: class, 14: interpret, 15: perceive, 16: hail, 17: classify, 18: present, 19: map, 20: categoris|ze

Gries and colleagues note that the verbs on that list come from a number of closely related classes and that the large majority express cognitive and/or communicative activities. They thus describe the core semantics of the construction as follows:

<sup>1</sup> All examples in (2) are taken from Gries et al. (2005: 637–639).

**<sup>2</sup>** To be more precise, Gries and colleagues employ the logarithm of the p-values as an association measure: collostruction strength =  $-\log(\text{Fisher exact}, 10)$ .

The major constructional meaning associated with the most inclusive/general schema ... is represented by such verbs as *regard* or *describe* and expresses the subject's epistemic stance towards the (atemporal) relation between the entities referred to by the direct object, and the entities, properties or states-of-affairs referred to by the *as*-complement. The latter provides either a classification or a further specification of the object-referent depending on which of the subschemas is instantiated. (Gries et al. 2005: 640)

The authors also postulate constructional polysemy in accordance with earlier work on ASCs, esp. Goldberg (1995). They note that extended senses – represented by the collexemes in ranks 4 and 5 – depend on or even reinforce the element of epistemic stance: The meaning of action verbs like *use* in the construction, for instance, highlights a provisional re-classification. Declarative speech-act verbs like *appoint* and *swear in*, which occur further down the collexeme ranking, present another extension reported in passing. As they refer to scenarios in which the object-referent is ascribed a new social role or status, they are resultative – at least in the social domain. In this, these verbs contrast with the typical uses of the *as*-predicative and overlap with some of the typical uses of the cxtr. ASCs without *as*. Gries et al. (2005) further note that, with the sole exception of the action verbs of the *use*-class, all verb classes (though not necessarily also every single verb in them) can also be found in the corresponding cxtr. ASCs without the complement marker *as*. The *as*-predicative is thus in direct competition with those constructions. I'll return to this issue in Section 5 below.

In hindsight, the more general question arising from previous research is what information about a construction network is blended out exactly when an overarching construction is postulated which contains a formally underspecified component that schematizes over a number of formally different subconstructions.

The issue is of relevance, as formally underspecified components are also assumed in other work on ASCs, especially in work on other cxtr. ASCs with object-related predicatives/complements (Gonzálvez-García 2009). However, corpus-linguistic analyses of the same syntactic patterns (Hampe 2011a) have shown that paying attention to formally different realisations of a constructional component may bring out the functional differential between subconstructions that are closely related within a construction network. In the case of the *as*-predicative, the formal difference between the subconstructions with nominal and adjectival *as*-complements may likewise point to such a functional differential. As the extended uses of the construction sketched out by Gries et al. (2005) require a re-classification of the object-NP, rather than just a property attribution, it is hypothesized here that these may be licensed by the subconstructions with nominal *as*-complement constituent, rather than present a property of the overarching most general pattern.

#### 3 Methods

The present paper continues to analyse the data on the as-predicative presented in Gries et al. (2010), focussing on the properties of its subconstructions. Apart from determining the overall proportions of their tokens as well as their type overlap, separate simple collexeme analyses are carried out for both the corrected merged data set and the subconstructions with nominal and adjectival as-complements.<sup>3</sup> The Fisher-Yates exact test is again employed as a measure of collostruction strength.<sup>4</sup> The simple collexeme analyses are complemented by a distinctive collexeme analysis (Gries and Stefanowitsch 2004), which brings out constrasting functional potentials of these two subconstructions. In addition to a discussion of the verb classes involved in the subconstructions, rank correlations of the shared lexical types in the collexeme lists are employed to determine the degree of similarity between the overarching constructions and the subconstructions.5

For a number of reasons, the input to the collexeme analysis of the overarching construction used here (2,347 tokens) differs from the slightly bigger data set used in Gries et al. (2010).6 Because of the intended comparisons with the subconstructions, all items with as-complements of an incomplete or otherwise unclear syntactic form had to be removed from the data set (ex 5).7

<sup>3</sup> I thank Stefan Th. Gries for kindly providing Coll. Analysis 3.2a. All collexeme analyses were carried out with this R-script.

<sup>4</sup> For a discussion of simple collexeme analysis as a method of assessing the strength of the association between a verb and a syntactic construction, see Gries (2012); Kuechenhofer and Schmidt (2013).

<sup>5</sup> Only significantly attracted collexemes (collexemes with coll str > 1.301; p < .05) were included in the rank correlations. Because of the repeated occurrence of multiple lexemes in the same rank and because collexeme strengths are not normally distributed, the correlation coefficient chosen was Kendall's  $\tau$  and all correlations were calculated on the basis of the rank information only, rather than the collexeme strengths.

<sup>6</sup> Gries et al. (2010) extracted all tokens of the as-predicative from the ICE-GB (1,131 tokens) and the BNC-sampler (1,251 tokens) by retrieving all instances of  $[_{VP}[_{PP} as]]$ . Total number of tokens investigated: 2,382.

<sup>7</sup> Additionally, a small number of previously undetected false hits were also removed from the data set: e.g. ... the literary text works as a dynamic whole. (ICE-GB); ... his identification with Amun as Amun-Re. (BNC-sampler). Lastly, the following pairs of verb tokens were treated as belonging to the same lemma: conceive/conceive of, present/present to, look on/look upon.

- (5) a. And in my memory the thing that <u>sold</u> it to me <u>as</u> an updated I mean it was sort of just turn of the century ... (ICE-GB)
  - b. and that is known in the trade as <unclear-word> (ICE-GB)

For the distinctive collexeme analysis, ellipses had to be recovered for all tokens with more than one lexical verb, as in (6a), or with two or more syntactically different *as*-complements, as in (6b).

- (6) a. And where they were seen or heard, to be <u>treated</u> and <u>reflected</u> <u>as</u> a person first ... (BNC-sampler)
  - b. But the figures have been <u>dismissed</u> <u>as</u> bogus and inaccurate ... (ICE-GB)

With respect to the collexeme list for the subconstruction with AjP, it should be noted that the (exceedingly rare) tokens of *as*-predicative with *as*-complements in the form of PPs illustrated in (7) were included in the collexeme list for the subconstruction with AjP, because they exhibit the same functionality as AjPs, i.e. (metaphorically) refer to states, not locations (cf. also Gries et al. 2005: 638).

(7) a. ... to <u>discount</u> any figure below about 80 <u>as</u> [<sub>pp</sub> beneath contempt]. (ICE-GB)
 b. Thus the education of the young prince was <u>regarded</u> <u>as</u> [<sub>pp</sub> of utmost importance] ... (ICE-GB)

In order to locate the *as*-predicative within the larger network of the cxtr. ASCs, the two pairs of adjectival and nominal subconstructions with and without *as* (ex 8a,b) were finally compared by means of two distinctive collexeme analyses. These were carried out on the basis of data from the ICE-GB only, as the data set about the cxtr. ASCs without *as* was taken from previous work using this corpus only (Hampe 2011a).

(8) a. He considered the corpus results (as) [AIP extremely exciting].
b. They labelled the new method (as) [NP collostruction analysis].

#### 4 Results and discussion

Despite the minor corrections in the data set, the results for the overarching construction are nearly identical to the results presented in Gries et al. (2010) (see also Appendix Table 1). On the basis of the top 50 collexemes (all p < .001), the description of the verb classes in the as-predicative provided by Gries and colleagues can be elaborated as follows:

- (9) verb classes and ranks of verb types in the *as*-predicative:
  - verbs of cognitive activity (1: regard, 6, 7, 10, 12, 14, 23, 39) including verbs of perception or action with well-established metaphorical cognition senses (3: see, 9, 16, 18, 31; 49: take)
  - ii. characterization/speech-act verbs (2: describe, 8, 11, 20, 24, 29, 30, 36, 34, 38, 40, 42, 43, 45, 48) including highly evaluative lexemes (15: hail, 21, 27, 44, 50)
  - action verbs (4: *use*, 5, 19, 25, 41) iii.
  - iv. classification verbs with speech-act senses (13: class, 17, 21, 22, 28, 32, 47)
  - verbs of development/creation (26: establish, 33) v.
  - vi. declarative speech act verbs (31: *appoint*, 35)
  - vii. verbs of naming (36: *name*)
  - viii. verbs of selection, often with cognitive and/or speech-act interpretations (37: single out, 46)

These verb classes cannot be discussed without carefully considering issues of lexical polysemy and semantic vagueness: Not only are there many polysemous items (like classify, diagnose, categorize, etc.) which exhibit both a cognition and a speech-act reading as suggested by Gries and colleagues, there are also a number of verbs from classes (iii), (v), and (viii) (like treat, establish, choose, etc.) that are vague with respect to the distinction between cognitive and other activities. Consider, for instance, the strongly attracted collexeme treat. In contrast to its mono-transitive use (ex 10a), this verb can occur in the as-predicative as a cognitive-activity verb roughly meaning 'conceive of' (ex 10b). In contrast to cognition verbs like regard, which do not have interpretations in other domains, the semantics of treat usually highlights the practical consequences of the make-shift categorization of the object-NP referent (ex 10c,d). This cognitive-activity component is presupposed even in those cases where *treat* is primarily used as an action verb (ex 10e).

- (10) a. Most people treat children and elderly people nicely.
  - b. we treat the natural world as explicable in terms of explanatory principles (ICE-GB)
  - c. You will not be treated as responsible for the child or young person and therefore cannot get Family Credit, if ... (ICE-GB)
  - d. ... the step-child of any person is to be treated as his child, and an illegiti*mate person is to be treated as a legitimate child ...* (BNC Sampler)
  - e. *Yeah*, but they treat you as a skivvy. (BNC Sampler)

The strongest action verb of class iii, *use*, however, cannot take on an interpretation in the cognitive domain. In this case, the difference to the mono-transitive pattern (ex 11a) lies in the provisional or makeshift employment of the object-NP referent (ex 11b).

- (11) a. Let's use a bit more of that nice paint here.
  - b. ... the Norwegian team will use a preset frequency to contact airliners flying overhead using a ski as the antenna. (ICE-GB)

Taken together, the results of all analyses performed on the data confirm the hypothesis that the constructional extensions sketched out by Gries and colleagues are indeed a property of one of the subconstructions, viz. the one with nominal *as*-complements:

Firstly, complement constituents in the form of NPs are overwhelmingly dominant in the *as*-predicative, accounting for nearly 90 per cent of all tokens (cf. Table 1).

	token freq	percentage	type freq	coll freq*
NP	2099	89.43	407	194
AjP + PP	138 + 7	6.18	33 + 4	27
NFC (ing)	90	3.83	32	/
NFC (ed)	9	0.38	8	/
others	4	0.17	4	/
TOTAL	2202	100	420	193

<sup>\*</sup> type freq of collexemes with coll. str. > 1.301 (p < .05)

The type overlap with the overarching construction is huge: 187 of its 194 significantly attracted collexemes are also significantly attracted to the overarching construction (all coll. str. > 1.3, p < .05). This is also reflected by the fact that the collexeme rankings for the shared lexical types of the overarching construction and that for the subconstruction with NP are strongly correlated (Kendall's  $\tau = .743$ , p < .01, see also Appendix, Figure 2). In contrast, all tokens of the subconstruction with adjectival as-complements (including seven tokens with metaphorical PPs as as-complements) account for only about 6.2 percent of all tokens of the as-predicative. Of its 27 significantly attracted verb types, 22 are also attracted to the overarching construction, and 21 are shared with the subconstruction with nominal as-complements (all coll. str. > 1.301).

Secondly, a closer inspection of the type overlap between the collexeme lists for the subconstructions with nominal and adjectival *as*-complements (ex 12) shows the verbs from the classes (iii) and (v) to (viii) to be notably absent. All of the shared verb types belong to the classes of cognition verbs and/or speech-act verbs presenting the core of the overarching construction.

(12) accept, categoris|ze, class, classify, conceive (of), define, denounce, describe, diagnose, dismiss, look (up)on, perceive, portray, recognis|ze, refer to, regard, register, see, think of, treat, view

Thirdly, looking at the short collexeme ranking (27 lexemes only) of the adjectival subconstruction (cf. Appendix, Table 3, all p < .05) does not notably change that picture: Apart from the single tokens of the verbs seize and structure (ex 13), there are no verbs of development or selection and no declarative speech-act verbs. With the exception of treat, which is the only one of the top 7 collexemes of this subconstruction that is not also distinctive for this pattern (see Appendix, Table 5), action verbs from the use class, are not found on this list either – especially not use itself, which is one of the two collexemes that are highly distinctive for the nominal subconstruction (see Appendix, Table 4).

(13) a. ... anything <u>seized</u> <u>as</u> liable to forfeiture (ICE-GB)
 b. Clinical trials are structured as for most scientific research. (ICE-GB)

To comment briefly on the two exceptional tokens in (13): It was stressed above that, in the *as*-predicative, *treat* always presupposes or foregrounds a cognitive-activity component (ex 10b,c). Much in the same way, the use of the verb *seize* in (13a) presupposes cognitive activities of categorization and selection. It is furthermore very close to that of a declarative speech-act verb in that it refers to the legally defined action scenario of forfeiture. The single token of *structure* as a verb of development (13b) from the spoken part of the ICE-GB contains an *as*-complement in the form of a PP, but is somewhat doubtful as an instance of the construction. In sum, the subconstruction with adjectival *as*-complement is practically restricted to cognition and speech-act verbs from the verb classes i, ii and iv. This cannot only be read off from the high type frequency of these verbs (ex 14), but also from the fact that, with the sole exception of *treat*, all of the leading seven collexemes of this subconstruction come from these classes and (rather surprisingly!) are also distinctive for this pattern in the direct comparison with the pattern with nominal *as*-complements (ex 15, see also Appendix, Table 5).

- (14) i. 9 cognition verbs (1: regard, 3, 5, 7, 10, 18, 20.1, 21, 23)
  - ii. 10 speech-act/characterization verbs (2: *describe*, 8, 9, 12, 13, 15, 16.2, 20.2, 24, 25)
  - iv. 6 categorization verbs (6: *class*, 11, 14, 15, 16.1, 19)
- (15) collexemes that are distinctive for the subconstruction with AjP: 1: regard, 2: describe, 3: see, 4: think of, 5: recognis/ze, 6: class

Fourthly, and in sync with the previous discussion, the rank correlation of the (very short) collexeme list of the adjectival subconstruction with the ranks of the same types in the overarching construction is less strong than that of the subconstruction with nominal *as*-complements, but still considerable (Kendall's  $\tau$  = .573, p < .01, see Appendix, Figure 3). In view of the fact that the main uses of the *as*-predicative are central to both the subconstruction with NP and that with AjP (and keeping in mind that correlation analyses are calculated on the basis of shared collexemes only), it does not come unexpected that its correlation with the collexeme list of the subconstruction with nominal *as*-complements is of considerable strength as well (Kendall's  $\tau$  = .587, p < .01, see Appendix, Figure 4).

Jointly, these results confirm the hypothesis that the extended uses represented by the verbs of classes (iii) and (v) to (viii) are characteristic of the subconstruction with nominal as-complements. In the light of the claim that the as-predicative typically disprefers strictly resultative meanings, its nominal subconstruction shall now be discussed in more detail, i.e. on the basis of all verb types down to rank 100 in the collexeme list. In view of the fact that there are 194 significantly attracted verb types in the subconstruction with NP (all p < .05) which are distributed over 124 rank positions, this will adequately portray the semantic potential of this subconstruction.

Note first that the percentage of verbs that do not belong to the core classes, i.e. that are no verbs of cognitive or communicative activity, rises remarkably, the larger the number of collexeme ranks considered (see also Appendix, Table 6): Only 3 of the top 20 ranks (i.e. 15%) are action verbs (*use*, *treat* and *map*), while the remaining ranks are occupied by verbs of cognitive and communicative activity. Already 12 of the top 50 ranks (i.e. 24%) are action verbs and verbs from the other extended classes. In the top 100 ranks, 56 of the 135 verb types (i.e. 41.5%) belong to the extended verb classes (see Figure 1, for more details, see Appendix, Table 6). For the present purpose, I shall take a closer look at these 56 verb types (ex 16a–e).

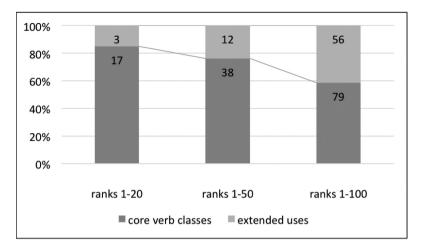


Fig. 1: Percentages of verb classes in the as-predicative

- (16) iii. 28 action verbs of the use class (3: use, 5: treat, 17: map, 21: dress, 37: disguise, 58: cast, 59: utilis|ze, 64: integrate, 65: adopt, 70: serve, 76: catapult into, readopt, reprepare, 83: rediscover, 84: deposit, 86: admit, 87: employ, 88: render, transmit, 89: replace, 93: excrete, garb, 94: import, 96: engage, 100: advert to, depose, levy on, prize)
  - 10 verbs of development (22: establish, 31: train, 53: set up, 66: develop, v. 81: design, 83: reconstitute, retrain, 90: build, 92: construct, 98: reinforce)
  - 9 declarative speech act verbs (29: appoint, 34: swear in, 76: conscript into, draught into, raise to peerage, 78: nominate, 95: elect, 100: acclaim, ordain)
  - vii. 2 verbs of naming (32: *name*, 57: *label*)
  - viii. 7 verbs of selection (43: choose, 44: single out, 76: close out, preselect, 79: *select*, 85: *include*, 100: *cast out*)

With the exception of *treat* (see above), the action verbs of the *use*-class do not have an interpretation in the knowledge domain. As Gries and colleagues observe, their meanings presuppose a re-categorization of the theme-participant in terms of the as-complement constituent, which is of a provisional, temporary sort in the most typical cases. In all cases, however, a particular unusual or new functionality is highlighted. This is especially obvious in the cases of use (the strongest and only distinctive collexeme of that class), treat and utilis|ze, but also applies to other verbs of employment like adopt, re-adopt, employ, engage, etc., illustrated in (17a) as well as to the much more specific verbs of disguise like *dress*, *cast*, *disguise*, *garb*, etc., illustrated in (17b). The remaining heterogeneous set of verbs below rank 60 all stress this change of functionality, too, though in rather different ways (compare *integrate*, *serve*, *rediscover*, *deposit*, *admit*, *import*, etc.).

- (17) a. ... the legend was <u>employed</u> <u>as</u> a magical incantation to protect the body of the king ... (BNC-Sampler)
  - b. I was nine at the time of the wedding and you just could not imagine how foolish I felt, <u>dressed</u> <u>as</u> a bride in all her finery, standing beside a six-year-old ... (BNC-Sampler)

Much the same can be said about verbs of development (ex 18a) and declarative speech-act verbs (ex 18b): While all of them are 'resultative' in that they express scenarios where there is change, at least in the social or some other abstract domain, the point is not so much the change itself, but the specific new functionality acquired. Verbs of selection (ex 19), though not at first sight implying a change of the theme participant at all, don't differ much from these cases either, as the selection designated is again only the vehicle for the ascription of a new role or function.<sup>8</sup> Whether or not the label 'resultative' would be adequate in all of these cases probably reduces to a terminological issue.

- (18) a. ... one inch to one mile was <u>established</u> <u>as</u> a scale in general use (ICE-GB)
  - b. They can't <u>appoint</u> you <u>as</u> their agent because you haven't been on the committee. (ICE-GB)
- (19) a. The council could also not understand why Bristol had been <u>chosen</u> <u>as</u> a *UDC area*. (BNC-Sampler)
  - b. *Frank McManus ... had been <u>selected</u> earlier <u>as</u> a Unity candidate for the <i>Convention elections.* (BNC-Sampler)

As naming verbs are extremely rare in the nominal subconstruction of the *as*-predicative, but a specialty of the corresponding pattern without *as*, also known as the "Denominative Construction" (Hampe 2011a), this verb group will be taken up in the next section in more detail.

**<sup>8</sup>** The frequent occurrence of verb types with the prefix  $\{re-\}$  can also be seen as a formal reflection of the re-categorization of the object-NP referent motivating the extended uses of the construction. Rank 76: readopt, reprepare; rank 83: reconstitute, rediscover, reformulate, retrain (all coll. str. > 2.0; all p < .01).

## 5 A glimpse at the bigger picture: The as-predicative within the cxtr. ASCs

The leading generic collexemes of the three cxtr. ASC without as in the ICE-GB are put (Caused-Motion Construction, cf. Goldberg 1995), make (Resultative Construction, cf. Goldberg 1995) and call (Denominative Construction, cf. Hampe 2011a). It thus fits in nicely that the leading collexeme of the aspredicative (both of the overarching construction and of its nominal and adjectival subconstructions) is regard. The experientially basic scenarios most typically expressed by these four ASCs thus come from the domains of object manipulation (moving and changing entities), cognition (categorizing and characterizing entities) and communication (naming and describing entities) (cf. Hampe 2011a).

It has long been observed (cf. e.g. Stefanowitsch and Gries 2003) that the meaning of a leading collexeme captures the functional core of the respective fully schematic ASC itself. In this context, it should also be noted that, as highfrequency exemplars, the top collexemes of ASCs - or, more precisely, the midlevel schemas containing these collexemes in the syntactic frames of their respective ASC – are privileged also semantically. The scenarios or semantic frames expressed by these schemas clearly exhibit some the properties usually attributed to "basic level" categories. Most notably, they maximize both category-internal homogeneity and inter-categorial distances.

Despite these principled differences between the most typical uses of these ASCs, there is also a lot of functional overlap between the cxtr. constructions with and without the particle as. In terms of significantly attracted lexemes, this overlap is mostly constituted by a relatively small number of highly frequent and also quite generic collexemes. Their occurrence in the corresponding ASCs with and without as is often a case of syntactic variation, rather than functional differentiation. Depending on whether a specific collexeme like consider or label exhibits the same meaning in each of two ASCs, these constructions could be said to form the "allostructions" of its "constructeme" (cf. Cappelle 2006; Hampe 2012), as will be seen below.

As the distinctive collexeme analyses between the corresponding subconstructions with and without as in the ICE-GB clearly show (see Appendix, Tables 5.1, 5.2), larger verb classes with higher type frequencies are usually characteristic – and even statistically distinctive – of only one of the subconstructions. This serves to reinforce the functional differential between these constructions at the most schematic level and contrasts with the formal variation reflected in lower-level constructemes.

Naming verbs, for instance, can nicely illustrate the functional differential between the nominal constructions with and without as in a nutshell: In the merged data from the ICE-GB and the BNC-Sampler, there are only two verbs of naming among the top 100 collexemes of the ASC with nominal as-complements, viz. name and label, see (ex 16). In contrast, naming verbs are the core verb class of the pattern without the particle as, previously described as the Denominative Construction on the basis of data from the ICE-GB (Hampe 2011a). Even in the much smaller data set from the ICE-GB, the type frequency of naming verbs is considerable: 13 of the 23 significantly attracted collexemes are verbs of naming, with *call* being the leading generic collexeme. In addition, seven of these verbs (call, date, name, term, entitle, mark and label) - but no others - are also distinctive for the pattern in the direct comparison with the cxtr. pattern with unmarked adjectival predicatives. Note further that name (but not label) takes on a different semantics in the as-predicative. Here the verb does not even refer to proper naming scenarios, but is used much like verbs from the classes discussed above, viz. in the sense of 'identifying someone by his name'. It thus approaches the semantics of core verbs such as identify (ex 20) or of declarative speech-act verbs like nominate (ex 21).9 Only in the case of label, which tends to refer to provisional naming in the first place, the two ASCs form a verb-specific constructeme, i.e. are in direct competition and do in fact express similar meanings.

- (20) a. Dr uhm Gol uh Gold and his research assistant were in fact <u>named</u> <u>as</u> the inventors of these drugs. (ICE-GB)
  - b. One, <u>named as</u> "Engineer Bashir" was described as "a field commander ..." (BNC-Sampler)
- (21) a. St Lucia, meanwhile, had gained her independence and the parrot affectionately called Jacquot was <u>named</u> <u>as</u> the national bird and officially protected. (ICE-GB)
  - b. ... the new Prime Minister ... yesterday <u>named</u> a Muslim <u>as</u> home affairs minister. (BNC-sampler)

Apart from verbs of naming, the collexeme list for the Denominative Construction also contains generic resultative verbs like *make* and *render* as well as the generic cognition verb *consider*. Unlike the corresponding pattern with *as*, it thus does by no means exclude or disprefer strictly resultative meanings. Note in this context that, analogously to what was said about *name*, the semantics of *render* also

<sup>9</sup> Incidentally, (21a) provides an apt illustration of these two different uses of naming verbs in the ASCs with and without as.

changes in the *as*-predicative, such that it becomes functionally almost equivalent to verbs of development (ex 22):

(22) ... Britten's realistic reaction to a story that was all too easy to <u>render</u> <u>as</u> either full-blown Grand Opera or stagey High Camp ... (BNC-Sampler)

Cognition verbs are as marginal in the Denominative Construction, as naming verbs are in the corresponding nominal subconstruction of the as-predicative: Consider is the only strongly attracted cognition verb in the former. In contrast, 9 of the top 20 verb types, including *consider* itself, belong to that class in the latter. The formal comparison of the nominal subconstructions with and without as in the ICE-GB by means of a distinctive collexeme analysis considerably sharpens this picture (see also Appendix, Table 5.1): Consider is the only cognition verb that is distinctive for the nominal cxtr. pattern without as. With a single further exception, all other distinctive collexemes in this pattern (i.e. call, date, term, entitle, name, label) are verbs of naming, in accordance with the overall character of the Denominative Construction. The single exception is the top resultative collexeme make. This is not surprising, given that the as-predicative strongly disprefers strictly resultative meanings. Vice versa, 17 of the distinctive collexemes of the nominal subconstruction of the as-predicative are cognition or speech-act verbs from the core verb classes i, ii and iv. As was expected, the leading lexical representatives of its major extended use, viz. the action verbs use and treat from class iii, are also highly distinctive for it (ranks 2 and 7, respectively).

It was furthermore reported in the previous section that the adjectival subconstruction is semantically the most homogeneous one within the subconstructions of the as-predicative itself, i.e. the one most strongly characterized by cognition/classification verbs. In the direct comparison with the nominal subconstruction of the as-predicative, regard, think of, see, recognis|ze, and class were distinctive for it, while the only distinctive cognition verb of the latter was know. Shifting again to the corresponding subconstruction without as, better known as the Resultative Construction, it turns out that the latter only exhibits a very small group of strongly attracted generic cognition verbs, viz. find, consider and deem. This group has been labelled the "Attributive Construction" and described as a verb-class specific construction, independent from and acquired much later than the structurally homonymous Resultative Construction (cf. Hampe 2011a,b). Note in this context that *consider* is the only verb from this group that is also a strong collexeme of the corresponding ASC with as (\*find X as Y, \*deem X as Y). However, as was pointed out above, the difference between the two cxtr. uses of consider in the corresponding ASCs with and without as is not functionally loaded, hence the verb-specific constructeme.

Again, the distinctive collexeme analysis of the cxtr. adjectival patterns with and without *as* in the ICE-GB sharpens this picture: With the overall type overlap being very low (5.26%), all of the 10 distinctive collexemes of the adjectival *as*-predicative are verbs of cognition and/or communication, none of which can occur without *as* (*consider* is notably absent from this list). In contrast, of the 6 distinctive collexemes in the adjectival pattern without *as*, 5 refer to object manipulation (i.e. are proper collexemes of the Resultative Construction). The cognition use of *find* is the only representative of the class of cognition verbs that is clearly distinctive for this construction in the comparison with the adjectival substructure of the *as*-predicative.<sup>10</sup>

Declarative speech-act verbs, finally, present a particularly interesting special verb class in the cxtr. ASCs with and without as, because they are the only verbs of communication that are simultaneously resultative. They thus occur without any functional differentiation in both nominal subconstructions, i.e. with and without as, though not in their top ranks, with appoint being their leading collexeme in both ASCs. The fact that the entire verb class is shared by the nominal subconstructions with and without as is neatly reflected by the complete absence of this class from their respective distinctive collexeme lists. While this quite clearly provides yet more cases of syntactic variation, the interesting question arising at this point is whether the constructeme formed here is a verb-class specific, rather than just verb-specific one.

To close with a remark on a genuine specialty of the *as*-predicative: It will have been noticed that the class of speech-act and categorization verbs like *describe*, *define*, *classify*, *hail*, *depict*, etc. is absolutely central to both the overarching constructions and the nominal and adjectival subconstructions of the *as*-predicative and not found in any of the corresponding ASCs without *as*. The somewhat startling fact that its leading collexeme, *describe*, is distinctive for the adjectival subconstruction of the *as*-predicative, can probably be taken to reflect its functional homogeneity.

#### 6 Conclusions

It has been shown that the nominal subconstruction of the *as*-predicative accounts for about 90% of all of its tokens and that the extended uses of the *as*-predicative

**<sup>10</sup>** Note that *think* is still marginally significant and that both *find* and *think* cannot occur with *as*-complements.

discussed by Gries et al. (2005, 2010) must be attributed to this subconstruction rather than the overarching construction, i.e. the entire as-predicative network.

The functional core of the as-predicative is indicated by the high type frequency of verbs of cognitive and communicative activity from the verb classes i, ii and iv, which provide the overwhelming majority of all significantly attracted collexemes of both the overarching construction and the two subconstructions studied here. Despite this, a group of strong collexemes from these classes comprising regard, describe, see, think of, recognis|ze and class is distinctive for the adjectival subconstruction. It was suggested that this finding points to the greater functional homogeneity of the latter, i.e. its lack of extended uses.

It was furthermore stressed that all extended uses of the nominal subconstruction highlight a new, unusual or temporary functionality of the object-NP referent, which presuppose a temporary or provisional (re-)categorization of the object-NP referent in terms of the as complement constituent (hence the absence of these uses in the adjectival subconstruction). In the special case of declarative speech-act verbs, this new functionality pertains to a new social role or function of the object-NP referent.

With regard to the relations between the subconstructions of the aspredicative and the directly corresponding ASCs without as, it has firstly been suggested that areas of overlap are usually constituted by very few strongly attracted generic collexemes only, which are attracted to more than one functionally equivalent ASC. It has been emphasized that the simultaneous attraction of a collexeme to competing ASCs often presents an instance of syntactic variation, rather than functional differentiation. It was suggested that, in such a case, the two competing ASCs can be understood as the allostructions of a verb-specific constructeme. The resulting lower-level schemas are informally sketched out in (23).11

- (23) a. NP-subj. (agent) consider NP-obj. (theme)  $(+ as) + [_{NP}]$  complement constituent
  - b. NP-subj. (agent) *label* NP-obj. (patient)  $(+as) + [_{NP}$  complement constituent]
  - c. NP-subj. (agent) appoint NP-obj. (patient)  $(+as) + [_{NP}$  complement constituent

<sup>11</sup> The notation in (23) is not just informal, but also incomplete. As constructemes, these schemas will also provide specific information about which of the two ASCs the verb is drawn to more strongly, and about particular grammatical characteristics of the usage in either or both of the frames (e.g. preference of passive voice, progressive aspect, etc.).

In contrast, the functional differentiation between the various cxtr. subconstructions with and without *as* is signalled (i) by the diverging nature of their leading collexemes *put*, *make*, *call*, *regard*, and (ii) by the presence of verb classes with a high type variety in only one of the subconstructions. Both aspects are vital in that they serve to re-inforce the functional differences between the constructions in a larger network at a more schematic level.

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### **Appendix**

Table 2: Top 50 collexemes of the overarching construction (ICE-GB & BNC Sampler)

	verb	freq.corp.	obs.	exp.	coll.str.*
1	regard	219	164	0.951	Inf
2	describe	553	146	2.400	210.4113
3	see	6490	236	28.172	134.7547
4	use	3885	183	16.864	123.0268
5	treat	245	67	1.064	97.8353
6	know	9290	194	40.326	69.8798
7	think of	500	52	2.170	52.6581
8	define	210	32	0.912	38.2015
9	view	87	21	0.378	29.8881
10	consider	743	40	3.225	29.4512
11	refer to	286	29	1.241	29.3989
12	recognis ze	309	29	1.341	28.4171
13	class	17	13	0.074	27.3564
14	interpret	63	15	0.273	21.4534
15	hail	11	9	0.048	19.5315
16	perceive	47	12	0.204	17.7039
17	classify	37	11	0.161	17.1097
18	look (up)on	39	11	0.169	16.8208
19	тар	28	10	0.122	16.5453
20	present (to)	315	20	1.367	16.4967
21	dismiss	62	12	0.269	16.1135
22	categoris ze	16	8	0.069	14.8084
23	identify	302	18	1.311	14.4462
24	depict	30	8	0.130	12.1740
25	dress	140	12	0.608	11.7204
26	establish	282	15	1.224	11.4520
27	denounce	23	7	0.100	11.1778
28	accept	499	18	2.166	10.7793
29	portray	39	7	0.169	9.4066
30	show	1717	29	7.453	8.8622
31	appoint	125	9	0.543	8.2801
32	count	204	10	0.886	7.5240
33	train	121	8	0.525	7.1390

Table 2 (cont.)

	verb	freq.corp.	obs.	exp.	coll.str.*
34	cite	25	5	0.109	7.1200
35	swear in	3	3	0.013	7.0878
36	name	125	8	0.543	7.0293
37	single out	11	4	0.048	6.9429
38	register	93	7	0.404	6.7057
39	conceive (of)	40	5	0.174	6.0506
40	speak of	45	5	0.195	5.7897
41	disguise	21	4	0.091	5.6994
42	display	142	7	0.616	5.4641
43	represent	357	10	1.550	5.3108
44	value	59	5	0.256	5.1990
45	introduce	320	9	1.389	4.8546
46	choose	410	10	1.780	4.7919
47	diagnose	13	3	0.056	4.6456
48	put down	199	7	0.864	4.5122
49	take	5375	45	23.332	4.4173
50	venerate	3	2	0.013	4.2492

<sup>\*</sup> collostruction strength =  $-\log$  (Fisher exact, 10) coll.str. > 3: p < .001; coll.str. > 2: p < .01; coll.str. > 1.301: p < .05

**Table 3:** All significantly attracted collexemes of the subconstruction with AjP/PP complement (ICE-GB & BNC-Sampler)

	verb	freq.corp.	obs.	exp.	coll.str.*
1	regard	219	37	0.059	92.2785
2	describe	553	25	0.148	47.1437
3	see	6490	24	1.742	19.5073
4	treat	245	6	0.066	10.0446
5	think (of)	500	7	0.134	9.9379
6	class	17	3	0.005	7.8912
7	recognis ze	309	5	0.083	7.5581
8	define	210	4	0.056	6.4253
9	denounce	23	2	0.006	4.7438
10	perceive	47	2	0.013	4.1150
11	dismiss	62	2	0.017	3.8733
12	refer to	286	2	0.077	2.5569
13	bash	11	1	0.003	2.5304
14	diagnose	13	1	0.004	2.4579
15	discount	14	1	0.004	2.4258
16	categoris ze	16	1	0.004	2.3679

Table 3 (cont.)

	verb	freq.corp.	obs.	exp.	coll.str.*
16	prescribe	16	1	0.004	2.3679
17	structure	17	1	0.005	2.3417
18	accept	499	2	0.134	2.0890
19	classify	37	1	0.010	2.0051
20	look (up)on	39	1	0.011	1.9823
20	portray	39	1	0.011	1.9823
21	conceive (of)	40	1	0.011	1.9714
22	seize	82	1	0.022	1.6620
23	view	87	1	0.023	1.6366
24	register	93	1	0.025	1.6080
25	excuse	94	1	0.025	1.6034

<sup>\*</sup> collostruction strength =  $-\log$  (Fisher exact, 10) coll.str. > 3: p < .001; coll.str. > 2: p < .01; coll.str. > 1.301: p < .05

Table 4: Top 50 collexemes of the subconstruction with NP complement (ICE-GB & BNC sampler)

	verb	freq.corp.	obs.	exp.	coll.str.*
1	regard	219	117	0.851	219.1842
2	describe	553	108	2.149	145.0284
3	use	3885	183	15.096	131.4815
4	see	6490	197	25.218	106.9252
5	treat	245	55	0.952	77.7473
6	know	9290	190	36.098	74.7602
7	think of	500	38	1.943	35.2772
8	consider	743	39	2.887	30.0849
9	define	210	25	0.816	28.4036
10	refer to	286	27	1.111	27.8390
11	view	87	18	0.338	25.2465
12	recognis ze	309	22	1.201	20.1425
13	hail	11	9	0.043	19.9649
14	class	17	10	0.066	19.8364
15	interpret	63	13	0.245	18.4111
16	present (to)	315	20	1.224	17.4073
17	тар	28	10	0.109	17.0241
18	classify	37	10	0.144	15.6139
19	look (up)on	39	10	0.152	15.3556
20	depict	30	8	0.117	12.5556
21	dress	140	12	0.544	12.2757
22	establish	282	15	1.096	12.1264
23	identify	302	15	1.173	11.7003
24	perceive	47	8	0.183	10.8508

Table 4 (cont.)

25         categoris ze         16         6         0.062           26         show         1717         29         6.672           27         dismiss         62         8         0.241           28         accept         499         16         1.939           29         appoint         125         9         0.486           30         denounce         23         5         0.089	coll.str.*
27     dismiss     62     8     0.241       28     accept     499     16     1.939       29     appoint     125     9     0.486	10.5772
28       accept       499       16       1.939         29       appoint       125       9       0.486	9.9448
<b>29</b> appoint 125 9 0.486	9.8417
	9.6104
<b>30</b> denounce 23 5 0.089	8.6932
20 0.00)	7.5530
<b>31</b> <i>train</i> 121 8 0.470	7.5046
<b>32</b> name 125 8 0.486	7.3942
<b>33</b> <i>cite</i> 25 5 0.097	7.3574
<b>34</b> <i>swear in</i> 3 0.012	7.2322
<b>35</b> <i>portray</i> 39 5 0.152	6.3422
<b>36</b> <i>speak of</i> 45 5 0.175	6.0238
<b>37</b> <i>disguise</i> 21 4 0.082	5.8892
<b>38</b> <i>display</i> 142 7 0.552	5.7780
<b>39</b> <i>count</i> 204 8 0.793	5.7710
<b>40</b> represent 357 10 1.387	5.7309
<b>41</b> register 93 6 0.361	5.7095
<b>42</b> <i>value</i> 59 5 0.229	5.4309
<b>43</b> <i>choose</i> 410 10 1.593	5.2027
<b>44</b> <i>single out</i> 11 3 0.043	5.0248
<b>45</b> conceive (of) 40 4 0.155	4.7309
<b>46</b> <i>express</i> 230 7 0.894	4.4151
<b>47</b> <i>introduce</i> 320 8 1.243	4.3565
<b>48</b> <i>venerate</i> 3 2 0.012	4.3453
<b>49</b> rate 21 3 0.082	4.1311
<b>50</b> <i>announce</i> 177 6 0.688	4.1185

<sup>\*</sup> collostruction strength =  $-\log$  (Fisher exact, 10) coll.str. > 3: p < .001; coll.str. > 2: p < .01; coll.str. > 1.301: p < .05

**Table 5:** Distinctive collexeme analysis of the *as*-predicative subconstructions with NP- and AjP/PP-complement (ICE-GB & BNC Sampler)

as-predicative	(AJP/PP)				
verb	obs.freq.1	obs.freq.2	exp.freq.1	exp.freq.2	coll.str.*
regard	37	117	9.951	144.049	12.8640
describe	25	108	8.594	124.406	6.3293
see	24	197	14.280	206.720	2.2065
think of	7	38	2.908	42.092	1.6349
recognis ze	5	22	1.745	25.255	1.5735
class	3	10	0.840	12.160	1.3295

Table 5 (cont.)

verb	obs.freq.1	obs.freq.2	exp.freq.1	exp.freq.2	coll.str.*
use	0	183	11.825	171.175	5.5449
know	2	190	12.406	179.594	3.7489
	types	413			
	shared types	29	7.02%		

<sup>\*</sup> collostruction strength = -log (Fisher exact, 10)

coll.str. > 3: p < .001; coll.str. > 2: p < .01; coll.str. > 1.301: p < .05

Table 6.1: Distinctive collexeme analysis of the as-predicative (NP) and the cxtr. ASC with NP complement (ICE-GB data only)

as-predicative	(NP)				
verb	obs.freq.1	obs.freq.2	exp.freq.1	exp.freq.2	coll.str.*
see	86	0	49.229	36.771	21.6325
use	84	0	48.084	35.916	21.1102
know	77	0	44.077	32.923	19.2896
describe	60	0	34.346	25.654	14.9163
regard	50	0	28.622	21.378	12.3750
think of	25	0	14.311	10.689	6.1199
treat	21	0	12.021	8.979	5.1318
take	17	0	9.731	7.269	4.1471
define	15	0	8.586	6.414	3.6561
refer to	14	0	8.014	5.986	3.4109
have	11	0	6.297	4.703	2.6765
тар	10	0	5.724	4.276	2.4321
recognis ze	10	0	5.724	4.276	2.4321
view	10	0	5.724	4.276	2.4321
show	9	0	5.152	3.848	2.1880
give	8	0	4.579	3.421	1.9440
present	8	0	4.579	3.421	1.9440
interpret	7	0	4.007	2.993	1.7003
accept	6	0	3.435	2.565	1.4568
categoris ze	6	0	3.435	2.565	1.4568
look (up)on	6	0	3.435	2.565	1.4568
perceive	6	0	3.435	2.565	1.4568

**Table 6.1** (cont.)

cxtr. ASC with NP object-compleme
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verb	obs.freq.1	obs.freq.2	exp.freq.1	exp.freq.2	coll.str.*
call	0	448	256.449	191.551	222.2859
make	2	75	44.077	32.923	25.7307
date	0	22	12.593	9.407	8.2049
term	1	15	9.159	6.841	4.5889
entitle	0	10	5.724	4.276	3.7068
name	4	16	11.449	8.551	3.1389
label	1	6	4.007	2.993	1.5714
consider	13	20	18.890	14.110	1.5492
	types	251			
	shared types	14	5.58%		

<sup>\*</sup> collostruction strength =  $-\log$  (Fisher exact, 10)

coll.str. > 3: p < .001; coll.str. > 2: p < .01; coll.str. > 1.301: p < .05

**Table 6.2:** Distinctive collexeme analysis of the *as*-predicative (AjP) and the cxtr. ASC with AjP complement (ICE-GB data only)

as-predicative (AjP)					
verb	obs.freq.1	obs.freq.2	exp.freq.1	exp.freq.2	coll.str.*
regard	29	0	3.498	25.502	28.0109
describe	21	0	2.533	18.467	19.9804
see	23	4	3.257	23.743	17.8965
think of	6	0	0.724	5.276	5.5584
treat	6	0	0.724	5.276	5.5584
recognis ze	5	0	0.603	4.397	4.6241
define	4	0	0.482	3.518	3.6930
accept	2	0	0.241	1.759	1.8402
know	2	0	0.241	1.759	1.8402
refer to	2	0	0.241	1.759	1.8402

Table 6.2 (cont.)

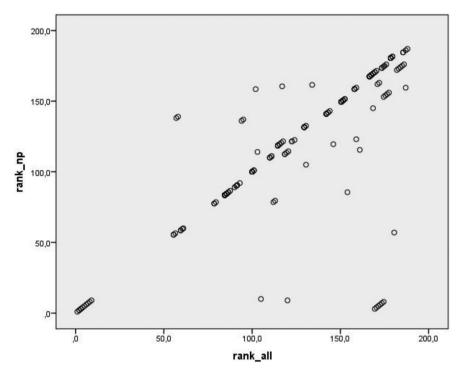
cxtr. ASC with AjP of	bject-complement
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verb	obs.freq.1	obs.freq.2	exp.freq.1	exp.freq.2	coll.str.*
make	0	379	45.716	333.284	26.8714
find	0	135	16.284	118.716	8.1151
keep	0	86	10.374	75.626	5.0262
get	0	56	6.755	49.245	3.2190
leave	0	43	5.187	37.813	2.4544
have	0	23	2.774	20.226	1.2989
think ———	0	20	2.412	17.588	1.1277
	types	95			
	shared types	5	5.26%		

<sup>\*</sup> collostruction strength =  $-\log$  (Fisher exact, 10) coll.str. > 3: p < .001; coll.str. > 2: p < .01; coll.str. > 1.301: p < .05

**Table 7:** Numbers of lexical types in the verb-classes of the *as*-predicative

	ranks 1–20	ranks 1–50	ranks 1–100
core verb classes			
cognition & perception	9	14	23
speech-act	6	17	42
classification	2	7	14
total	17	38	79
extended uses			
action	3	5	28
development	0	2	10
declarative speech act	0	2	9
naming	0	1	2
selection	0	2	7
total	3	12	56



**Fig. 2:** Rank-correlation of 187 shared lexical types: Overarching construction vs. subconstruction with NP (Kendall's  $\tau$  = .743, p < .01\*\*, two-sided)

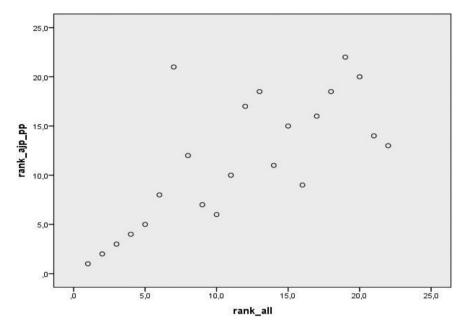


Fig. 3: Rank-correlation of 22 shared lexical types: Overarching construction vs. subconstruction with AjP (Kendall's  $\tau = .573$ , p < .01\*\*, two-sided)

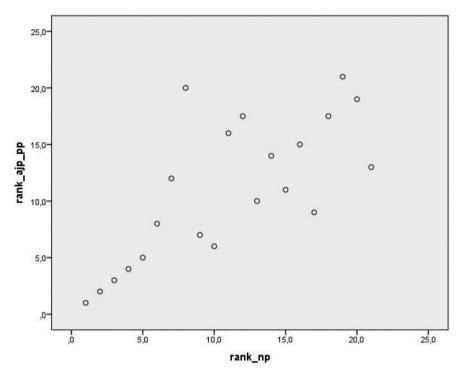


Fig. 4: Rank-correlation of 21 shared lexical types: Subconstruction with NP vs. subconstruction with AjP (Kendall's  $\tau$  = .587, p < .01\*\*, two-sided)