

KASPER BOYE

PROPOSITIONS AND STATES-OF-AFFAIRS: A COGNITIVE LINGUISTIC APPROACH

Abstract: This paper first argues that the distinction between Propositions and States-of-Affairs is significant for understanding a number of linguistic contrasts, including contrasts between nominalizations, complement clauses, readings of modal infinitives, raising constructions, illocutions and moods, relative clauses, and nouns. Subsequently, the paper outlines a cognitive linguistic model of the distinction, according to which Propositions and States-of-Affairs differ in terms of construal. Both prompt Langackerian “processes”, but only Propositions prompt a construal of these processes as referential. The paper argues that this model has a number of advantages over a traditional, denotational understanding of the distinction.

Abstract: Der Beitrag argumentiert dafür, dass die Unterscheidung zwischen Propositionen und Sachverhalten (States-of-Affairs) für eine Reihe von sprachlichen Phänomenen empirisch relevant ist, insbesondere bei Nominalisierungen, Komplementsätzen, Lesarten von modalen Infinitiven, Anhebungsstrukturen, Illokutionen und Modus sowie Relativsätzen und Nomina. Auf dieser Basis entwirft der Beitrag ein kognitiv-linguistisches Modell der Unterscheidung im Sinne einer Konstruierung (Construal), indem sowohl Propositionen als auch Sachverhalte Langacker’sche „Prozesse“ auslösen, dies aber nur bei Propositionen zu einer Konstruierung dieses Prozesses als referenziell führt. Der Beitrag argumentiert, dass dieses Modell bisherigen denotations-orientierten Unterscheidungsansätzen überlegen ist.

Keywords: Proposition, State-of-Affairs, referentiality, construal, cognitive linguistics

1. Introduction¹

The distinction between Propositions and States-of-Affairs has received relatively little attention in functional and cognitive linguistics. It plays a prominent role only in Functional Grammar (e.g. Dik 1997) and Functional Discourse Grammar (Hengeveld/Mackenzie 2008), and these frameworks adopt a traditional denotational conception of it as a distinction between types of denotable entities: Propositions are defined as truth-valued third-order entities; States-of-Affairs as non-truth-valued second-order entities (e.g. Dik/Hengeveld 1991, p. 233; cf. Lyons 1977, pp. 443–445). Cognitive Grammar proposes a radically different representational (as opposed to denotational) conception of Propositions, which it deals with in terms of epistemic grounding (e.g. Langacker 1991, p. 551). However, it largely ignores the contrast with States-of-Affairs (but see Achard 2002).

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This paper has two aims. The first is to argue that the distinction between Propositions and States-of-Affairs is central to understanding a range of important linguistic contrasts, and that it therefore ought to play a prominent role in all theories of language structure. The second aim is to outline – and present a number of arguments in support of – a cognitive linguistic model of the distinction which was originally developed in Boye (2010a) and Boye (2012). This model captures the same facts and intuitions as the traditional denotational conceptions of the distinction, but it is not only a “translation” of such conceptions into cognitive linguistics. Rather, the model marks a substantial departure from previous conceptions in that it assigns a central role to reference (in the sense of Lyons 1977, pp. 177–199 and Givón 2001a, p. 439) and enables new analyses and new generalizations.

According to this model, both Propositions and States-of-Affairs are defined as invoking Langackerian “processes” (i.e. sequentially scanned conceptual relationships; e.g. Langacker 2008, p. 112). However, they differ in that only Propositions are referential in the sense that they stipulate a “world” referent of the mental representation constituted by the Langackerian process. In other words, Propositions amount to States-of-Affairs plus referential status. Among the arguments in support of this model are the following. 1) The model entails a compositional analysis of Propositions which i) includes a precise definition of what it means to have a truth-value, ii) enables a compositional analysis of propositional expressions, and iii) includes an account of why Propositions but not States-of-Affairs allow of epistemic modification. 2) The model entails that Propositions are conceptually more complex than States-of-Affairs, and thus offers a motivation for i) crosslinguistic grammatical asymmetries pertaining to the coding of the two meaning units, ii) crosslinguistic tendencies pertaining to the ordering and scope properties of Proposition- and State-of-Affairs-modifying elements, iii) the fact that assertions and polar questions can be used to make directives (i.e. what is sometimes referred to as “commands”) as indirect speech acts, but directives cannot be used to make assertions or polar questions as indirect speech acts, and iv) the fact that criteria of States-of-Affairs are not always reliable. 3) The model defines Propositions and States-of-Affairs as respectively referential and non-referential, and thus provides a motivation for links found in some languages between Proposition vs. State-of-Affairs contrasts and contrasts between referential and non-referential noun phrases.

The paper is structured as follows. Section 2 presents a number of salient linguistic contrasts that have been, or can straightforwardly be, understood in terms of the distinction between Propositions and States-of-Affairs. Section 3 gives an overview of traditional accounts of the distinction, arguing that they all take a denotational approach to semantics. Section 4 outlines the alternative cognitive linguistic model, and Section 5 presents a number of arguments in support of this model. Section 6 is a brief summary.

2. Linguistic contrasts between Proposition and State-of-Affairs

Several criteria exist for distinguishing Propositions from States-of-Affairs (e.g. Vendler 1967; Bengson/Moffett 2011; Abbott 2013).² One criterion for identifying Propositions is that only Propositions can be evaluated epistemically – that is, by epistemic modal indications of degree of certainty or by evidential indications of information source (Boye 2012) – or in terms of truth or falsity. One criterion for identifying States-of-Affairs is that they can be evaluated in terms of manner of occurrence (Vendler 1967; Hengeveld 1989, p. 148) (for reasons discussed in Section 5.4, the manner criterion does not always distinguish States-of-Affairs from Propositions).

Based on these criteria alone, it is easy to show that the distinction between Propositions and States-of-Affairs is significant for the description of a range of salient linguistic contrasts. This range includes contrasts between nominalizations (Section 2.1), complement clauses (Section 2.2), readings of modal infinitives (Section 2.3), raising constructions (Section 2.4), illocutions and moods (Section 2.5), relative clauses (Section 2.6), and nouns (Section 2.7).

2.1 Nominalizations

Some nominalizations (sometimes referred to as “fact” or “factive” nominalizations) allow of epistemic evaluation, while others (sometimes called “action” nominalizations) allow of manner evaluation (see e.g. Lees 1960; Vendler 1967; Fraser 1970; Schüle 2000 on English). Following Vendler (1967), for instance, one might argue that *John’s playing poker* is strictly propositional, while *John’s playing of poker* has a State-of-Affairs reading and perhaps also a propositional one. The former of these nominalizations allows of epistemic evaluation by means of *unlikely*, but not of evaluation in terms of manner by means of *sloppy* (1). The latter nominalization allows of manner evaluation by means of *sloppy* and perhaps also of epistemic evaluation by means of *unlikely* (2).

- (1) a. *John’s playing poker is unlikely.*
 b. **John’s playing poker is sloppy.*

² Within both Propositions and States-of-Affairs more fine-grained distinctions are sometimes linguistically relevant. For instance, some languages distinguish between propositional complements that are “factual”, and propositional complements that are not (Kehayov/Boye 2016, pp. 825–828). As another example, Wurmbrand/Lohninger’s (this volume) distinction between “Irrealis” and “Tenseless” complements seems to correspond to a semantic distinction between subtypes of States-of-Affairs. Both types are distinct from a third type, “Attitude” complements, which are clearly propositional.

- (2) a. ?*John's playing of poker is unlikely.*
 b. *John's playing of poker is sloppy.*

Vendler (1967, pp. 126–127)

2.2 Complement clauses

Many complement-taking predicates can take both propositional complements and State-of-Affairs designating ones. This is the case, for instance, with utterance predicates (3)–(4), knowledge predicates (5)–(6) (Sørensen/Boye 2015), perception predicates (7) (e.g. Dik/Hengeveld 1991; Boye 2010a), emotive predicates (8) (Boye 2012), and mental-state predicates (9). In each case, the (a) clause allows of epistemic modification (emphasized) and must be analyzed as propositional, while the (b) clause allows of manner modification (likewise emphasized) and must be analyzed as designating a state-of-affairs.³

- (3) a. *I told her that he had **probably** fixed it.*
 b. *I told her to fix it **quickly**.*
- (4) a. *I asked her whether he **possibly** fixed it.*
 b. *I asked her to fix it **quickly**.*
- (5) a. *I forgot that she **probably** fixed it.*
 b. *I forgot to fix it **quickly**.*
- (6) a. *I know that she **apparently** fixed it.*
 b. *I know how to fix it **quickly**.*
- (7) a. *I saw that she **possibly** fixed it.*
 b. *I saw her fix it **quickly**.*
- (8) a. *I am afraid that she **probably** fixed it.*
 b. *I am afraid to fix it **quickly**.*
- (9) a. *Jeg tænker at hun sandsynligvis ordnede det.*
 1SG think.PRS COMP 3SG.F probably fix.PST it
 ‘I am thinking that she probably fixed it’.

³ As discussed in Boye (2010b, pp. 295, fn. 3), perception-predicate complements like that in (7b) may at least marginally allow of epistemic modification: *I saw her probably fix it*. However, the epistemic modification cannot be read as taking the whole complement in its scope. Rather, it must be read with less than the clause in its scope, for instance as in: ‘it was probably her that I saw fix it’ or ‘I saw her doing something, and the activity was probably fixing it’. Many epistemic expressions have this scope option (see Boye 2012, pp. 250–257 for examples and analysis), but this is irrelevant in the present context. What is relevant is that States-of-Affairs designating complements cannot be epistemically modified as a whole.

- b. *Jeg tænker at ordne det hurtigt.*
 1SG think.PRS COMP fix.INF it quickly
 ‘I intend to fix it quickly’.

Danish

2.3 Modal infinitives

In many languages, modal verbs co-occur with infinitives that can be read as designating either Propositions or States-of-Affairs. As can be expected based on the criterion of propositional status, Proposition readings accompany epistemic readings of the modal verbs, while State-of-Affairs readings accompany non-epistemic (root, deontic or dynamic) readings (e.g. Lyons 1977, pp. 842–843; Palmer 1979, p. 35; and Perkins 1983, pp. 7–8 on English). For instance, the English modal verb *must* can be read epistemically as indicating that the Proposition ‘Kirstine be there’ must necessarily be true (10a), or non-epistemically as indicating that it is necessary for Kirstine to realize the State-of-Affairs ‘Kirstine be there’ (10b).

- (10) *Kirstine must be there.*
 a. ‘It is necessarily the case that Kirstine is there’.
 b. ‘It is necessary for Kirstine to be there’.

2.4 Raising constructions

Some languages make a distinction between raising constructions in which the infinitival clause is propositional, and raising constructions in which the infinitival clause designates a State-of-Affairs. In English Accusatives-with-Infinitives, for instance, presence of the infinitival marker *to* marks the infinitival clause as propositional (11a), while absence marks it as designating a State-of-Affairs (11b) (Dik/Hengeveld 1991, pp. 240–242).

- (11) a. *I feel him to be growing rather hostile.*
 b. *I heard Sally recite a poem yesterday.*
 Dik/Hengeveld (1991, pp. 240, 241)

In Danish, as well as in English, a similar contrast is found in Nominatives-with-Infinitives (Boye 2002; Boye 2010a, p. 398). Presence of the infinitival marker *at* marks the infinitival clause as propositional (12a); absence marks it as designating a State-of-Affairs (12b). Only in (12a), accordingly, can the epistemic modal adverb *sandsynligvis* (‘probably’) be read as scoping exclusively over the infinitival clause and over this clause as a whole. In (12b), the same adverb must be read as scoping over the Proposition centered around the main predicate *ses* (‘see.PRS.PASS’) or – more marginally – over a constituent of the infinitival clause (which is then coerced so that it

must be interpreted as part of an identificational proposition; see Boye 2012, pp. 250–257 for in-depth discussion).

- (12) a. *Nationalbanken ses sandsynligvis at*
 National.Bank.DEF see.PRS.PASS probably to
stå for en ganske betydelig del af omsætningen
 stand.INF for INDEF quite substantial part of trade.DEF
 ‘The National Bank is seen to probably be responsible for a quite substantial part of the trade’.
- b. *Bjarne Riis ses sandsynligvis stå og*
 Bjarne Riis see.PRS.PASS probably stand.INF and
snakke med Sarevok.
 chat.INF with Sarevok
 ‘Bjarne Riis is probably seen chatting with Sarevok’.

Danish; modified from Boye (2010a, p. 398)

2.5 Illocutions and moods

Among the major types of illocutions, assertions and polar questions involve Propositions, while directives (i. e. what is sometimes referred to as “commands”) involve only States-of-Affairs. We have already seen that this holds when the illocutions are reported: (3a) and (4a) above report an assertion and a polar question, respectively, and involve propositional complements. In contrast (3b) and (4b) report directive speech acts and involve complements that designate States-of-Affairs.

The difference also holds for non-reported illocutions, however. This explains why an epistemic modal expression such as *probably* would be a natural response to an assertion or a polar question, but not to a directive speech act (cf. the criterion for propositional status discussed above).

- (13) – *Johannes is leaving me.*
 – **Probably.**
- (14) – *Is Johannes leaving me?*
 – **Probably.**
- (15) – *Leave me!*
 – ***Probably.**

A similar distinction applies to the linguistic means for coding illocutions (cf. Dik 1997, pp. 300–304). Both declaratives, which mark assertions, and interrogatives, which mark polar questions, designate Propositions. In contrast, imperatives, which mark directive illocutions, designate only States-of-Affairs (cf. Leech 1981,

pp. 75–76; Hengeveld 1990, p. 7). Accordingly, declaratives and interrogatives can be modified epistemically, whereas imperatives cannot (cf. Boye 2012, pp. 199–206 and the references therein).

(16) *Johannes is **probably** leaving.*

(17) *Is Johannes **possibly** leaving?*

(18) **Leave **possibly**!*

Of course, interrogatives combine far more naturally – indeed, harmonically – with expressions of a low degree of certainty (e. g. *possibly*) than with other kinds of epistemic modal expressions, but this is a natural consequence of the fact that interrogatives code polar questions, and polar questions imply uncertainty about the Proposition in their scope (Boye 2012, pp. 308–315).

Constituent questions and the constructions that code them may differ from polar questions and interrogatives in this respect. In English, constituent questions can be both propositional and State-of-Affairs designating. The question in (19a) is propositional; it concerns the reason (‘why’) for a possible fact (‘they walked’). In contrast, the question in (19b) designates only a State-of-Affairs; it concerns the reason (‘why’) for a specific action (‘walk’). As expected, only the propositional question readily allows of epistemic modification (20a); in (20b) *allegedly* cannot be read as scoping over the whole clause (cf. footnote 2 and the discussion of (12b) above).

(19) a. *Why did they walk?*

b. *Why walk?*

(20) a. *Why did they **allegedly** walk?*

b. *?Why **allegedly** walk?*

The distinction between Propositions and States-of-Affairs is significant not only for the description of moods in the sense of sentence types, but also for other kinds of moods. In some languages, including English, indicative mood can be defined as the mood common to declaratives and polar interrogatives. On this definition, indicatives can be straightforwardly analyzed as propositional, since (as discussed above) both declaratives and polar interrogatives are propositional.

Indicatives can have different kinds of contrast partners, and some of these can be analyzed as designating States-of-Affairs. This is the case with imperatives, as we have seen: imperatives contrast with declaratives and interrogatives in terms of illocutionary value, but they also contrast with indicatives by designating States-of-Affairs as opposed to Propositions.

It is also sometimes the case with subjunctives (cf. Boye/Harder 2018). As a crosslinguistic term, “subjunctive” covers a heterogeneous range of functions, including ‘quotative’ or ‘reportative’ (as in the case of German “Konjunktiv I”; e. g. Diewald

1999), ‘hypotheticality’ (as in the case of German “Konjunktiv II”) and ‘marker of subordination’. It seems, then, that the only sound way to define the term crosslinguistically is as a contrast partner of indicative. In some languages, however, this contrast partner – or distributional variants of it – clearly designates a State-of-Affairs. Consider the contrast in French between an indicative utterance-predicate complement (21a) and a subjunctive utterance-predicate complement (21b).

- (21) a. *Paul a suggéré*
 Paul has.IND.PRS.3SG suggest.PTCP
que tu étais venu.
 COMP 2SG be.IND.IPF.3SG come.PTCP
 ‘Paul suggested that you had come’.
- b. *Paul a suggéré*
 Paul has.IND.PRS.3SG suggest.PTCP
que tu viennes immédiatement.
 COMP 2SG come.SBJ.PRS.2SG immediately.
 ‘Paul suggested that you (should) come immediately’.

French; modified from Godard (2012, p. 140)

The contrast in (21) closely parallels the contrast between the propositional utterance-predicate complement in (3a) and the State-of-Affairs designating utterance-predicate complement in (3b). In the (a) examples, the speaker, reports the assertion of a Proposition, while in the (b) examples, she or he reports a directive speech act: a “command” that a State-of-Affairs be carried out; note also that Godard (2012: 140) refers to complement-taking predicates like that in (21b) as “mandatives”. French indicatives are propositional then, and, as expected, readily allow of epistemic modification. In contrast, subjunctives used in utterance-predicate complements designate States-of-Affairs; as expected, they cannot readily be epistemically modified (Agnes Celle, p. c.).⁴

- (22) a. *Paul a suggéré*
 Paul has.IND.PRS.3SG suggest.PTCP
*que tu étais **probablement** venu.*
 COMP 2SG be.IND.IPF.2SG probably come.PTCP
 ‘Paul suggested that you had probably come’.

⁴ Note that in complements of other types of predicates, subjunctives do not designate States-of-Affairs. This functional heterogeneity of subjunctives is parallel to a functional heterogeneity of infinitives: Boye et al. (2020) argue that in the complements of some Danish cognition predicates, infinitives can designate either States-of-Affairs or Propositions.

- b. ?*Paul a suggéré*
 Paul has.IND.PRS.3SG suggest.PTCP
que tu viennes probablement immédiatement.
 COMP 2SG come.SBJ.PRS.2SG probably immediately.
 Intended: ‘Paul suggested that you (should) probably come immediately’.
 French; modified from Godard (2012, p. 140)

2.6 Relative clauses

The same analysis seems to apply to the contrast between indicative and subjunctive in relative clauses in some languages (Boye/Harder 2018). Consider French again.

- (23) a. *Je cherche une maison*
 1SG search.IND.PRS.1SG INDEF house
qui a des volets rouges.
 REL have.IND.PRS.3SG ART shutter.PL red.PL
 ‘I am looking for a house which has red shutters’.
- b. *Je cherche une maison*
 1SG search.IND.PRS.1SG INDEF house
qui ait des volets rouges.
 REL have.SBJ.PRS.3SG ART shutter.PL red.PL
 ‘I am looking for a house which should have red shutters’.
- French; modified from De Mulder (2010, p. 173)

The contrast between indicative (23a) and subjunctive (23b) accompanies a contrast between a referential (or “specific”) reading of the head noun and a non-referential (or “non-specific”) reading (De Mulder 2010, p. 173, referring to Kampers-Manhe 1991; see Galmiche 1983, pp. 69–71 for detailed discussion). (23a) can be understood as describing a situation where the speaker is looking for a specific, existing house. In contrast, (23b) must be read as describing a situation where the speaker is looking for some house or other, as long as it has the property of having red shutters.

As in the case of utterance-predicate complements, only the indicative readily allows of epistemic modification (Agnes Celle, p. c.).

- (24) a. *Je cherche une maison qui*
 1SG search.IND.PRS.1SG INDEF house REL
a probablement des volets rouges.
 have.IND.PRS.3SG probably ART shutter.PL red.PL
 ‘I am looking for a house which probably has red shutters’.

- b. *?Je cherche une maison qui ait probablement des volets rouges.*
 1SG search.IND.PRS.1SG INDEF house REL
 have.SBJ.PRS.3SG probably ART shutter.PL red.PL
 Intended: ‘I am looking for a house which should probably have red shutters’.

French; modified from De Mulder (2010, p. 173)

As in the case of utterance-predicate complements, then, it seems that in relative clauses, the French indicative is propositional, while the subjunctive designates a State-of-Affairs. Something similar can be said of indicative and subjunctive relative clauses in other languages; see e.g. Quer (2010, p. 231) on Catalan, Laca (2010, p. 210) on Spanish, and Lepschy/Lepschy (1988, p. 206) on Italian. The link between, on the one hand, the contrast between referential and non-referential noun phrases, and on the other hand, the contrast between Proposition and State-of-Affairs will be taken up again in Section 5.8.

2.7 Nouns

The distinction between Propositions and States-of-Affairs is significant also for the description of the semantics of simple nouns (e.g. Schmid 2000).

Some nouns have meanings that can be evaluated in terms of truth or falsity, while others have meanings that can be evaluated in terms of manner of occurrence. In English, the first group of nouns comprises *story*, *news*, *information*, while the second group comprises *visit*, *attack*, *walk*. (25) shows that falsity and truth can be predicated of nouns from the first group (25a), but not (in the same sense at least) of nouns from the second group (25b).

- (25) a. *The story/news/information was false.*
 b. *?The visit/attack/walk was false*

(26) and (27) show that occurrence or manner of occurrence can be predicated of nouns from the second group (26b, 27b), but not of all nouns from the first one (26a, 27a).

- (26) a. *?The information was sudden.*
 b. *The visit/attack/walk was sudden.*
 (27) a. *?The information/news occurred the following day.*
 b. *The visit/attack/walk occurred the following day.*

As the possibility of evaluation in terms of truth or falsity is a criterion of Propositions, it follows that nouns belonging to the first group are propositional. As the

possibility of evaluation in terms of manner of occurrence is a criterion of States-of-Affairs, it follows that nouns belonging to the second group designate States-of-Affairs.

In addition, some nouns have scope properties that must be described in terms of the distinction between Propositions and States-of-Affairs. According to Carretero (2016), “evidential nouns” like English *evidence* and *indication* and Spanish *evidencia* and *indicio* indicate the source of a Proposition (cf. Schmid 2000).

3. The traditional understanding of Propositions and States-of-Affairs

The research on contrasts between Propositions and States-of-Affairs is terminologically messy (Boye 2010a, 2012). First, several other terms are used for both Propositions and States-of-Affairs. Propositions are referred to also as “facts” (e.g. Lees 1960; Vendler 1967; Dixon 2006), “third-order entities” (e.g. Lyons 1977; Lyons restricts the term “proposition” to the (third-order entity) meaning of declaratives; Lyons 1977, pp. 443, 644, 668, 723), “propositional contents” (e.g. Dik/Hengeveld 1991), and even “states-of-affairs” (Huang 1975; Schmid 2001). States-of-Affairs are commonly referred to also as “events” (e.g. Vendler 1967; Schüle 2000), “actions” (e.g. Lees 1960), “activities” (Dixon 2006), and “second-order entities” (e.g. Lyons 1977).

Secondly, several of these terms are used also for other purposes. For instance, “proposition” is frequently used to refer to all sorts of clause meanings without implying a contrast with States-of-Affairs. Moreover, “events” and “activities” are often used to refer to different types of Aktionsart. The terminology preferred here is in line with Loux (1998) and Svenonius (1994), among others.

While the terminology is messy, there is a high degree of consensus about how to understand contrasts between Propositions and States-of-Affairs. Propositions are typically understood as truth-valued entities. Loux (1998, p. 132) characterizes them as “abstract entities”, “the primary bearers of truth values”. Lyons (1977, p. 445) says that “‘true’, rather than ‘real’, is more naturally predicated of them”. In contrast, States-of-Affairs are understood as entities that occur or take place. According to Loux (1998, p. 132), they are “situations that have essentially the property of obtaining or failing to obtain”. According to Lyons (1977, p. 443), they are “located in time and [...] said to occur or take place rather than to exist”.

These definitions nicely motivate the criteria of Propositions and States-of-Affairs presented and used in Section 2. Propositions can be evaluated epistemically and in terms of truth and falsity because they have a truth-value; epistemic evaluation concerns the link between our conception of some (real or fictive) world and the world itself, and the notion of truth-value exactly captures this link (cf. Section 5.1

and 5.3 below). States-of-Affairs can be evaluated in terms of manner of occurrence because they are entities that occur or take place.

The understanding of Propositions and States-of-Affairs as “entities” or “situations” is clearly a denotational one. Propositions and States-of-Affairs are understood as distinct types of denotable entities in the world. It is no surprise, then, that this understanding is common in so-called formal linguistics (e.g. Svenonius 1994: Chapter 2, section 3.1). More surprisingly, it is also found in functional linguistics (e.g. Hengeveld 1989, p. 128; Cristofaro 2003, pp. 109–111; see Harder 1996, p. 236, and Boye 2010a for discussion). With few exceptions, however, functional and cognitive linguistics has not provided any alternative to this understanding. Achard (2002) presents one such alternative. He analyzes the distinction between Propositions and States-of-Affairs in terms of a distinction between two conceptions of reality: States-of-Affairs belong to “basic reality”; Propositions to “elaborated reality” (Achard 2002, pp. 207–209). In the following section, another cognitive linguistic alternative is outlined.

4. A cognitive linguistic model of Propositions and States-of-Affairs

Cognitive linguistics differs from formal linguistics in taking what Saeed (2009, p. 24) calls a representational approach to meaning rather than a denotational approach. Meaning is not basically a matter of denoting different kinds of entities, but a matter of mental representation and processing – that is, of conceptualization, or construal (e.g. Langacker 2008). Linguistic meanings (including Propositions and States-of-Affairs) are instructions or prompts for action, including instructions or prompts for conceptualization (Harder 1996; Evans 2009).

The cognitive linguistic model to be outlined below was developed in Boye (2010a) and Boye (2012). In this model, the central difference between Propositions and States-of-Affairs has to do with reference. In the relevant sense, reference is what enables us to talk and write about the world. In essence, it is the act of hooking language onto the world: the act of associating a linguistic expression with something (e.g. an individual or a substance) in a (real or fictive) world.

This act has two defining properties. First, it is an intentional act; it depends on what Givón (2001a, p. 439) calls “referential intent”. This entails that reference is by definition independent of referents: one can refer to a unicorn in the living room without there actually being one. In effect, reference amounts to stipulation that a referent exists.

Secondly, reference is a communicative act. In the words of Lyons (1977, p. 180), it is “an utterance-dependent notion”. Accordingly, a distinction can be made between referential and non-referential uses or readings of linguistic items. For noun phras-

es, this distinction replaces the traditional distinction between “specific reference” and “non-specific reference”,⁵ which is bound up with a denotational approach to meaning in which reference is the basic property. In line with Lyons (1977, p. 188), for instance, we may characterize the two readings of *a heron* in (28) as, respectively, referential (28a) and non-referential (28b).

- (28) *Every evening at six o'clock a heron flies over the chalet.*
 a. ‘Every evening a particular heron flies over the chalet’.
 b. ‘Every evening some heron or other flies over the chalet’.
 Lyons (1977, p. 188)

While in the (a) reading of (28), *a heron* refers to a bird, in the (b) reading, it only evokes the concept of heron without hooking this concept on to an entity in the world (see also below).

Reference is thus basically a pragmatic notion. But like other communicative intentions, referential intent can be coded (i.e. conventionalized); cf. Searle (1984) on “derived intentionality”. We can therefore also talk about referential linguistic items, namely those that code referential intent, and non-referential items, namely those that do not code referential intent. The simplest cases of referential items are those that only code referential intent. For instance, place names like *Prut* and *Rhine* simply hook a label onto places. The cases that are relevant in the present context are more complex in that in addition to coding referential intent they also have conceptual content. For instance definite noun phrases like *the heron* both prompt a conceptual representation of ‘identifiable heron’ and refer to an entity (or, generically, to a class of entities; cf. footnote 5).

In a cognitive linguistic approach, the notion of reference introduced above can be modelled in terms of construal: referential intent can be modelled as a construal operation, and our cognitive capacity for reference can thus be understood as a capacity for construing concepts as representations of something in the (real or fictive) world, viz. referents. Based on this understanding, we may distinguish between concepts that are construed as referential and concepts that are not so construed. This distinction is illustrated in Figure 1. Thought bubbles symbolize the domain of cognition and concepts; the smiley symbolizes a concept, and the arrow symbolizes the construal of a concept as referential. The question marks outside the thought bubbles are intended to signify that whether concepts are construed as referential or not is independent of whether referents exist or not; as an intentional act, reference is independent of referents.

⁵ “Non-specific reference” is distinct from “generic reference”. On the view advocated here (which is inspired by Lyons 1977), what has traditionally been called “non-specific reference” is actually non-reference. Generic reference, in contrast, is a special case of reference in which a class or type of entities or masses is referred to, rather than one or a number of instances of the entities or masses.



Fig. 1: The distinction between a concept not construed as referential and a concept construed as referential (Boye 2012, p. 280)

The thought bubble to the left illustrates a concept not construed as referential. Here, the concept of a smiley is entertained without being a representation of something. In other words, the owner of the thought bubble simply entertains the idea of a smiley. In contrast, the thought bubble to the right illustrates a concept construed as referential. Here, the smiley concept is entertained as a representation of something in the (fictive or real) world. The owner of the thought bubble to the right is thinking about a specific referent smiley in the world.

In cognitive linguistics, as mentioned, meaning is conceptualization, or construal, and conceptualization can be prompted linguistically, including contextually. Accordingly, the referential item *the heron* and the referential (a) reading of *a heron* in (28) can be analyzed as prompting a concept of a heron and a construal of this concept as referential, i. e. as a conceptual representation of a heron in the world. This is illustrated by the right thought bubble in Figure 2. In contrast, the non-referential (b) reading of *a heron* in (28), and the bare, non-referential noun *heron*, can be analyzed as only prompting a concept of a heron, as illustrated in the left thought bubble.



Fig. 2: The distinction between a concept of a heron not construed as *referential* and a concept of a heron construed as *referential*

The contrast between Propositions and States-of-Affairs is modelled as a parallel of this distinction: Propositions prompt concepts construed as referential; States-of-Affairs prompt concepts construed as non-referential. What distinguishes Proposi-

tions and States-of-Affairs from other kinds of meanings is that they prompt a special kind of concept. Whereas the meaning of *a heron* prompts a concept of the kind that Langacker calls a “thing” – i. e. a product of conceptual grouping and reification – Propositions and States-of-Affairs prompt what Langacker calls a “process”. A process can be seen as the conceptual counterpart of a situation: a conception of a relationship sequentially scanned through time (e. g. Langacker 2007, p. 440).

The distinction between processes not construed as referential and processes construed as referential is illustrated in Figure 3. The only difference from Figure 1 and 2 is that the smiley and the heron have been replaced with a sequence in which a smiley turns happy. This sequence symbolizes a Langackerian process. Apart from this, Figure 3 is like Figure 1 and 2: thought bubbles symbolize the domain of cognition and concepts, the large arrow symbolizes the construal of a concept as referential, and the question marks outside the thought bubbles are intended to signify that whether concepts are construed as referential or not is independent of whether referents exist or not.

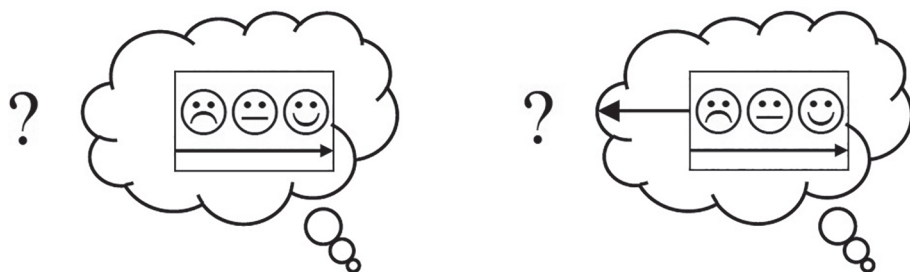


Fig. 3: The distinction between a process not construed as referential and a process construed as referential (Boye 2012, p. 281)

Propositions prompt conceptualizations of the kind illustrated to the right, whereas States-of-Affairs prompt conceptualizations of the kind illustrated to the left. Propositions and States-of-Affairs can be defined as follows, then.

Cognitive linguistic definition of Propositions

Propositions are meanings which prompt processes construed as referential.

Cognitive linguistic definition of States-of-Affairs

States-of-Affairs are meanings which prompt processes not construed as referential.

These definitions capture the intuitions about the contrasts between Propositions and States-of-Affairs discussed in Section 2. Consider, for instance, the contrast between the declarative in (29a) and the imperative in (29b). As discussed in Section 2.5, declaratives code Propositions, and imperatives States-of-Affairs.

- (29) a. *Johannes is leaving.*
 b. *Leave, Johannes!*

The intuitive similarity between (29a) and (29b) is that they describe approximately the same situation. This similarity is captured by analyzing both clauses as prompting approximately the same Langackerian process, viz. the sequentially scanned concept of ‘Johannes leaving’. The intuitive difference is that (29a) is a piece of information about a referent situation in the world, while (29b) describes an action to be carried out by Johannes. This difference is also captured by the definitions above. (29a) is a piece of information about a referent situation in the sense that the concept of ‘Johannes leaving’ is construed as having a referent, i. e. as being a representation of something. In contrast, (29b) simply prompts the concept of ‘Johannes leaving’, and adds the illocutionary element of directing Johannes to bring about an action described by this concept. If Johannes obeys, and does actually leave, a situation is brought about that might be seen as a referent of (29b). However, this is irrelevant for the linguistic analysis: Whether or not a referent situation exists at some point, (29b) does not refer and is thus not propositional. It is for this reason that (29b) does not allow of epistemic modification (see (18) above, and see Section 5.3 below for further discussion; cp. the discussion of perception-predicate complements in Boye 2018: Section 13.5).

Consider also the complement contrast in (30). As discussed in Section 2.2 (in connection with (5)), the complement in (30a) is propositional, while the complement in (30b) designates a State-of-Affairs.

- (30) a. *I forgot that she fixed it.*
 b. *I forgot to fix it.*

In (30a), accordingly, the speaker forgot a piece of information about a situation – a concept of ‘she fix it’ construed as referring to a situation in the past. In (30b), on the other hand, the speaker did not forget a piece of information. Rather, she forgot to bring about the action described by the concept of ‘fixing it’. Thus, the complement in (30b) is not a piece of information about an action that was forgotten; that is, it does not refer to such an action. Indeed, the whole point of (30b) is that the speaker forgot to bring about such an action.

To sum up, the model outlined above differs radically from traditional, denotational models. Propositions and States-of-Affairs are not understood as distinct types of denotable or referable entities, i. e. distinct types of potential referents. Rather, they are understood as differing exactly in terms of reference. They are different construals of Langackerian processes: Propositions prompt a construal of such processes as referential, whereas States-of-Affairs do not prompt referential construal.

A salient feature of the model is that Propositions are conceptually more complex than States-of-Affairs: Propositions are States-of-Affairs plus reference. This means that contrasts between Propositions and States-of-Affairs such as those discussed in Section 2 are conceptually privative: Propositions and States-of-Affairs are distinguished by the presence vs. absence, respectively, of reference.

5. Arguments in support of the cognitive linguistic model

This section presents eight arguments in support of the model outlined above, five of which are discussed also in Boye (2012, p. 282–291). Each of the eight arguments is discussed in one of the eight subsections below. Some of the arguments are rather theoretical (the arguments in Section 5.1, 5.2, 5.3 and 5.4); others are clearly empirical (the arguments in Section 5.5., 5.6., 5.7 and 5.8).

5.1 What it means to have a truth-value

The model embodies a compositional analysis of Propositions which includes a precise cognitive linguistic interpretation of what it means to have a truth-value. According to the model, Propositions are composed of a Langackerian process (which is, of course, complex itself) and reference. Of these two components, the latter does one of the two jobs that the notion of truth-value does in denotational approaches to Propositions: it links a linguistic and/or conceptual representation of the world to a referent situation in the world. However, “to refer” is not the same as “to have a truth-value”. As discussed in Section 4, noun phrase meanings can be referential, yet we would not say of the referential reading of *a heron* in (28a) that it is truth-valued. Only some meanings can have truth-value, namely those that represent what we can call “situations”: the truth-value of Propositions is checked against situations, not against things or properties. This means that the notion of truth-value not only links a representation to a referent, but also entails a specification of the type of meaning for which the notion of truth-value itself is relevant. In the model outlined above, this second job is done by the notion of “process”. A process is the type of concept that corresponds to the notion of a situation.

Thus, the model outlined above entails a decomposition of the notion of truth-value. To have truth-value is to refer, but only as far as Langackerian processes are concerned.

5.2 Referential construal as a meaning unit

The compositional analysis of Propositions embodied by the cognitive linguistic model enables a componential analysis of propositional expressions. As discussed above, Propositions are composed of a Langackerian process plus reference. These two meaning components are sometimes associated with distinct grammatical parts

of propositional constructions. For instance, in (11) and (12) – repeated here (partly modified) as (31) and (32) – the grammatical features that distinguish the propositional constructions (31a, 32a) from the State-of-Affairs designating ones (31b, 32b) are the infinitival markers (English *to*, Danish *at*). Since semantically, the distinguishing feature is reference, we can identify this feature as the meaning of the infinitival markers: the infinitival clauses in (31) and (32) prompt processes, while the infinitival markers in (31a) and (32a) prompt the construal of processes as referential.

(31) a. *I feel him to be growing rather hostile.*

b. *I heard Sally recite a poem yesterday.*

Dik/Hengeveld (1991, pp. 240, 241)

(32) a. *Nationalbanken ses at stå*

National.Bank.DEF see.PRS.PASS to stand.INF

for en ganske betydelig del af omsætningen.

for INDEF quite substantial part of trade.DEF

‘The National Bank is seen to probably be responsible for a quite substantial part of the trade’.

b. *Bjarne Riis ses stå*

Bjarne Riis see.PRS.PASS stand.INF

og snakke med Sarevok.

and chat.INF with Sarevok

‘Bjarne Riis is probably seen chatting with Sarevok’.

Danish; Boye (2010a, p. 398)

Consider also (33).

(33) a. *No-’ita-’e*

3REAL-see-3OBJ

[*kua no-kanalako te osimpu*].

COMP 3REAL-steal CORE young.coconut

‘She saw that he had stolen the coconut’.

b. *No-’ita-’e*

3REAL-see-3OBJ

[\emptyset *no-kanalako te osimpu*].

3REAL-steal CORE young.coconut

‘She saw him stealing the coconut’.

Tukang Besi; Donohue (1999, pp. 403–404)

(33) is similar to (7) above in that it displays a contrast between what has been called “indirect perception” (33a) and “direct perception” (33b), and like (7) it thus arguably involves a contrast between a propositional complement (33a) and a State-of-Affairs designating one (33b) (e. g. Dik/Hengeveld 1991). What distinguishes the two complements grammatically is the presence vs. absence, respectively, of the complementizer *kua*. As in the case of the infinitival markers in (31) and (32), *kua* can straightforwardly be analyzed as prompting a referential construal of a process which is prompted by the remainder of the complement clause.

5.3 A theoretical motivation for the criterion of propositional status

As discussed in Section 2, one criterion for identifying Propositions is that only Propositions can be evaluated epistemically or in terms of truth or falsity. The model outlined in Section 4 provides a theoretical motivation for this criterion. According to the model, only Propositions refer; that is, only Propositions establish a link between concepts and the situations in a (real or fictive) world of which these concepts can be representations. Truth, falsity and epistemic evaluation concern exactly this link between the world and our representation of it. Truth and falsity are evaluations of whether the link is tenable; epistemic evaluations concern the degree of certainty we have about the link (epistemic modality), or the information source on which the link is based (evidentiality) (see Boye 2012: Chapter 5 for further discussion). Because propositions refer, they are pieces of epistemic information about the world.

5.4 An account of why criteria of States-of-Affairs are unreliable

As mentioned in Section 2, one criterion for identifying States-of-Affairs is that only States-of-Affairs can be evaluated in terms of manner of occurrence. In Section 2.2, this criterion was used to identify State-of-Affairs designating complements. For instance, the fact that the complement of the (b) clause in (3) – repeated here as (34) – allows modification by means of the manner adverb *quickly* was given as an argument that this clause designates a State-of-Affairs. In contrast, the fact that that the complement in (34a) allows epistemic modification by means of *probably* was used as an argument that this complement is propositional.

- (34) a. *I told her that he had **probably** fixed it.*
 b. *I told her to fix it **quickly**.*

However, this criterion of States-of-Affairs does not always distinguish States-of-Affairs from Propositions. Whereas the State-of-Affairs designating complement

cannot be epistemically modified (35b), it is perfectly possible to modify also the propositional complement by means of *quickly* (35a).

- (35) a. *I told her that he had fixed it **quickly**.*
 b. **I told her to **probably** fix it.*

The cognitive linguistic model 4 entails an explanation why this is so. Propositions are modelled as States-of-Affairs (i. e. Langackerian processes) plus reference. This means that wherever there is a Proposition, there is also a State-of-Affairs. In turn, this means that State-of-Affairs modifiers like *quickly* can be expected in propositional constructions.

5.5 An iconic motivation for crosslinguistic grammatical asymmetries

Crosslinguistically, propositional constructions tend to be grammatically at least as complex as constructions designating States-of-Affairs. This tendency holds across at least three construction types.

First, declaratives and polar interrogatives tend to be at least as morphologically complex as imperatives in inflecting languages (König/Siemund 2007, pp. 303–304). As discussed in Section 2.5, declaratives and polar interrogatives are propositional, whereas imperatives code States-of-Affairs. Germanic languages may serve as examples of languages that conform to this tendency. Danish imperative verbs are characterized by the absence of the indicative marker that is obligatory in declaratives and polar interrogatives. The same thing goes for German 2nd person singular imperative verbs.

Secondly, propositional complements of perception predicates like those in (7a) and (33a) tend to be at least as morphologically complex as State-of-Affairs designating perception-predicate complements like those in (7b) and (33b) (Schüle 2000 and Boye 2010a – together covering 36 languages). An example of a language that conforms to this tendency is *Tukang Besi*. As discussed in Section 5.2, the two types of perception-predicate complements in this language are distinguished by the presence vs. absence of the complementizer *kua*. Crucially, presence of *kua* marks a complement as propositional, as illustrated in (33) above.

Thirdly, propositional complements of utterance predicates like those in (3a) and (4a) tend to be at least as morphologically complex as State-of-Affairs designating utterance-predicate complements. In a study of 90 languages, Sørensen/Boye (in prep.) found that for languages where this complement contrast is marked by complementizers, there is a strong tendency for propositional complements to have a complementizer if State-of-Affairs designating complements have one.

The cognitive linguistic model provides a motivation for this tendency in terms of iconicity of complexity. As mentioned, Propositions are modelled as conceptually more complex than States-of-Affairs. This higher degree of conceptual complexity iconically motivates the tendency for propositional constructions to be also grammatically more complex.

One can think of alternative ways of accounting for the tendency (see also Cristofaro 2003, pp. 238–239 for discussion). For one thing, one might speculate that the tendency is motivated by frequency differences (e.g. Haspelmath 2008): it is well-documented that frequent items tend to be less complex than non-frequent ones. Frequency can be ruled out, however. State-of-Affairs designating utterance complements are not more frequent than propositional ones (Sørensen/Boye in prep.). A better candidate for an explanation is so-called iconicity of cohesion (or perhaps rather what Croft (2008) calls “iconicity of independence”). State-of-Affairs designating complements may be semantically more integrated with their matrix clause than propositional complements. Unlike the propositional complement in (36a), for instance, the State-of-Affairs designating complement in (36b) shares an argument with its matrix clause.

- (36) a. *I told her that he had fixed it.*
 b. *I told her to fix it.*

Givón suggests that such argument sharing may motivate reduced complexity: “The more two events share their referents, the more likely they are to be construed as a single event” (Givón 2001b, p. 50). Even if this is so, however, this would only account for the tendencies concerning complement clauses, not for the tendencies concerning declaratives, interrogatives and imperatives.

Finally, the crosslinguistic tendencies for propositional constructions to be at least as grammatically complex as States-of-Affairs designating ones cannot be accounted for in a denotational approach to semantics which sees Propositions and States-of-Affairs as distinct types of denotable entities – not even if these entities were conceived as differing in terms of complexity. As Croft puts it, “[t]he intuition behind iconicity is that the structure of language reflects in some way *the structure of experience*” (Croft 2003, p. 102; emphasis added). That is, it reflects the structure of our cognitive representation of the world, not the structure of the denotable world itself.

5.6 A motivation for crosslinguistic ordering tendencies

It is well known that morphosyntactic relations may iconically reflect (and be motivated by) meaning relations (this is sometimes referred to as “diagrammatic iconicity”). For instance, ordering of linguistic items may reflect scope relations iconically

(e.g. Bybee 1985). The natural interpretation of both (37a) and (37b) is that the outermost adjective scopes semantically over the innermost one.

- (37) a. *frozen chopped spinach*
 b. *chopped frozen spinach*

Similarly, the translation of (38) indicates that the outermost verbal affix, epistemic *-chi*, scopes semantically over the innermost one, temporal *-tok*: the speaker is wondering about a past proposition.

- (38) *Pam-at tamaaha' iya-tok-chi.*
 Pam-NOM town go-PST-EPIST
 'I **wonder** if Pam **went** to town'.
 Choctaw; Broadwell (2006, p. 186)

It is also rather well-established that there is a strong crosslinguistic tendency for the ordering of predicate- and clause-modifiers. Epistemic markers tend to occur outside tense markers, and tense markers tend to occur outside aspect and root-modal markers – with respect to a common semantic and grammatical core, typically the predicate (Boye 2012; cf. Van Valin 1993; Cinque 1999; Julien 2002). This tendency is illustrated in (39), where “ $x < y$ ” is read “ x occurs inside y with respect to a common semantic and grammatical core”.⁶

Crosslinguistic tendency for ordering of predicate- and clause-modifiers

- (39) Aspect/Root-modality < Tense < Epistemic

(40)–(42) are examples of orderings that conform to the tendency in (39)

- (40) *Dusupi teyu-lo-la.*
 Dusupi fall-FUT-EPIST
 'Dusupi might fall'.
 Kamula; Routamaa (1994, p. 29)

- (41) *Mbwata ne i-mena.*
 EPIST FUT 3SG-come
 'He might come'/'Perhaps he'll come'.
 Sudest; Anderson and Ross (2002, p. 335)

⁶ (39) does not cover all types of modifiers. For instance, it excludes illocution markers. As discussed in Boye (2012, pp. 233–236), there is a strong crosslinguistic tendency for those to occur outside epistemic (and thus also tense, aspect and root-modal) markers.

- (42) *Ungasig-niru-laar-tsiar-ssa-qquur-qi-vuq.*
 be.far-more-a.little-somewhat-FUT-EPIST-INTSF-3SG.DECL
 ‘It will undoubtedly be somewhat further off’.
 Westgreenlandic; Fortescue (1980, p. 261–262)

The universal ordering tendency in (39) iconically mirrors a universal scope tendency (applying to all single-clause cases with a shared semantic and morphosyntactic core): epistemic meaning tends to scope over temporal meaning; temporal meaning tends to scope over aspectual and root-modal meaning. The orderings can thus arguably be accounted for as iconically motivated by the scope relations. But what motivates the scope relations?

One component of the answer is that Propositions and States-of-Affairs are associated with distinct semantic types of modifications. Propositions are associated with epistemic modifiers, as we have seen (this association is employed in the criterion of propositional status; cf. Section 2). States-of-Affairs are associated with manner modifiers, as we have seen, but also arguably with temporal, aspectual and root-modal modifiers (e.g. Dik 1997; cf. the link discussed in Section 2.3 between root modality and States-of-Affairs).

The cognitive linguistic model provides the other component of the answer. Propositions are modelled as States-of-Affairs plus reference. This means that Propositions scope over States-of-Affairs: the construal of a process as referential has a process in its scope.

Taken together, the relation between States-of-Affairs and Propositions, and the relations between these meaning units and different types of modification, are enough to motivate the above-mentioned scope hierarchy: the fact that Propositions scope over States-of-Affairs motivates the fact that propositional modifiers tend to scope over State-of-Affairs related modifiers (in simple clauses). As already mentioned, the latter fact in turn motivates the crosslinguistic ordering tendency given in (39) above.

Neither the ordering tendency nor the scope tendency can be straightforwardly accounted for in terms of the traditional, denotational view of Propositions and States-of-Affairs as distinct types of denotable entities. This is not to say that more traditional approaches cannot capture the ordering or scope tendencies. Krifka (this volume) captures ordering tendencies in terms of a distinction between syntactic layers in X-bar theory. He also links each of these syntactic layers to a distinct functional unit (for instance, the TP layer is linked to Propositions). However, he does not attempt to account for the syntactic layering (and thus ultimately the ordering tendencies) as motivated by the relationship between the functional units. Such an account would of course be at odds with a conception of syntactic structure as autonomous.

5.7 An account of a restriction on indirect speech acts

In Section 2.5, it was argued that (simple) assertions and polar questions involve Propositions, while (simple) directive speech acts involve only States-of-Affairs. It was also argued that declaratives code assertions, polar interrogatives code polar questions, and imperatives code directive illocutions. A status as coded (or, conventionalized) is what defines a direct speech act as opposed to an indirect one. Indirect speech acts are context dependent, and one might think that this means that they are not tied in any way to the direct speech acts on top of which they are performed. Accordingly, declaratives can be used to make assertions (as coded, direct speech acts or as indirect ones), polar questions (as indirect speech acts or as a result of prosodic enrichment), and directive speech acts (as indirect speech acts). Similarly, interrogatives can be used to make assertions (as indirect speech acts, i. e. rhetorical questions), polar questions (as coded, direct speech acts or as indirect ones) and directive speech acts (as indirect speech acts).

Similarly, imperatives can of course be used to make directive speech acts (as coded, direct speech acts or indirect ones). However, as pointed out by Sinclair/Coulthard (1975, p. 29), simple, monoclausal imperatives cannot be used to make assertions. Nor can they be used to make polar questions. For instance, one cannot use the simple imperative clause in (43) to make an assertion or a polar question.

(43) *Leave, Eigil!*

The cognitive linguistic model provides a straightforward account of why this is so (cf. Boye 2012, p. 195). According to the model, Propositions amount to States-of-Affairs plus reference. This entails that Propositions always involve States-of-Affairs. This in turn motivates the fact that declaratives and polar interrogatives can be used to make directive speech acts as indirect speech acts: directive speech acts require States-of-Affairs, and these are provided as part of the Propositions coded by declaratives and polar interrogatives.

According to the model, States-of-Affairs are not necessarily accompanied by Propositions, however. As argued, simple imperatives code States-of-Affairs only. This motivates the restrictions on the uses of imperatives in indirect speech acts: since simple imperatives are not propositional, they cannot be used to make assertions and polar questions, which require a proposition.

5.8 Reference in noun phrases and in clauses

As discussed in Section 4, the contrast between Propositions and States-of-Affairs is modelled as a parallel to the contrast between referential (“specific”) and non-referential (“non-specific”) noun phrases and noun phrase readings. The main difference

between Propositions and referential noun phrases is that Propositions prompt Langackerian processes, while referential noun phrases prompt Langackerian things.

Based on this semantic parallel, it can be predicted that we also find grammatical links between Propositions and referential noun phrases, and between States-of-Affairs and non-referential noun phrases. Such links are found in French relative-clause constructions like (23) and (24), and in similar constructions in other languages. (23) is repeated here as (44).

- (44) a. *Je cherche une maison qui*
 1SG search.IND.PRS.1SG INDEF house REL
a des volets rouges.
 have.IND.PRS.3SG ART shutter.PL red.PL
 ‘I am looking for a house which has red shutters’.
- b. *Je cherche une maison qui*
 1SG search.IND.PRS.1SG INDEF house REL
ait des volets rouges.
 have.SBJ.PRS.3SG ART shutter.PL red.PL
 ‘I am looking for a house which should have red shutters’.

French; modified from De Mulder (2010, p. 173)

As discussed in Section 2.6, the referential reading of *une maison* (‘a house’) is licensed by a propositional (indicative) relative clause (44a), while the non-referential reading is the only reading possible with a State-of-Affairs designating (subjunctive) relative clause (44b). The model outlined in Section 4 suggests a straightforward account of these links: the referential construal of *une maison* in (44a) is provided by the propositional relative clause.

Now, a referential reading may not be the only possible reading of a noun phrase with a propositional relative clause. Such a noun phrases may alternatively be read as non-referential (Galmiche 1983, pp. 69–71). This is well-established for Italian (e.g. Lepschy/ Lepschy 1988, p. 206). As discussed by Andersen (sbm.), the model outlined in Section 4 entails a straightforward account of this. Propositions are essentially modelled as States-of-Affairs plus reference. In other words, wherever there is a Proposition, there is also a State-of-Affairs. Thus, the non-referential reading of a noun phrase with a propositional (indicative) relative clause can be accounted for as a reading where attention is centered on the State-of-Affairs in the Proposition. In order to appreciate this argument, note that the opposite does not hold. According to the model, Propositions contain States-of-Affairs, but not vice versa. The model therefore correctly predicts that a noun phrases with a State-of-Affairs designating (subjunctive) relative clause cannot be read as referential, but only as non-referential.

This account raises the interesting question of how we should model noun phrases of the sort discussed in Section 2.7 which code Propositions or States-of-Affairs. A Langackerian approach would be to analyze them as designating processes reified as things. This would entail that the distinction between referential and non-referential is relevant at two levels, both at the process level and at the thing level.

In any case, there is no way the link between referentiality in noun phrases and clauses can be captured in a denotational approach which takes Propositions, States-of-Affairs and “first-order entities” like ‘house’ to be distinct kinds of denotable entities.

6. Summary

This paper first argued that the distinction between Propositions and States-of-Affairs is significant for understanding a number of salient linguistic contrasts, including contrasts between nominalizations, complement clauses, readings of modal infinitives, raising constructions, illocutions and moods, relative clauses, and nouns.

After a brief discussion of the traditional, denotational understanding of these contrasts, the paper subsequently outlined an alternative, cognitive linguistic model of the contrasts, and presented eight arguments for this model. According to the model, both Propositions and States-of-Affairs prompt Langackerian “processes”. They differ in that only Propositions prompt a construal of these processes as referential.

The eight arguments for the model are as follows. 1) The model provides a precise cognitive linguistic interpretation of what it means to have a truth-value. 2) It allows for a componential analysis of propositional expressions. 3) It provides a theoretical motivation for the criterion of propositional status according to which Propositions can be epistemically evaluated and evaluated in terms of truth and falsity. 4) It entails an explanation of why criteria of States-of-Affairs are not always reliable. 5) The model provides a motivation, in terms of iconicity of complexity, for a cross-linguistic tendency for propositional constructions to be at least as grammatically complex as State-of-Affairs designating constructions. 6) It embodies a motivation for crosslinguistic tendencies pertaining to the scope and ordering of clausal modifiers. 7) It gives a motivation for the fact that declaratives and polar interrogatives can be used to make directive speech acts as indirect speech acts, and for the fact that simple imperatives cannot be used to make assertions or polar questions as indirect speech acts. 8) It entails the correct prediction that there are grammatical links between Propositions and referential noun phrases, and between States-of-Affairs and non-referential noun phrases. Only few of these eight features of the model are shared with a traditional understanding of Propositions and States-of-Affairs as distinct types of denotable entities.

List of abbreviations

1 = first person; 2 = second person; 3 = third person; ART = article; COMP = complementizer; CORE = non-nominative core article; DECL = declarative; DEF = definite; EPIST = epistemic; F = feminine; FUT = future; IND = indicative; INDEF = indefinite; INF = infinitive; INTSF = intensifier; IPF = imparfait; NOM = nominative; OBJ = object; PASS = passive; PL = plural; PRS = present; PST = past; PTCP = participle; REAL = realis; REL = relativizer; SG = singular; SBJ = subjunctive.

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