On the semantics of *as* and *be*. A neo-Carlsonian account*

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1. Introduction

From a semanticist's point of view, the preposition *as* is a more or less redundant lexical item. While other prepositions have a clear idiosyncratic lexical meaning, *as* usually doesn't express anything beyond the relation of predication, cf. (1):

(1) a. As a skeptical person, John expressed doubts
b. We saw John as a soccer player

At some level of abstraction, (1a) contains the predication *John is a skeptical person* and (1b) *John is a soccer player*. Since NPs like *a skeptical person* or *a soccer player* are usually considered to be predicates at least in one of their readings, *as* does not make an obvious semantic contribution here.

Under certain analyses, the same can be said about the copula verb *be*. So the null theory about the semantics of these two lexical items is that—despite their syntactic differences—they are synonymous, both denoting the identity function over properties.

From this point of view, it comes as a surprise that copular predicates show a semantic behavior different from predicates of the form "*as* + NP".

In this paper, we will focus on three effects:

* Special thanks go to Reinhard Blutner, Regine Eckardt, Cornelia Endriss, Yael Sharvit and Werner Wolff for insightful suggestions concerning the semantics of *as* as well as for valuable comments on a previous version of this paper.

1.1. Perception reports

PPs headed by *as* may appear as embedded predicates in direct perception reports, while copular predicates are excluded there.

(2) a. We saw John as a soccer player
b. We saw John *be/*being a soccer player

Two things should be noted here. The deviance of (2b) cannot simply be attributed to syntax, since both naked infinitives and gerunds are generally admitted in the complement of verbs of perception. Second, in (2a), it is not just John who is the object of our perception, and who in turn is a soccer player. Rather, the sentence reports the perception of an abstract eventuality that supports the truth of "John is a soccer player". These things taken into account, (2) provides a genuine minimal pair that requires explanation. This contrast was presumably first noticed in Stump 1985. The analysis provided there is unsatisfactory though for several reasons that will be discussed below.

1.2. Individual guises

Individuals ought to be consistent. Your car, say, cannot be both expensive and inexpensive at the same time. So (3) is pragmatically deviant.

(3) Your car is expensive, and it is inexpensive

It is possible though to ascribe conflicting properties to one and the same individual if the predication is appropriately qualified:

(4) Compared with Bill's car, your car is expensive, but in comparison to Henry's car, it is inexpensive

Free *as*-adjuncts are a good way to supply this kind of qualification of a predication.

(5) a. As a toy your car is expensive, but as a car it is inexpensive
b. As a judge John is corrupt, but as a janitor he is not corrupt (after Landman 1989)

All these example are consistent. A possible analysis would be to say that individuals come in different guises and they may have different properties under different guises. Under this perspective, free *as*-adjuncts specify the guise of the (referent of) the subject of the main predication. Copular free adjuncts are unable to do so. The examples in (6) are inconsistent.

(6) a. Being a toy, your car is expensive, but being a car, it is inexpensive
b. Being a judge, John is corrupt, but being a janitor, he is not corrupt

1.3. Free adjuncts

Both *as* and *be* are licit as heads of free adjuncts in the sense of Stump 1985, cf.:

(7) a. As a semanticist, Mary is a linguist

b. Being a semanticist, Mary is a linguist

Stump noticed that the class of free adjuncts is divided into two subclasses. The crucial contrast is illustrated in (8) – (9) on the one hand and (10) – (11) on the other (taken from Stump 1985:41):

(8) a. Wearing that new outfit, Bill would fool everyone
b. If he wore that new outfit, Bill would fool everyone

(9) a. In first gear, the truck might reach the top of that hill
b. If it were in first gear, the truck might reach the top of that hill

Here the (b)-sentences are paraphrases of one of the readings of the (a)-sentences. Stump calls the adjuncts in these examples **weak**. They are to be contrasted to the following ones:

(10) a. Being a master of disguise, Bill would fool everyone
b. If he were a master of disguise, Bill would fool everyone

(11) a. Weighing only a few tons, the truck might reach the top of that hill
b. If it weighed only a few tons, the truck might reach the top of that hill

Here the (a)-sentences cannot be paraphrased by the (b)-sentences. These adjuncts Stump calls **strong**. Note though that both weak and strong adjuncts admit a reading that can be paraphrased with the help of *since*, so (12a) can mean (12b) and and (13a) is paraphrasable as (13b).

(12) a. In first gear, the truck might reach the top of that hill
b. Since it is in first gear, the truck might reach the top of that hill

(13) a. Weighing only a few tons, the truck might reach the top of that hill
b. Since it weighs only a few tons, the truck might reach the top of that hill

The observation that is crucial for our purposes is the fact that *be*-adjuncts are always strong while *as*-adjuncts are invariably weak. The next example is again Stump's (1985:86).

(14) a. Being a blonde, Mary might look something like Jane
b. As a blonde, Mary might look something like Jane
c. If she were a blonde, Mary might look something like Jane

In this case, the (b)-sentence but not the (a)-sentence can be paraphrased as in (c).

These observations conclude the initial survey of the issues that will be addressed in the paper. The plan is as follows: In section 2 we will briefly review Carlson's (1977) treatment of the perception report data. We will propose a modification of his theory that makes crucial use of a situation based ontology, that avoids some shortcomings Carlson's approach faces. In section 3 we will take up the issue of individual guises. We will argue that the effects sketched above arise out of a particular kind of presupposition accommodation and resolution of lexical underspecification. As background theory of presupposition accommodation, we will assume van der Sandt 1992. Section 4 puts the pieces from sections 2 and 3 together and presents a natural explanation of Stump's weak/strong contrasts. In the final section, we will summarize our findings and mention some issues for further research.

2. Stages and individuals, situations and worlds

2.1. Carlson's treatment of perceptual reports

Carlson (1977) proposes an ontology that is somewhat richer than what is assumed in standard model theoretic semantics. Like most semanticists, he assumes that there are "ordinary", total individuals that possibly change their properties but nevertheless keep their identity over time. These run-of-the-mill individuals are called "objects" by Carlson. Next to objects, he assumes a domain of "kinds" as independent entities. Objects and kinds jointly constitute the domain of "individuals". Finally, he considers a domain of partial objects that he calls "stages", i.e. temporally and locally restricted parts of individuals. For the purpose of our discussion, we can ignore kinds, so we may consider stages to be time slices of objects. Stages and individuals belong to disjoint domains; the connection between them is established by some predefined relation $\mathbf{R}$ that connects a stage to the individual it is a stage of. So the formula "$\mathbf{R}(a, b)$" is to be read as "stage a is a time slice of object b".

The sortal structure of the domain of individuals is inherited by higher order domains. In particular, Carlson distinguishes between properties of individuals and properties of stages. This distinction is reflected by the type structure of natural languages. Some predicates, so-called "Individual Level Predicates" (ILPs) denote properties of individuals, while "Stage Level Predicates" (SLPs) refer to properties of stages. Likewise, second order predicates may select only ILPs or only SLPs.
In Carlson's system, both types of predicates may occur in predicative constructions. NPs are always classified as ILP, and some APs belong into that class as well. Here are some examples of copular constructions with ILPs.

(15) John is a hero / the referee / intelligent / five feet tall

Adjectival SLPs are also admitted in copular constructions, as well as stage level PPs.

(16) John is drunk / naked / in South America

The distinction between ILPs and SLPs is crucial for Carlson's analysis of perceptual reports. He treats perception as a relation between stages rather than between individuals. So the sentence

(17) Sally saw Harry

expresses the fact that there are stages **s** of the individual Sally and **h** of the individual Harry such that **s** is in the seeing-relation to **h**. Since the names *Sally* and *Harry* are individual denoting terms though, the lexical entry for the verb *see* has to be adapted accordingly. Somewhat simplified (because we ignore the Montagovian lifting of objects to quantifiers), it will come out as in (18), where superscripts on the variables indicate their sort.

(18) $\lambda x^i \lambda y^i . \exists z^s \exists w^s (\mathbf{R}(z^s, x^i) \wedge \mathbf{R}(w^s, y^i) \wedge \textsc{see}(z^s, w^s))$

Here *see* is a simple transitive verb. Infinitive embedding *see* is treated similar. A sentence like

(19) Sally saw Harry walk

will receive a similar analysis, with the single complication that the infinite VP is interpreted as a property of the perceived entity. So its semantic representation is

(20) $\exists x^s \exists y^s(\mathbf{R}(x^s, \text{S}) \wedge \mathbf{R}(y^s, \text{H}) \wedge \text{SEE}(x^s, y^s) \wedge \text{WALK}(y^s))$

Accordingly, the lexical semantics of infinitive embedding *see* is

(21) $\lambda x^i \lambda P^s \lambda y^i . \exists z^s \exists w^s(\mathbf{R}(z^s, x^i) \wedge \mathbf{R}(w^s, y^i) \wedge \text{SEE}(z^s, w^s) \wedge P(w^s))$

Note that the infinite VP is predicated over the perceived entity, i.e. a stage. Thus only SLPs are licit here. Hence the complement of perceptual reports is a key diagnostic to distinguish SLPs from ILPs.

Perhaps surprisingly, it indicates that all copular predicates are ILP, no matter whether the predicative phrase is SLP or ILP.

(22) *Gulia saw Gulio be a hero / the referee / intelligent / drunk / in South America

The consequences of this observation for Carlson's system are these:

- There are two homonymous copulas embedding ILPs and SLPs respectively, but
- the result of composing either copula with its complement is an ILP.

The ILP embedding copula does not make any semantic contribution, so it can be considered the identity function over individual level properties (even though Carlson treats it syncategorematically). It is given in (23a). The other copula performs a sortal shift from an SLP to an ILP. Its semantics is given in (23b).

(23) a. $\lambda P^i . P^i$
b. $\lambda P^s \lambda x^i . \exists y^s(\mathbf{R}(y^s, x^i) \wedge P^s(y^s))$

If we accept perceptual reports as diagnostic, the preposition *as* is the exact converse of the second version of the copula. Since it is subcategorized for type NP, its complement is always ILP. The resulting PP, however, is generally SLP.

(24) Gulia saw Gulio as a hero / the referee

So within Carlson's overall framework, the obvious candidate for the lexical semantics of *as* is Stump's (25):

(25) $\lambda P^i \lambda x^s . \exists y^i(\mathbf{R}(x^s, y^i) \wedge P^i(y^i))$

Carlson's general approach has been criticized by several authors, mainly for certain shortcomings concerning its treatment of genericity. These issues are of minor importance here. However, the approach to the semantics of perceptual verbs is not completely satisfactory either. The idea of treating the infinite VP in naked infinitive construction as a secondary predicate of the perceived object has been criticized by Barwise (1981) in general, and his arguments apply here too. This can be illustrated by a scenario that Davidson used in a different context (Davidson 1969). Imagine a metal sphere rotating and simultaneously heating. Suppose you see this sphere and its movement, but the change in temperature has no visible effect. Then the following sentence would be true:

(26) You see the sphere rotate, but you don't see it heat

However, in the described scenario, every rotating stage of the sphere is also a heating stage. So Carlson's semantics would predict the sentence to be false.

There are certain aspects of Carlson's approach though that are intuitively enlightening and deserve to be maintained even though the theory as such needs to be revised. First of all, it is a striking advantage of his theory that it gives a principled explanation of copula effects to start with. These effects would seem entirely mysterious if the SLP/ILP distinction could be reduced to temporal properties or argument structure.

Our own proposal will preserve the following features of Carlson's theory:

- The unacceptability of the examples in (22) results from a semantic type mismatch rather than from syntactic constraint violations.
- Objects of perception are partial objects.
- Copular constructions express properties of total objects, while *as*-PPs denote properties of partial objects.
- Therefore *as*-phrases, but not *be*-phrases are acceptable in perceptual reports.

These Carlsonian (and to some degree Stumpian) ideas will be combined with a more recent approach to the semantics of perceptual reports, where objects of perception are assumed to be eventualities rather than stages.

2.2. Worlds and situations

Barwise (1981) presents a thorough examination of the syntax and semantics of perceptual reports involving naked infinitives. He comes to the conclusion that a sentence like (27a) should be analyzed as a paraphrase of (27b).

(27) a. John saw Harry walk
b. There is a scene s such that Harry walked in s and John saw s

Barwise's scenes are, in a sense, small or partial objects, i.e. they are part of the world and can be localized both locally and temporally. This makes them plausible candidates for objects of perception. Also, they share these properties with Carlson's stages. If we want to maintain Carlson's insight that the ungrammaticality of copular constructions in the complement of verbs of perception is due to a partiality/totality mismatch, we have to look for total counterparts of (partial) scenes/situations. Possible worlds are obvious candidates. However, Barwise's ontology does not consider possible worlds as eventualities, total or not. He assumes that there is only one possible world—the real world—that is too large (in a set theoretic sense) to be a situation. So to carry through our neo-Carlsonian program, we have to work in an ontological framework that maintains the basic ingredients of his analysis while allowing co-existence of worlds and situations. Kratzer's (1989) version of situation theory provides a good starting point. Modifying her proposal slightly, our ontology contains the following basic ingredients (cf. Kratzer 1989:614):

S a set, the set of *possible situations*

A a set, the set of *possible individuals*

$\leq$ a *partial ordering* on $S \cup A$ such that at least the following conditions are satisfied:

(i) For no $s \in S$ is there an $a \in A$ such that $s \leq a$

(ii) For all $s \in S \cup A$ there is a unique $s' \in S$ such that $s \leq s'$ and for all $s'' \in S$: if $s' \leq s''$, then $s'' = s'$.

$\mathcal{P}(S)$ the power set of S, the set of *propositions*

W a subset of S, the set of maximal elements with respect to $\leq$. W is the set of *possible worlds*.

Kratzer does not discuss the issue of localizability of situations in space and time, but these aspects can easily be accommodated. Staying close to a Davidsonian intuition, we may extend the ontology with

T a set, the *set of time intervals* that is partially ordered by $\subseteq_T$ (inclusion) and $\leq_T$ (precedence).

L a subset of A, the set of locations

τ a partial function from S to T (temporal location) such that the domain of τ is disjoint from W and $\tau(s) \not\subseteq_T \tau(s')$ entails $s \not\leq s'$

l a partial function from S to L (location in space) such that the domain of l is disjoint from W

In words, situation may, but need not be located in space and time. For certain situations, like those that support the truth of mathematical statements, such a location does not make intuitive sense. Possible worlds are generally considered to be too large to be located either in space or in time.

Temporal location together with the partial order $\leq$ on situations induce a derived partial order:

$$s \sqsubseteq s' \text{ iff } \tau(s) = \tau(s') \text{ and } s \leq s'$$

This ordering relates those situations that take place in the same world at the same time. We postulate that for any s in the domain of τ, there is a unique s' such that $s \sqsubseteq s'$ and for all s'', if $s' \sqsubseteq s''$ then $s' = s''$. Thus we define the domain

WT the set of *world-time slices*, the set of maximal elements with respect to $\sqsubseteq$

WS the set of *world size situation*, i.e. the set $\{w | \exists w' \in WT : w' \leq w\}$

Note that the world-time slices are big insofar as they contain everything that is the case in their world in a given interval of time, but they are small insofar as they are in the domain of τ. Still, they are too big to be in the domain of l, and—central for our purposes—they are too big to be objects of perception. World size situations are at least as big as world time slices, so they are generally too big for perception too.

With this ontological background, we are ready to formulate the neo-Carlsonian premises of our approach to the semantics of perception reports:

- Perception is a relation between an individual and a small situation, i.e. a situation that is in the domain of both l and τ
- Copular constructions express propositions that are true only in big situations, i.e. in world size situations.
- The propositions expressed by small clauses headed by *as* may be true in small situations.

It is imperative to admit that (the propositions expressed by) copular constructions may be true in world-time slices and not just in worlds, since copular constructions are compatible with frequency adverbials:

(28) John was a referee several times

As a first step towards a compositional development, the *be*-predicate *be a soccer fan* and the PP *as a soccer fan* should be interpreted roughly as follows:

(29) a. be a soccer fan $\Rightarrow$ $\lambda x \lambda w.w \in WS \wedge x$ is a soccer fan in w
b. as a soccer fan $\Rightarrow$ $\lambda x \lambda s.x$ is a soccer fan in s

Next it has to be decided which predicate is more basic. In other words, the predicative NP *a soccer fan* certainly supplies an eventuality argument (that originates from the property *soccer fan*, which is a relation between individuals and eventualities, like every property). The question is whether or not the eventuality argument of the NP ranges over elements of WS. In the first case, *as* would somehow neutralize this sortal information; otherwise *be* has to be assumed to supply it. We opt for the second version, for two reasons. First, meaning composition is most naturally viewed as a monotonic process where information is composed and not destroyed. Only the second variant follows this strategy. Second, in the situation semantic literature, it is commonly assumed that every NP comes with its own situation which might be different both from the described situation and the utterance situation. Given this, the semantic contribution of *as* is twofold. First it performs a type lowering from the generalized quantifier type of its NP argument to the type property of the entire PP. Second it makes the situation argument of the complement NP—which we assume to be existentially bound by default—syntactically accessible.

For the purpose of formalization, we chose a compositional version of Discourse Representation Theory (cf. Kamp 1981), following suggestions developed in Asher 1993 and Zeevat (1989). There the NP *a soccer fan* will receive the translation[1]

(30) a soccer fan $\Rightarrow$ $\lambda P \lambda s.[x, s' | \textsc{soccerfan}(s', x), P(s, x)]$

So the lexical meaning of *as* comes out as (31a), which combines with *a soccer fan* to an expression that is equivalent to (31b).[2]

(31) a. as $\Rightarrow$ $\lambda T \lambda y \lambda s''.T(s, \lambda z \lambda s'''.[|z = y, s'' = s'])$
b. as a soccer fan $\Rightarrow$ $\lambda x \lambda s.[|\textsc{soccerfan}(s, x)]$

[1] The translation into customary box notation should be obvious.

[2] As the careful reader might notice, the reduction apparently involves an illicit λ-conversion that moves a free occurrence of s' into a position where it is existentially bound. This operation, called "existential disclosure" in the literature, is possible though in dynamic semantics.

As for the copula, we follow Partee (1986) in the assumption that *be* always applies to a property. NP predicatives are lowered from generalized quantifier type to property type by means of a phonetically empty type shifting operator *BE*. The semantics of *BE* is identical to the semantics of *as* given above. The copula itself only performs a sortal shift from unrestricted situations to world size situations. So its lexical semantics is

(32) a. be $\Rightarrow\ \lambda P\lambda x\lambda w.[s|P(s,x), w \in WS, s \sqsubseteq w]$
b. be a soccer fan $\Rightarrow\ \lambda x\lambda w.[s|\textsc{soccerfan}(s,x), w \in WS, s \sqsubseteq w]$

Note the similarity between this proposal for the semantics of the copula and Carlson's SLP embedding copula. The main difference is the fact that now the eventuality argument rather than the subject argument is shifted from a partial to a total sort.

The final piece that is to be supplied is the semantics of perceptual verbs like *see*. As mentioned above, objects of perception are small situations, i.e. they must not be members of WS. So we arrive at the lexical entry

(33) see $\Rightarrow\ \lambda P\lambda T\lambda x\lambda s.[s'|T(s',P), s' \notin WS, \textsc{see}(s,x,s')]$

After a series of λ-conversions and simplifications, we arrive at the following DRSs for the minimal pair *John saw Harry* {*as/be*} *a soccer fan*:

(34) a. John saw Harry as a soccer fan $\Rightarrow$
$[x,y,s,s'|\textsc{john}(x), \textsc{harry}(y), \textsc{soccerfan}(s,y), s \notin WS, \textsc{see}(s',x,s)]$
b. John saw Harry be a soccer fan $\Rightarrow$
$[x,y,s,s',w|\textsc{john}(x), \textsc{harry}(y), \textsc{soccerfan}(s,y), w \notin WS, w \in WS, s \sqsubseteq w, \textsc{see}(s',x,w)]$

Obviously, a copular predicate in a perceptual report results in a contradiction since the perceived situation is required to be big and small simultaneously. This results in unacceptability.

Let us summarize the explanation of the copula effects in perceptual reports that was developed in this section. The key assumptions are the following:

- We distinguish between big (i.e. world size) and small (i.e. localizable) situations. Only small situations can be perceived.
- NP predicatives supply a situation argument of unspecified size.
- The preposition *as* leaves the size of the situation argument unspecified, so the result is consistent with the requirement of the matrix verb that the perceived situation be small.
- The copula *be* absorbs the situation argument from the predicative and returns a world size eventuality argument instead. This results in a conflict with the requirements imposed by the matrix verb.

3. Guises vs. presuppositions

In this section we are concerned with constructions like Landman's (1989) (35a). We agree with Fox (1993) that this adnominal use of *as*-phrases can be paraphrased by (one reading of) an adverbial use as in (35b), and we will thus not systematically distinguish between these two kinds of adjuncts.

(35) a. John as a judge is corrupt
b. As a judge, John is corrupt

As-adjuncts display an inferential behavior that is peculiar for presuppositions. They give rise to entailments (illustrated in (36a)), these entailments project out of embedded contexts (as in (36b,c)), but projection can easily be blocked if it would result in inconsistency (cf. (36d)).

(36) a. John as a judge is corrupt $\rightsquigarrow$ John is a judge
b. If John as a judge is corrupt, he is a friend of the Mafia $\rightsquigarrow$ John is a judge
c. It is not the case that John as a judge is corrupt $\rightsquigarrow$ John is a judge
d. It is not the case that John as a judge is corrupt since he is not a judge $\not\rightsquigarrow$ John is a judge

We conclude that the kind of *as*-adjuncts we are concerned with are presupposition triggers. An adequate treatment of their interpretation thus requires a theory of presuppositions in general.

3.1. Presuppositions in DRT: van der Sandt 1992

In his seminal article van der Sandt 1992, Rob van der Sandt proposes a unification of the seemingly unrelated phenomena of anaphora and presupposition. He uses Kamp's Discourse Representation Theory as background theory. The treatment of anaphora in this framework is well-understood. Taking this as a starting point, he extends DRT with presuppositions. Presuppositions are treated as a kind of complex anaphors, and binding of presuppositions is completely analogous to anaphora binding. However, presuppositions admit a last resort resolution strategy that is applicable if binding fails, namely accommodation. Van der Sandt demonstrates that presupposition accommodation can be incorporated into his DRT-framework in a natural way. So perspectives might be switched; in this theory, anaphors are a special kind of presupposition that are special only because they do not accommodate.

Rather than going through the formal details of van der Sandt's theory, we will illustrate how it works with a few key examples. Before we do that, some words about the meta-theoretical status of presuppositions are in order though. Up to now, we have treated DRT as something analogous to Intensional Logic in Montague Grammar, i.e. a convenient level of representation that can in principle be dispensed with, thus being compatible with a strategy of direct compositional interpretation. This is at odds with van der Sandt's intentions, since there DRSs are a crucial syntactic level of representation that is indispensable for the treatment of presuppositions. Only complete DRSs without unresolved presuppositions can be interpreted.

Since the issue of compositionality is orthogonal to the problems discussed in this paper, we will not go any further into this problem. Disciples of orthodox DRT may view the use of λ-conversion as a cumbersome DRS construction algorithm without semantic impact.

Having said this, we can start with practical work. While in standard DRT a DRS consists of two components—the discourse markers and the DRS conditions—in van der

Sandt's extension they have a third component, their anaphoric part. Technically speaking this is a (possibly empty) set of DRSs. So the translation of (37a), a sentence without any presupposition triggers, is (37b). We adopt the convention of separating the DRS conditions from the anaphoric part with a slash. If the anaphoric part is empty, we will omit it, so the abbreviated representation of (a) is (c).

(37) a. A man entered
b. $[x|\text{MAN}(x), \text{ENTER}(x)/\emptyset]$
c. $[x|\text{MAN}(x), \text{ENTER}(x)]$

Next we consider a case of presupposition binding. Let us assume that a definite description induces an existence presupposition, but no uniqueness presupposition. Then the discourse in (38a) will receive the initial representation (38b).

(38) a. A man entered. The man whistled.
b. $[x|\text{MAN}(x), \text{ENTER}(x), \text{WHISTLE}(y)/\{[y|\text{MAN}(y)]\}]$

Binding a presupposition amounts to finding a mapping of discourse markers in the universe of the presupposition to accessible discourse markers that transforms the DRS conditions inside the presupposition into something which is subsumed by the embedding DRS. In the example, mapping y to x would fulfill this requirement since the presupposed condition $\text{MAN}(y)$ is transformed to $\text{MAN}(x)$ under this mapping, and this condition is part of the embedding context. All occurrences of the presupposed discourse marker are replaced by their image under this mapping. So presupposition binding is a transformation on DRSs that would transform (38b) to (39).

(39) $[x|\text{MAN}(x), \text{ENTER}(x), \text{WHISTLE}(x)]$

Note that this operation (as well as accommodation) is only defined if the anaphoric part of the presupposition is empty. So if a presupposition embeds another presupposition, resolution has to work inside out, starting with the most deeply embedded presupposition. Pronominal anaphors are analyzed as degenerate presuppositions that consist only of a discourse marker (plus, possibly, some sortal information about number and gender). So the classical (40a) will be represented as (40b), which, after binding, becomes (40c).

(40) a. A man walks. He whistles
b. $[x|\text{MAN}(x), \text{WALK}(x), \text{WHISTLE}(y)/\{[y|\,]\}]$
c. $[x|\text{MAN}(x), \text{WALK}(x), \text{WHISTLE}(x)]$

In many cases, a presupposition does not find an appropriate binder. *Presupposition accommodation* is a repair strategy that renders such a discourse interpretable. In the present system, the implementation of this idea is extremely simple: we simply add the presupposition to some DRS that is accessible from the original site of the presupposition. Adding a DRS K to a DRS K' is defined component-wise: Add the discourse referents of K to the universe of K' and the DRS conditions of K to the conditions of K'. The anaphoric part of K must be empty for accommodation to be defined. Since in the general case, there may be several potential accommodation sites accessible for a presupposition, this process is non-deterministic. To take a simple example, (41a) receives the initial representation (41b). Since binding is impossible here, accommodation is called for. Each of (41c,d,e) are candidates for the final representation.

(41) a. If Mary becomes a member, the president will resign
b. $[x|\textsc{mary}(x), [|\textsc{become\_member}(x)] \Rightarrow$
$[|\textsc{will\_resign}(y)/\{[y|\textsc{president}(y)]\}]]$
c. $[x|\textsc{mary}(x), [|\textsc{become\_member}(x)] \Rightarrow$
$[y|\textsc{will\_resign}(y), \textsc{president}(y)]]$
d. $[x|\textsc{mary}(x), [y|\textsc{president}(y), \textsc{become\_member}(x)] \Rightarrow$
$[|\textsc{will\_resign}(y)]]$
e. $[x, y|\textsc{president}(y), \textsc{mary}(x), [|\textsc{become\_member}(x)] \Rightarrow$
$[|\textsc{will\_resign}(y)]]$

These three options are traditionally called local, intermediate, and global accommodation respectively. Van der Sandt assumes a preference for "high" accommodation. So in the example, (41d) is correctly predicted to represent the preferred interpretation. However, if a presupposition contains a discourse marker that is bound from outside, accommodation must not lead to unbinding of that discourse marker. The next example illustrates this.

(42) a. If Mary becomes a member of a club, its president will resign
b. $[x|\textsc{mary}(x), [y|\textsc{club}(y), \textsc{become\_member}(x, y)] \Rightarrow$
$[|\textsc{will\_resign}(z)/\{[z|\textsc{president}(z, w)/\{[w|\,]\}]\}]]$
c. $[x|\textsc{mary}(x), [y|\textsc{club}(y), \textsc{become\_member}(x, y)] \Rightarrow$
$[z|\textsc{will\_resign}(z), \textsc{president}(z, y)]]$
d. $[x|\textsc{mary}(x), [y, z|\textsc{president}(z, y), \textsc{club}(y), \textsc{become\_member}(x, y)] \Rightarrow$
$[|\textsc{will\_resign}(z)]]$
e. $[x, z|\textsc{president}(z, \underline{y}), \textsc{mary}(x), [y|\textsc{club}(y), \textsc{become\_member}(x, y)] \Rightarrow$
$[|\textsc{will\_resign}(z)]]$

In (42e), i.e. under global accommodation, the underlined occurrence of the discourse marker "y" is not bound. Thus this reading is excluded. Only (c) and (d) are good candidates for accommodation. Since the accommodation site in (d) is higher than in (c), intermediate accommodation wins here.

3.2. *As*, *be*, and what they presuppose

After having set the stage, we can start to look at the anaphoric aspects of the adjunct constructions we are interested in. First a pragmatic stipulation: we assume that our discourse representation at the beginning of a discourse is never completely empty. There will always be at least an evaluation index w_0 which is known to be world sized. More formally, our initial DRS will be at least $[w_0|w_0 \in WS]$. Next, we assume that the information $w \in WS$ that occurs in the lexical entry of the copula in (32a) should be considered a presupposition. Furthermore we stipulate that the situation argument of a sentence is filled with an anaphoric situation anaphor after semantic composition is completed. So the initial representation of (43a) is (43b), which after merging with the default context leads to (43c) via presupposition resolution.

(43) a. John is a judge
b. $[s, x|\textsc{john}(x), \textsc{judge}(s, x), s \sqsubseteq w/\{[|w \in WS], [w|\,]\}]$
c. $[w_0, s, x|w_0 \in WS, \textsc{john}(x), \textsc{judge}(s, x), s \sqsubseteq w_0]$

Furthermore we assume that the adjuncts that are discussed in this paper are generally frame setting in the sense of Maienborn 1998. We adopt two crucial features of Maienborn's analysis here. First, Maienborn assumes that frame setting adjuncts are topical. While a discussion of topic/comment structure lies outside the scope of this paper, it is certainly congenial to Maienborn to assume that topical material is old material, i.e. presupposed. Second, Maienborn suggests that the eventuality argument of frame setting adjuncts is freely supplied by pragmatics. Translated into the current framework, this means that the situation argument of these adjuncts is filled by a situation anaphor. Under these assumptions, (44a) is translated as (44b) and thus interpreted either as (44c) or (d). (Since both are logically equivalent under the proviso that JUDGE and CORRUPT are persistent predicates, we do not have to chose between them).

(44) a. John as a judge is corrupt
b. $[s, x|\text{JOHN}(x), \text{CORRUPT}(s, x), s \sqsubseteq w/\{[|w \in WS], [w|\ ], [|\text{JUDGE}(s', x), [s'|\ ]\}]]$
c. $[w_0, s, x|w_0 \in WS, \text{JOHN}(x), \text{CORRUPT}(s, x), s \sqsubseteq w_0, \text{JUDGE}(w_0, x)]$
d. $[w_0, s, x|w_0 \in WS, \text{JOHN}(x), \text{CORRUPT}(s, x), s \sqsubseteq w_0, \text{JUDGE}(s, x)]$

3.3. Consistency and underspecification

The really interesting point about *as*-headed adjuncts is the fact that they render else inconsistent statements consistent. We repeat the example Landman (1989) uses to illustrate this effect:

(45) John as a judge is corrupt, but John as a janitor is not corrupt

According to the semantics of *as* developed so far, this will still come out as a contradiction. However, a closer examination of the example reveals that it does not involve two contradictory properties in any way. As Bartsch (1987) points out, the *as*-PPs supply values for underspecified parameters of the main predicate. So (45) can be paraphrased as

(46) John is a corrupt judge, and he is a janitor, but he is not a corrupt janitor

This sentence is perfectly consistent. If Bartsch's suggestion points into the right direction, we expect that the consistency effect disappears if the main predicate is not underspecified in a way that could be resolved by the *as*-phrase. This is in fact born out.

(47) John as a student was exactly 6 feet tall yesterday at noon, but as an athlete he was exactly 5 feet tall at that time

This sentence is in fact inconsistent.

So the picture that arises is the following: Contrary to what Landman suggests, the interpretation of the subject in a sentence like

(48) John as a judge is corrupt

is entirely standard and classical; the sentence is a statement about the individual John, and this individual is absolutely consistent. There is no need for an ontology of "individuals

under guises". Rather, *as*-phrases play a role in the process of the resolution of underspecification. The consistency effects are a pure side effect of this. What has to be clarified is how exactly syntax, semantics and pragmatics interact to bring about this effect.

Bartsch (1987) suggests to bake the underspecification resolving function of *as*-phrases right into the syntax-semantics interface. Such an approach strikes me unattractive for two reasons. First, *as*-phrases have other functions as well, as the discussion in the other sections of this article demonstrates. Ideally, one approach should cover as many usages as possible. Second, the effect under discussion is defeasible. If the context supplies a better value for the underspecified parameter of the main predicate, the *as*-phrase may be turned into an ordinary presupposition. This is illustrated in (49).

(49) John is a highly creative researcher. Even as dean he was creative.

In the preferred reading, the second sentence entails that John was a creative researcher, not that he was a creative dean. Since this kind of non-monotonicity is characteristic of pragmatics rather than for the "hard-wired" syntax-semantic interface, a pragmatic approach has some initial plausibility.

To be somewhat more specific, we believe that the underspecification resolving effect of *as*-adjuncts is just a side effect of their presuppositional nature. In other words, in the examples in question two dimensions of underspecification are involved: unresolved presuppositions and underspecified parameters originating from lexical semantics. Along both dimensions, resolution candidates are ranked by certain pragmatic preference measures. Van der Sandt's principles "Binding is better than accommodation" and "Accommodate as high as possible" are some, but not all aspects that play a role here. Crucially, we assume that resolution alternatives along both dimensions of underspecification wind up being in the same reference set. In other words, resolution candidates that differ only in the choice of a lexical parameter might be ranked differently because one requires presupposition accommodation while the other can do with presupposition binding.

How is lexical underspecification to be handled in the van der Sandt style version of DRT? We suggest that the sentence (50a) is equivalent to (50b) at some level of representation, where "$\mathbf{P}$" is an underspecified parameter. Formally, we treat parameters as constants, so resolution comes down to a choice between models that map parameters to different denotations.

(50) a. John is corrupt
b. John is a corrupt $\mathbf{P}$

However, the choice of a value for $\mathbf{P}$ is not entirely free; it has to be supplied by the context. This means that $\mathbf{P}$ is anaphoric in a sense. In van der Sandt's framework, this amounts to saying that John's being $\mathbf{P}$ is presupposed. So an adequate representation of (50a) would be (51).[3] Here the third argument of the predicate CORRUPT indicates the dimension of corruption.

(51) $[w_0, x, s | w_0 \in WS, \textsc{john}(x), \textsc{corrupt}(s, x, \mathbf{P}), s \sqsubseteq w_0 / \{[|\mathbf{P}(s, x)]\}]$

[3] For better readability, we preprocess the presuppositions concerning the eventuality argument.

So we assume that the sentence presupposes John's being $\mathbf{P}$, and furthermore we assume that John's being $\mathbf{P}$ and John's being corrupt as a $\mathbf{P}$ are inseparable, i.e. they are true in the very same situation s. Without further contextual information, this presupposition is locally accommodated, so the final interpretation is (52) as far as sentence grammar is concerned. The value for $\mathbf{P}$ has to be supplied by extra-sentential information.

(52) $[w_0, x, s | w_0 \in WS, \textsc{john}(x), \textsc{corrupt}(s, x, \mathbf{P}), s \sqsubseteq w_0, \mathbf{P}(s, x)]$

Now reconsider the critical (53a), which receives the initial representation (53b).

(53) a. John as a judge is corrupt
b. $[w_0, x, s_1 | w_0 \in WS, \textsc{john}(x), \textsc{corrupt}(s_1, x, \mathbf{P}), s_1 \sqsubseteq w_0 /$
$\{[|\mathbf{P}(s_1, x)], [|\textsc{judge}(s_2, x)], [s_2| \,]\}]$

Now we have to consider three options.

1. $\mathbf{P}$ receives some contextual value different from JUDGE. Then the remaining presupposition does not find an antecedent and is thus accommodated, yielding the representation (54a) or (b), (depending on whether s_2 is bound to w_0 or s_1).

(54) a. $[w_0, x, s_1 | w_0 \in WS, \textsc{john}(x), \textsc{corrupt}(s_1, x, \mathbf{P}), s_1 \sqsubseteq w_0, \textsc{judge}(w_0, x),$
$\mathbf{P}(s_1, x)]$
b. $[w_0, x, s_1 | w_0 \in WS, \textsc{john}(x), \textsc{corrupt}(s_1, x, \mathbf{P}), s_1 \sqsubseteq w_0, \textsc{judge}(s_1, x),$
$\mathbf{P}(s_1, x)]$

2. $\mathbf{P}$ is instantiated as JUDGE and s_2 is bound to w_0. The two remaining presuppositions have identical descriptive content. Still they must be accommodated separately since their situation index is different, yielding

(55) $[w_0, x, s_1 | w_0 \in WS, \textsc{john}(x), \textsc{corrupt}(s_1, x, \textsc{judge}), s_1 \sqsubseteq w_0, \textsc{judge}(s_1, x),$
$\textsc{judge}(w_0, x)]$

3. $\mathbf{P}$ is instantiated as JUDGE and s_2 is bound to s_1. These resolution steps give us (56). Now the presupposition triggered by *corrupt* can be **bound** (to the presupposition triggered by the *as*-phrase), so one accommodation step can be avoided. This results in the resolved DRS

(56) $[w_0, x, s_1 | w_0 \in WS, \textsc{john}(x), \textsc{corrupt}(s_1, x, \textsc{judge}), s_1 \sqsubseteq w_0, \textsc{judge}(s_1, x)]$

Crucially, the first two options have to take resort to presupposition *accommodation*, while the third option can do with presupposition *binding*. Since binding is *ceteris paribus* preferred over accommodation, instantiating $\mathbf{P}$ with JUDGE is preferred over any other instantiation. Generally, taking the value for a presupposed underspecified parameter from another presupposition saves one accommodation step and is thus preferred. Of course this preference ordering is defeasible; if another instantiation of $\mathbf{P}$ leads to a configuration where binding is also possible (as in (49)), such a reading would not be blocked.

To sum up so far, our explanation of the consistency effects runs as follows:

- In the critical examples, the main predicate (like *corrupt*) is underspecified; it contains an open parameter for a property.

- It is presupposed that this unspecified property holds of the subject.
- *As*-adjuncts trigger a presupposition that their complement predicate holds of the subject.
- Identifying the unspecified property parameter with the content of the *as*-phrase leads to a configuration where accommodation is required only once; otherwise accommodation is required twice.
- The derivation with the least number of accommodation steps wins.

3.4. Copular adjuncts

From what we said in the previous subsection, one would expect that frame setting *be*-headed adjuncts behave exactly the same way. Since all frame setting adjuncts are assumed to be presuppositional, an appropriate choice of value for the lexical presupposition of the main predicate should help to avoid accommodation here as well. This is blatantly false.

(57) Being a judge, John is corrupt

Here the dimension of corruption is entirely open; the adjunct provides a reason for John's being a corrupt $\mathbf{P}$, but it does not supply a value for $\mathbf{P}$.

Let us see what the formal theory predicts. Putting the pieces from this and the last section together, we arrive at the initial representation (58) for (57). Note that now the situation argument of *judge*, s_2 is existentially bound by the copula, and an additional world size argument is introduced.

(58) $[w_0, x, s_1 | w_0 \in WS, \textsc{john}(x), \textsc{corrupt}(s_1, x, \mathbf{P}), s_1 \sqsubseteq w_0 / \{[|\mathbf{P}(s_1, x)], [s_2 | \textsc{judge}(s_2, x), s_2 \sqsubseteq w_1, /\{w_1 \in WS\}], [w_1 | \,]\}]$

The next three resolution steps are fully deterministic; first we bind w_1 to w_0, second we bind the sortal restriction $[|w_0 \in WS]$, and finally we accommodate the remaining presupposition that originates from the adjunct.

(59) a. $[w_0, x, s_1 | w_0 \in WS, \textsc{john}(x), \textsc{corrupt}(s_1, x, \mathbf{P}), s_1 \sqsubseteq w_0 / \{[|\mathbf{P}(s_1, x)], [s_2 | \textsc{judge}(s_2, x), s_2 \sqsubseteq w_0, /\{w_0 \in WS\}]\}]$

b. $[w_0, x, s_1 | w_0 \in WS, \textsc{john}(x), \textsc{corrupt}(s_1, x, \mathbf{P}), s_1 \sqsubseteq w_0 / \{[|\mathbf{P}(s_1, x)], [s_2 | \textsc{judge}(s_2, x), s_2 \sqsubseteq w_0]\}]$

c. $[w_0, x, s_1, s_2 | w_0 \in WS, \textsc{john}(x), \textsc{corrupt}(s_1, x, \mathbf{P}), s_1 \sqsubseteq w_0, \textsc{judge}(s_2, x), s_2 \sqsubseteq w_0 / \{[|\mathbf{P}(s_1, x)]\}]$

Note that now, JUDGE and $\mathbf{P}$ have different situational arguments. So the remaining presupposition has to be accommodated, no matter which value we choose for $\mathbf{P}$. We always end up with the structure

(60) $[w_0, x, s_1, s_2 | w_0 \in WS, \textsc{john}(x), \textsc{corrupt}(s_1, x, \mathbf{P}), s_1 \sqsubseteq w_0, \textsc{judge}(s_2, x), s_2 \sqsubseteq w_0, \mathbf{P}(s_1, x)]$

So with copular free adjuncts, every value for $\mathbf{P}$ gives rise to the same number of accommodations, and thus sentence grammar gives no clue how this underspecification is to be resolved.

It should be noted though that the intuitive interpretation of (57) is somewhat stronger than what (60) expresses; it can be paraphrased as *Because John is a judge, he is corrupt*. The missing piece of meaning is arguably not supplied by sentence grammar, however. First note that minimal changes in the construction change the choice of the relation holding between John's being a judge and his being corrupt:

(61) Despite being a judge, John is corrupt

We believe that the interpretative mechanisms involved here are analogous to the discourse interpretation principles at the discourse level that are investigated a.o. in Asher 1993. Since sentence grammar supplies descriptions of two unrelated situations in (60), the discourse module supplies a rhetorical relation like "reason" that connects these situations to make the discourse coherent. This issue deserves further investigation, but it is largely independent of the problems discussed in this paper, therefore we leave it at that for the time being.

Finally, if some underspecified predicate occurs twice within the same sentence and there is no sentence internal clue as to how to resolve these occurrences, resolution will be determined from the extra-sentential context. Since this is identical for both occurrences, they will be resolved the same way. This account for the inconsistency of (6).

To summarize the discussion in this section, free adjuncts may supply a value for underspecified parameters of the main predicate due to their presuppositional character. Information flow between adjunct and main predicate is provided by the presupposition resolution module. However, this information flow is situated. Only information about the same situation may be shared between different presupposition. Copular adjuncts come with their own situation; thus information flow is blocked there.

4. Weak and strong adjuncts

As mentioned above, Stump (1985) noted that only some free adjuncts may be interpreted as part of the restrictor of some superordinate functor. One of Stump's minimal pairs is:

(62) a. Being a sailor, John sometimes smokes a pipe
b. Lying on the beach, John sometimes smokes a pipe

While (62b) may be interpreted as *Sometimes when he is lying on the beach...*, no such interpretation is possible in (62a). Here the adjunct is interpreted factively and linked to the main predication via the discourse relation "reason" as in the examples discussed in the previous section. (Though less preferred, an analogous reading is possible for (62b) too. Crucially, (a) has only this reading.) In Stump's terminology, a free adjunct is "strong" if and only if it only admits a factive interpretation in such a construction. Adjuncts that allow a restrictive interpretation are called "weak".

This distinction is relevant for our topic because *as*-adjuncts are always weak while copular adjuncts are generally strong. In the sequel it will be demonstrated that this contrast is in fact predicted under the assumptions made above without further stipulations.

Consider the following example

(63) As a tourist, John always smokes

Following standard practice, I assume that an adverb of quantification like *always* (a) creates a duplex condition where the rest of the clause ends up in the nuclear scope, and (b) it binds the situation argument of the modified sentence.
So the initial representation of (63) comes out as

(64) $[w_0, x | w_0 \in WS, \textsc{john}(x), \textsc{always}([s_1 | s_1 \sqsubseteq w_0], [|\textsc{smoke}(s_1, x) / \{[|\textsc{tourist}(s_2, x)], [s_2 | \,]\}])]$

In the next resolution step, the situation anaphor s_2 has to be bound. There are two potential binders for s_2, namely s_1 and w_0. So the two potential intermediate representations are

(65) a. $[w_0, x | w_0 \in WS, \textsc{john}(x), \textsc{always}([s_1 | s_1 \sqsubseteq w_0], [|\textsc{smoke}(s_1, x) / \{[|\textsc{tourist}(s_1, x)]\}])]$
b. $[w_0, x | w_0 \in WS, \textsc{john}(x), \textsc{always}([s_1 | s_1 \sqsubseteq w_0], [|\textsc{smoke}(s_1, x) / \{[|\textsc{tourist}(w_0, x)]\}])]$

Either way, there is no antecedent for the remaining presupposition; it has to be accommodated. The accommodation site should be as high as possible *provided no bound discourse markers become unbound*. Here the discourse marker s_1 is bound in the restrictor, thus global accommodation is blocked in the (a) version. Intermediate accommodation is the preferred option, i.e. (66a). Nothing blocks global accommodation in (b), so (65b) gets resolved as (66b).

(66) a. $[w_0, x | w_0 \in WS, \textsc{john}(x), \textsc{always}([s_1 | s_1 \sqsubseteq w_0, \textsc{tourist}(s_1, x)], [|\textsc{smoke}(s_1, x)])]$
b. $[w_0, x | w_0 \in WS, \textsc{john}(x), \textsc{tourist}(w_0, x), \textsc{always}([s_1 | s_1 \sqsubseteq w_0], [|\textsc{smoke}(s_1, x)])]$

Now let us compare this with the strong construction

(67) Being a tourist, John always smokes

The initial representation is as above, apart from the fact that the copula binds the situation variable of *tourist* and replaces it by a world variable.

(68) $[w_0, x | w_0 \in WS, \textsc{john}(x), \textsc{always}([s_1 | s_1 \sqsubseteq w_0], [|\textsc{smoke}(s_1, x) / \{[s_2 | s_2 \sqsubseteq w_1, \textsc{tourist}(s_2, x) / \{w_1 \in WS\}], [w_1 | \,]]\})]$

The world anaphor w_1 is preferably bound to the situation s_1. However, this would enforce intermediate accommodation of the sortal information $w_1 \in WS$. Binding w_1 to w_0, $w_1 \in WS$ need not be accommodated at all but can be bound at the global level. Thus binding of w_1 to s_1 is blocked. So the only option for resolution of w_1 is high binding, which leads to

(69) $[w_0, x | w_0 \in WS, \textsc{john}(x), \textsc{always}([s_1 | s_1 \sqsubseteq w_0], [|\textsc{smoke}(s_1, x) / \{[s_2 | s_2 \sqsubseteq w_0, \textsc{tourist}(s_2, x)]\}])]$

Again the remaining presupposition must be accommodated, but this time nothing blocks global accommodation, so the final representation is the strong

(70) $[w_0, x, s_2 | w_0 \in WS, s_2 \sqsubseteq w_0, \textsc{tourist}(s_2, x), \textsc{john}(x), \textsc{always}([s_1 | s_1 \sqsubseteq w_0], [|\textsc{smoke}(s_1, x)])]$

To formulate the underlying idea on a somewhat coarser level, our explanation for the weak/strong contrast between *as* and *be* runs as follows:

- Binary operators like adverbs of quantification quantify over situations.
- *As*-adjuncts supply a situation argument that can either be bound by the operator or be identified with the evaluation index.
- *Be*-adjuncts supply a world argument that cannot be bound by the operator but has to be identified with the evaluation index.
- The presupposition of the nuclear scope is accommodated to wherever its eventuality argument is bound. This is either the restrictor of the operator of the matrix context for *as*-adjuncts, but always the matrix context for *be*-adjuncts.

5. Conclusion

Let us briefly summarize our findings. We started the discussion with the fact noted by Stump that *as*-PPs are admitted in the complement of verbs of perception while copular predicates are excluded there. Stump analyzed this fact in a Carlsonian fashion by classifying *as*-PPs as SLPs and copular predicates as ILPs.

We argued that the Carlsonian approach to the semantics of verbs of perception is insufficient for independent reasons. We proposed a modification that maintains some of Carlson's intuitive approach. We agree with Carlson that perception involves partial objects, and thus predicates ranging over total objects are excluded in the complement of *see*. However, we shift the partial/total contrast from the domain of individuals to the domain of eventualities. To this end we employed an Kratzer style ontology where abstract objects may be classified as possible situations or possible worlds. The contrasts between *as* and *be* was explained by the assumption that *as*-PPs denote properties that have a situation argument, while the copula induces a sortal shift from situations in general to possible worlds. Therefore copular predicates are excluded in perception constructions.

Next we turned attention to free adjuncts. Following suggestions from Maienborn, we analyze free adjuncts as frame setting, i.e. topical adverbials. As such they are presuppositional. We embedded this idea into the overall semantic/pragmatic framework by van der Sandt. There presupposition resolution is considered a non-deterministic transformation over discourse representations. The possible outcomes are evaluated according to several criteria. The principle "Presupposition binding is better than presupposition accommodation" turned out to be crucial for the analysis of the phenomena under investigation. *As*-adjuncts may supply a value for underspecified aspects of the meaning of the main predicate because this parameter setting avoids one accommodation step. This only works if the main predicate and the free adjunct share a situation argument. Therefore this effect is not observed with copular free adjunct; the copula introduces its own situation argument, thus information flow between the predicates is blocked.

Finally we demonstrated that the weak/strong contrast between *as*-adjuncts and *be*-adjuncts falls out from these assumption without further ado. The situation argument of an *as*-adjunct may be bound by an adverb of quantification or a similar operator. The world argument of a *be*-adjunct can only be identified with the index of evaluation. Since in van der Sandt's model, presuppositions are always accommodated as high as possible, *as*-adjuncts

are ambiguous between intermediate and global accommodation, while copular adjuncts must be interpreted strong / via global accommodation.

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