

There-Constructions Revisited

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1. Introduction

The aim of this paper is to provide an account of *there*-constructions of the form *There be NP (XP)*. Specifically, the paper aims at sketching a semantics of the *there*-construction (TC) which predicts the distribution of NPs in TCs. It is well-known that not all NPs can occur in the postcopular position in TCs - a phenomenon which has been captured under terms like "definiteness effect" or "quantification restriction" and which I will call the "*there*-construction effect" (TCE) in order to avoid theoretical preconceptions.

In Section 2, I will provide a survey of the distribution of NPs in TCs. Section 3 serves then to sketch previous accounts of the TCE and to point out why they fail. In Section 4, I will present the basic ideas of my own account. I will exploit an ontology that contains individuals as well as stages of individuals as basic entities. Consequently, determiner quantification can be quantification over individuals in their whole temporal extendedness or quantification over stages of individuals. According to an independently motivated account of the temporal interpretation of NPs, there is a correlation between temporal (in)dependence of NPs and quantification over individuals or over stages: NPs are temporally independent if and only if they quantify over individuals, and NPs are temporally dependent if and only if they quantify over stages of individuals.

Of course, this correlation is only theoretically interesting if it can be shown that temporal (in)dependence also correlates with other properties of NPs. Thus, the question must be raised which NPs are temporally independent and which are temporally dependent - or, asked from the other direction, which NPs quantify over individuals and which over stages? In an earlier investigation, I proposed that NPs are temporally dependent (and quantify over stages of individuals) if and only if they are cardinal, and temporally independent (and quantify over individuals) if and only if they are partitive or definite.¹ However, a closer look at TCs suggests that this generalization cannot be quite right: NPs in copular TCs are generally only temporally dependent - regardless of whether they are cardinal or not. This suggests that NPs in TCs are only acceptable when they quantify over stages of individuals. These results call for a reconsideration of the distribution of temporally (in)dependent NPs as well as of an account of TCs and the TCE.

With regard to the latter point, I will argue that the TCE is a consequence of a restriction to stage-quantifying NPs in the postcopular position of TCs. Why should there be such a restriction? I will propose that the restriction can be analyzed as a consequence of the particular semantics and pragmatics of TCs in combination with a sortal restriction of *there* to stages. As far as the distribution of temporal (in)dependence of NPs is concerned, data involving TCs suggest that NPs quantify over stages of individuals if and only if their discourse referents are neither established nor being accommodated at the point where the NP occurs.

Section 5 provides an explanation of the data provided in Section 2 in light of the account sketched in Section 4. Finally, Section 6 is a summary and conclusion of the paper.

For the purpose of this paper, I will call those NPs that can quite generally appear in the postcopular position of TCs WEAK NPs, and those NPs that can under most circumstances not appear in TCs, STRONG NPs. Weak NPs are those

headed by determiners like *some, few, many*, for example. Strong NPs are headed by determiners like *all, each, every* and *most*. Note that for reasons that will become clear shortly, I want to distinguish DEFINITE NPs from strong NPs. Moreover, based on an observation of Milsark (1974) and subsequent work by many other authors, I will distinguish CARDINAL NPs and PARTITIVE NPs. Cardinal NPs in this sense are weak NPs like *some, many, few, two... Ns* under their cardinal reading; their determiner seems to characterize the cardinality of a set of individuals that satisfy the noun, as illustrated with the possible reading in (1a). Partitive NPs are NPs like *every/all/each, most, the N(s)...*, NPs like *some, many, few, two... Ns* under their partitive reading, and overtly partitive NPs like *many of the Ns* or *most of the Ns*. In these NPs, the determiner seems to pick out a proportion of a set of individuals that satisfy the noun, as illustrated in (1b).

- (1) Few ghosts swam in the ocean.
 a. cardinal NP: a small number of ghosts swam in the ocean.
 b. partitive NP: few of the (existing) ghosts swam in the ocean.

The distinction between cardinal and partitive NPs is crucial for the issue of this paper, because cardinal NPs and partitive NPs have different distributions with regard to TCs (cf. Milsark (1974)). Under unmarked circumstances, only cardinal NPs, but not partitive ones can occur in TCs. This can be shown with the impossibility of the second reading of the sentence in (2).

- (2) There were few ghosts around.
 a. cardinal NP: a small number of ghosts were around.
 b. *partitive NP: few of the ghosts were around.

2. The distribution of NPs in TCs

Generally, the literature on TCs and the TCE deals only with certain core cases of NP-distribution, i.e. with examples of TCs with weak or strong NPs under semantically-pragmatically unmarked conditions. However, since the more exceptional cases of NP-distribution are fairly systematic, I believe that an account of TCs should take all the relevant data equally seriously. In this section, I will provide a survey of the relevant data.²

2.1. NPs that are unacceptable in TCs

Strong NPs. The classical case of NPs that are prohibited in TCs are NPs headed by strong determiners.

- (3) a. *There was every/each participant upset with the arrangements.
 b. *There were both/most ambassadors housed at that hotel.

Definite NPs. McNally (1992:6) suggests distinguishing quantificational NPs as in (3) above from another class of NPs that is also systematically unacceptable in TCs, namely, the class of definite NPs consisting of proper names, personal and demonstrative pronouns, DP's headed by definite possessives, and a subset of DP's headed by the definite determiners *the, these, those, this, that, and all*.³

- (4) *There was M̄argaret/them/they/Monica's sister at the party.

As we will see below, the split certainly makes sense insofar as acceptability of NPs in TCs is more easily triggered by pragmatic factors with the latter group of NPs. However, since definite and strong NPs - as well as overtly partitive NPs (see below) - may be successfully characterized as PRESUPPOSITIONAL NPs (cf. Barwise and Cooper (1981), Lumsden (1988), Zucchi (1992, 1995), and others), it is not clear on which level precisely the two classes of NPs are to be distinguished.

Overtly partitive NPs. Partitive NPs tend to be largely unacceptable in TCs. However, judgements are not really clear; while most authors judge all overtly partitive NPs in TCs unacceptable, some authors judge overtly partitive NPs headed by weak determiners as acceptable (cf. Comorovski (1991), McNally (1992, 1995)). According to the judgements of my informants, overtly partitive NPs headed by weak determiners are a bit more acceptable than those headed by strong determiners, but not generally absolutely acceptable.

- (5) a. *There were most of the students at the party.
b. ?There were some of the students at the party.

Weak NPs with partitive readings. Weak NPs cannot occur in TCs when they have a partitive reading, as triggered by topic stress on the determiner as in (6).

- (6) *There were MANY/FEW/SOME pianos in the salon.

2.2. NPs that are acceptable in TCs

Weak NPs with cardinal readings. NPs headed by weak determiners - i.e. NPs headed by intersective determiners - can quite generally and unrestrictedly occur in the postcopular position of TCs, provided they have a cardinal reading.

- (7) There were three/many/few/some/no pianos in the salon.

Kind NPs. NPs that quantify over kind entities are acceptable in TCs, regardless of whether they are headed by weak or strong determiners.⁴

- (8) a. There were those kinds of books at the library.
b. There was every flavor of ice cream for sale.
c. There were both wines available for tasting.

Note however that with taxonomic strong NPs as in reading (9b), which quantify over kind-individuals, the resulting TCs are a little bit better than with NPs that quantify over "normal" individuals, but they are by no means acceptable.

- (9) There are big cats in Africa.
a. = *Most big-cat-individuals are in Africa.
b. = ??Most big-cat-kinds are in Africa.

Definite NPs and partitive weak NPs in contextualized TCs. Definite NPs also become acceptable in TCs when they appear in a context in which a question has been raised about the existence of some entity to fill a certain need or other role. According to Abbott, the most typical contexts of such contextualized existentials

are contexts where they occur as answers to questions (in particular to questions that contain an ordinary TC) as in (10) (cf. Abbott (1992: 1f, 9); see also Lumsden (1988: 110ff, 150ff)).

- (10) a. What is there to eat? - There is the leftover chicken from last night.
 b. How much work is there left to do? - There is the laundry to be brought in and the dishes to be dried.

An interesting feature of contextualized TCs is that they do not accept all determiners. Thus, Lumsden (1988:151) notes that definite NPs constructed with *those, the, all the, both (the), and John's* are more acceptable than quantificational NPs constructed with *most, every, or all*. It is important to note that partitive weak NPs also get better in contextualized TCs.

Definite NPs that are interpreted as indefinites. Quite independently of their outer appearance, NPs are acceptable in TCs when they are interpreted as indefinites. This is especially evident with nondeictic demonstrative NPs: according to their morphological appearance, they are definite, but their interpretation corresponds to that of a specific indefinite (cf. Prince (1981), Lumsden (1988) and others).⁵

- (11) a. There are these great sweaters on sale at Meijer's.
 b. There was this weird guy in the bookstore this morning.

Moreover, there are other morphologically definite or strong NPs that do not refer uniquely or get weak rather than strong interpretations (cf. Lumsden (1988), McNally (1992)). For reasons of space, I will not deal with these constructions in this paper - especially since it seems plausible that they can ultimately be analysed as special cases of underlyingly weak NPs.

NPs in outer verbal TCs. TCs are not always constructed with a copular verb; there are also TCs constructed with verbs that have full lexical content. Verbal TCs that contain an NP to the right of a PP as in the examples in (12) are called OUTER VERBAL TCs.⁶

- (12) a. There came into the room the boys.
 b. There still stands on his desk the bowling trophy he won last year.
 c. Suddenly there ran out of the woods the man we had seen at the picnic.

Like contextualized TCs, verbal TCs also exhibit a distinction among determiners with respect to acceptability. According to Lumsden (1988:151), definite NPs constructed with *the, all the, both (the), and John's* are more acceptable than quantificational NPs constructed with *most, every, or all*.

3. Previous accounts

Previous accounts of TCs and the TCE have been discussed extensively before. Thus, I will neither summarize the proposals in this paper nor repeat the discussions and criticisms but refer the reader to the relevant literature. In particular, Lumsden (1988), McNally (1992), and Zucchi (1992, 1995) provide excellent surveys. Here I will only very briefly report on the three main approaches to the TCE and sketch why they fail. Generally speaking, their failure is in each case a consequence of their focusing only on some group of core cases of the TCE. Note

however, that the discussion in this section does not take the work of McNally (1992, 1995) into account; for a brief discussion see Section 6.

Much of the literature on the TCE starts out with an investigation of the SEMANTIC DIFFERENCES between weak and strong determiners and tries to derive the distribution of weak and strong NPs from the difference (Milsark (1974, 1977), Barwise and Cooper (1981), Higginbotham (1987), and others). A general failure of these accounts is that they focus only on the core data of the TCE which concern the unmarked distribution of weak and strong NPs. Thus, they cannot deal with the systematic violations of the general slogan "Strong NPs are unacceptable in TCs" - e.g., strong NPs on the kind-level. But even within an investigation of the core cases, they have been argued to be inadequate (cf. Zucchi (1992, 1995)).

Other accounts of the TCE start out with the assumption that NPs are generally barred from TCs if and only if they trigger EXISTENCE PRESUPPOSITIONS of individuals that satisfy the noun (cf. de Jong and Verkuyl (1985), de Jong (1987), Lumsden (1988), Zucchi (1992, 1995)) - as seems to be the case with strong NPs, partitive weak NPs, and overtly partitive NPs (13b).

- (13) a. Last night, noone saw some/many ghosts in my closet.
 b. #Last night, noone saw some of the/most/SOME ghost(s) in my closet.

Given that nobody has seen any ghosts last night and that ghosts don't exist, (13a) is usually judged true, while (13b) seems infelicitous because it seems to wrongly presuppose the existence of ghosts.

Unfortunately, like the semantic approaches, the accounts in terms of presuppositionality also focus only on the core data of the TCE which concern the unmarked distribution of weak and strong NPs. First, we have already seen above that there are exceptions to the generalization that partitive NPs, and hence, NPs characterized as presuppositional are unacceptable in TCs. When definite or strong NPs are acceptable in TCs, they nonetheless exhibit existence presuppositions. This can be illustrated with strong NPs quantifying over kind-level entities in TCs and definite NPs in contextualized TCs. If no kinds of books exist, or if no leftover chicken from last night exists, the TCs in (8a) and (10a) are not judged false but infelicitous for reasons of presupposition failure.

Second, in cases where presuppositional NPs appear in TCs and their existence presupposition is arguably cancelled, the presence of the NP still leads to unacceptable results. This can be argued for with the following constructions which are taken, together with the analysis, from Percus (1995). Consider (14). Following Rooth (1992), focus on *Antarctica* introduces a focus anaphor *C* whose value is constrained to be a set of propositions as indicated in (14b).

- (14) a. There is no way [most kings of ANTARCTICA]_F were sick with the flu, because there were no kings of Antarctica.
 b. $C = \{p: \exists x [p = [[\text{Most kings of } x \text{ were sick with the flu }]]]\}$

If *C* takes the current context set (of worlds) as its antecedent, then worlds in the context set are not required to contain kings of Antarctica. This contrasts with (15a), where - because of the value for the focus anaphor in (15b) - under focus on *the flu*, every world in the context set is required to contain kings of Antarctica.

- (15) a. There is no way most kings of Antarctica were sick with [the FLU]_F, because there were no kings of Antarctica.
 b. $C = \{p: \exists x [p = [[\text{Most kings of Antarctica were sick with } x]]]\}$

Interestingly, when the construction that cancels the existence presupposition is inserted into a TC, the unacceptability of the strong NP remains.

- (16) *?There is no way that there were [most kings of ANTARCTICA]_F sick with the flu, because there were no kings of Antarctica.

These observations shed serious doubt on the alleged crucial role of existence presuppositions for the distribution of NPs in TCs.

Yet another approach to the TCE tries to explain the data as a consequence of some felicity condition of NON-FAMILIARITY that is imposed on NPs in the postcopular position. The most adequate account in this direction seems to be the one of Abbott (1992, 1995). She proposes that all TCs are interpreted as assertions of existence, typically function to present items to the addressee, and hence, impose a non-familiarity requirement on the postcopular NP (Abbott (1992:9, 1995:345)). By requiring the addressee to accommodate, strong NPs violate this non-familiarity requirement. However, Abbott's proposal is problematic. First, it predicts that sentences like (17a) are unacceptable in precisely the same way as the underlined sentence in (17b) (with the intended coreference reading, of course), where the indefinite violates the non-familiarity condition.

- (17) a. *? There were most professors of the Humboldt-University sick with the flu this winter.
 b. * At the horrible free jazz concert on Thursday, [a man with a grey coat]_i escaped at the same time as I did. [A man]_j followed me to the subway station.

It seems to me that the unacceptability of the two sentences is not really comparable. Also, the occurrence of acceptable overtly partitive NPs in TCs is completely unexpected under Abbott's assumptions. While it does not seem obvious to me that overtly partitive NPs with weak determiners are generally acceptable (as has been argued elsewhere, cf. Comorovski (1991) and McNally (1992)), there are cases of overtly partitive NPs in TCs that are relatively acceptable.⁷

- (18) Did you correct yesterday's exams? - No, there are several of them left to correct.

As we have seen, the accounts discussed above fail for more or less principled reasons. Generally speaking, one might say that they fail because they try to formulate a uniform account of the TCE and in doing so, focus only on a subset of the relevant data and ignore the rest. In the next section, I will try to propose another account that aims at dealing with the TCE data in a uniform way.

4. An account in terms of quantification over stages and individuals

In this section, I will introduce my own account of TCs and the TCE. As we saw above, recent accounts of the TCE assume either that the presuppositional nature of strong NPs or that the familiarity of NPs is responsible for the unacceptability of strong NPs in TCs. Contrasting with this approach, I will argue that it is neither the presuppositional nature nor the familiarity of the NPs as such that is the crucial factor. Rather, the crucial factor is a property of NPs that correlates to a large extent, but not completely, with the presence of presuppositions and familiarity - namely, the property of quantifying over stages of individuals. An important step in

motivating this account will be to show that most acceptable cases of definite and strong NPs share a certain property with the canonical cases: they are temporally dependent. And temporal dependence of NPs can be explained as a consequence of quantification over stages of individuals. Thus, it seems that previous accounts of the TCE missed a crucial generalization. In the following, I will first explain what temporal dependence is, second, sketch what I assumed in my (1995) thesis to be the distribution of temporally dependent NPs, third, present some crucial data involving TCs that require us to revise the generalization on the distribution of temporally dependent NPs, and finally explain how this leads us to a reformulation of the TCE.

4.1. Temporal dependence of NPs

An NP is TEMPORALLY DEPENDENT when the time of the situation denoted by the N' has to intersect with the time of the situation denoted by the main predicate of the clause. An NP is TEMPORALLY INDEPENDENT when there is a reading available where the time of the situation denoted by the N' does not intersect with the main predicate of the clause (Musan (1995)). Here are two examples that illustrate these notions. (19a) and (19b) exhibit a contrast with respect to the times at which the individuals talked about are fugitives.

- (19) a. Many fugitives are now in jail.
 b. There are now many fugitives in jail.

Thus, the individuals talked about in (19a) can be former fugitives - in particular, they can be individuals who escaped from jail at some earlier time, got caught, and are back in jail now. Under this reading, the time of being a fugitive does not intersect with the time of being in jail. Hence, the NP *many fugitives* is temporally independent. This contrasts with the NP *many fugitives* in (19b). Here, no such reading is available; the individuals mentioned in (19b) have to be fugitives now - i.e. they are individuals that escaped from something else but the jail. In other words, the time of being a fugitive has to intersect with the time of being in jail - i.e., the NP is temporally dependent.

In Musan (1993, 1995), I argued that the distribution of temporally dependent and temporally independent subject NPs correlates with the distinction between cardinal and partitive NPs.

- (20) TEMPORAL DEPENDENCE OF NPs (Musan (1993, 1995))
 A subject NP is temporally independent iff it is partitive or definite.⁸

Let me illustrate this generalization with some examples. The underlined noun phrases in (21) can be distinguished according to whether they can be temporally independent or not and according to whether they are partitive or not. For the examples listed in (21), it turns out that the two distinctions correlate: (21a, b, d), where the underlined NPs are partitive, can easily get interpretations where the professors mentioned are individuals who are professors now but were not professors in the sixties; i.e. the crucial NPs are temporally independent. But (21c), where the NP is preferably cardinal because of the stress on the noun, can only be understood as talking about individuals who were professors in the sixties; it can only mean "Some of the individuals who were professors in the sixties were happy in the sixties"; hence, the crucial NP is temporally dependent. Also predicate nominals as in (21e) are obligatorily cardinal and unable to display temporally

independent readings: (21e) cannot be understood as "Anne is a former student of French literature". Similarly, the cardinal NP in the TC in (21f) cannot be temporally independently interpreted.

- (21) a. Most professors were happy in the sixties. [t-independent]
 b. SOME professors were happy in the sixties. [t-independent]
 c. Some PROFESSORS were happy in the sixties. [t-dependent]
 d. Some of the professors were happy in the sixties. [t-independent]
 e. Anne is a student of French literature. [t-dependent]
 f. There are many students sick. [t-dependent]

Thus, so far it seems that partitive NPs can have temporally independent readings, whereas cardinal NPs can only have temporally dependent interpretations.

4.2. The characterization of NPs in TCs

However, as we will see shortly, the generalization in (20) has to be revised: a closer look at TCs reveals that the exceptional cases of partitive and strong NPs that can appear in TCs cannot get temporally independent interpretations, contrasting with the claim in (20).

For instance, overtly partitive NPs do not get temporally independent readings when they occur in TCs. This is shown with the data in (22), which were judged relatively acceptable by my informants.

- (22) a. Most of the victims were at the party.
 There were some of the victims in the kitchen all the time.
 b. Most of the professors played softball in highschool.
 There were some of the professors on softball teams in college.
 c. Most of the professors came to the talk yesterday.
 There were some of the professors at the dinner afterwards.

Although informants got temporally independent readings for the underlined NP in the first sentences when these were considered independently, it was not possible to get temporally independent readings for the underlined NPs. This must be due to the environment provided by the TCs of the sentences.

Similarly, almost all NPs that are acceptable in TCs are temporally dependent as illustrated with the examples in (23 a-d): only NPs in outer verbal TCs (23e) can be temporally independent. Thus, (a) cannot mean "Many former students are sick"; (b) cannot mean "Of most kinds of students, there are former instantiations in Berlin"; the individuals mentioned in (c) have to be students now or to be unemployed now, respectively; so does the guy mentioned in (d).

- (23) TEMPORALLY DEPENDENT NPs IN TCs:
 a. TC with weak NP: *There are many students sick.*
 b. TC with kind-NP: *There are most kinds of students in Berlin.*
 c. Contextualized TC: *Who is there in Boston whom you want to meet? - Well, there are the students.*
 d. TC with morphologically definite but semantically indefinite NP: *There was this unemployed guy in the bookstore this morning.*
 TEMPORALLY INDEPENDENT NPs IN TCs:
 e. Outer verbal TC: *There staggered through the door the unemployed guy. / There came into the room my favourite student.*

Thus, it seems that NPs in copular TCs are generally prevented from being temporally independent, regardless of whether they are cardinal or partitive.

4.3. NPs in TCs, stages, and individuals

The aim of this subsection is to present a version of my previous accounts of temporally dependent and temporally independent NPs. The version I am presenting here differs somewhat from the account I presented in Musan (1995) and corresponds more to the version I exploited in Musan (1993). Specifically, the account is based on an ontology whose domain of entities consists not only of individuals in their whole temporal extendedness, but also of stages of individuals. Stages are temporal parts or slices of individuals, i.e. fourdimensional entities. I assume that one can take stages to be spatio-temporal parts of individuals, but since in this paper, I do not discuss matters of their possible spatial dimension, I will refer to them just as temporal parts of individuals. The domain of entities is sorted, so that it is possible to distinguish individuals in their whole temporal extendedness from stages. In principle, a stage can be of any length that is included in its host individual's time of existence. An individual in its whole temporal extendedness, as any of its stages, consists of infinitely many stages that can overlap each other. This ontology gives us a means to explain the occurrence of temporally dependent NPs.

Usually, determiner quantification is assumed to be quantification over whole individuals in the sense of individuals in their entire temporal extendedness. Semantic representations like (24) may be paraphrased as indicated. And the representation of a predicate like *was sick* may be paraphrased as in (25).

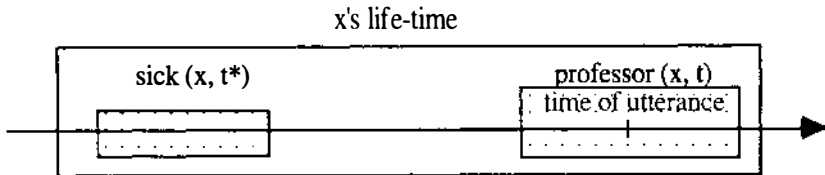
(24) professor (x, t): "x (in its entire temporal extendedness) is a professor at t"

(25) was sick (x, t*): "x is sick at t* and t* is before now"

Putting together (24) and (25), a sentence like *A professor was sick* (26a) may get a representation roughly like (26b), which can be paraphrased as in (26c).

- (26) a. A professor was sick.
- b. $\exists_x \exists_t \exists_{t^*} [\text{professor}(x, t) \ \& \ \text{was sick}(x, t^*)]$
- c. There is an individual x and a time t and a time t*, such that x is a professor at t and x is sick at t* and t* is before now.

In principle, this representation allows for the predicates *professor* and the predicate *sick* to be predicated of x at entirely distinct times (as long as these times are included in the life-time of x). This is illustrated in the following diagram.

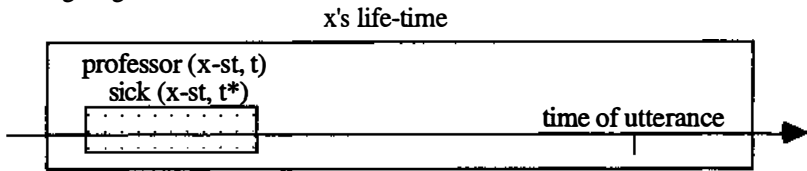


Suppose now that determiner quantifiers in cardinal NPs do not quantify over whole individuals but over stages of individuals. *There was a professor sick*

has then a representation like (27b) and is paraphrased as in (27c), where x_{st} is a variable that ranges over stages of individuals.

- (27) a. There was a professor sick.
 b. $\exists_{x-st} \exists_t \exists_{t^*} [\text{professor}(x_{st}, t) \ \& \ \text{was sick}(x_{st}, t^*)]$
 c. There is a stage x_{st} and a time t and a time t^* , such that x_{st} is a professor at t and x_{st} is sick at t^* and t^* is before now.

Crucially assuming that the stage x_{st} is not extended beyond the whole individual's time of being a professor, it follows that at least part of the individual's time of being sick must be included in its time of being a professor. This is illustrated in the following diagram.



Hence, it follows that if cardinal NPs quantify over stages that do not extend beyond the situation time of the noun, they have to get temporally dependent interpretations. Partitive NPs however, which quantify over individuals, can lead to temporally independent readings as shown above. However, it should be kept in mind that at this point, I have not yet provided an explanation for why cardinal NPs seem to quantify over stages while partitive NPs quantify over individuals.⁹

Going back to the data involving TCs, what conclusions can we draw about NPs in TCs at this point? The important result from above is that the NPs that are allowed in TCs can generally only have temporally dependent interpretations. If NPs in TCs can only be temporally dependent, and the ideas I sketched above are on the right track, then we arrive at the generalization expressed in (28). Note that since we have seen that in non-TC-contexts, partitive NPs have the option of getting a temporally independent interpretation and must then also have the option of quantifying over individuals, it is necessary to formulate (28) in terms of an "option of quantifying over stages of individuals".

- (28) REFORMULATION OF THE TCE
 An NP is acceptable in the postcopular position of a TC if and only if it has the option of quantifying over stages of individuals.

Of course, this raises the question why there should be a restriction to quantification over stages in TCs at all.

4.4. Explaining the TCE: where might the restriction come from?

In order to explain the source of the restriction, let us take a closer look at the constituents of TCs and their contribution to the semantics of the whole construction. Note that I do not intend to argue here for a particular syntactic structure of TCs (For proposals concerning the syntactic properties of TCs, see, for instance, Lumsden (1988), Zucchi (1992, 1995), McNally (1992)).

Intuitively, it is clear that the *be* in TCs is a stage-level predicate. It can be paraphrased roughly as "located at *s*", where I take *s* to be a temporal-spatial

location. If *be* is a stage-level predicate, then it is to be expected that it can co-occur with temporal adverbials.¹⁰ In light of this observation, I will take the inherently locative and adverbial nature of *there* seriously (cf. Lumsden (1988:225ff)) and analyze *there* in TCs as a locative argument. More specifically, I assume that *there* is of a basically definite or deictic nature and indicates to the addressee that he should direct his attention to some location (in a wide sense) that is usually contextually specified (Lumsden (1988:227ff)). Evidence for this is presented by the contextual interpretation triggered in Lumsden's example in (29b).

- (29) a. There are giraffes.
b. What can you tell me about the zoo? - There are giraffes.

Thus, *there* introduces a contextually salient stage that functions as a location for the entities introduced by the postcopular NP. That is to say, it functions like a locative restrictor of the determiner quantifier of the NP. This view is supported by an analysis of TCs as a special case of (or a case related to) locative inversion structures (cf. Lumsden (1988); see also the discussion in Bresnan (1994:pp98ff)). Of course, this contrasts with the behavior of *there* when it occurs in other contexts than TCs - i.e., as a canonical adverbial, it functions like any VP modifier.

What else is crucial for the interpretation of the postcopular NP? Since it has been argued by several authors that cardinal determiners cannot be cardinal predicates¹¹, I assume that all determiners are quantifiers. As a consequence of this assumption, the question must be raised where the material present in a TC is mapped at LF. For reasons of simplicity, I will assume here that the NP-complements of determiners are always mapped into the restrictive clause of the determiner. Furthermore, according to what I said above, *be* functions as material in the nuclear scope. Finally, a few words about the (optional) XP in TCs. It has often been argued that the XP does not form a constituent with the NP syntactically. However, most approaches assume that the XP is predicated of the NP semantically.¹² Thus, we receive LFs roughly as indicated in (30).

- (30) DET [_{RC} N' & XP & *there*] ∃_S [_{NS} exist at s]

How can this LF explain the sortal restriction TCs impose on their postcopular NP? I suggested above that *there* is a kind of locative argument that restricts the postcopular NP. I will crucially assume that because of its locative nature, *there* can only apply to entities of a certain locative nature. Specifically, it can only apply to stages. As a consequence of this condition, the presence of *there* in the TC requires that the NP occurrence in the postcopular position of the TC must be able to quantify over stages - if it does not, then *there* does not find an entity of the appropriate sort to which it can apply.

Note that incompatibilities of predicates - in particular, locative predicates in a broad sense - with either stages or individuals seems to be a more general phenomenon. Thus, *in*-modifiers as opposed to *of*-modifiers are arguably unacceptable with stages (Musan (1995, 1995a)). Evidence for this is the observation that they cannot appear as modifiers of cardinal weak NPs (31b, c), but only as modifiers of partitive NPs - i.e. of partitive weak NPs or of strong NPs (31a).¹³

- (31) a. [MANY/most students in/from the sixties] were living in Boston then.
b. There were [many students *in /from the 60s] living in Boston then.
c. Hans war [ein Professor *in den 40er Jahren / aus den 40er Jahren].¹⁴
Hans was a professor in the forties / from the forties

The sortal incompatibility of *there* with individuals is thus not an entirely exceptional or unexpected phenomenon.

5. Comments on the data

After having established the claim that NPs in TCs can be characterized as quantifiers over stages and having named a likely trigger for this sortal restriction, this section goes through the data that were presented earlier and offers some speculations about what factors may be responsible for the distribution of quantification over stages or over individuals. We have seen above that some types of NPs are only under restricted circumstances acceptable in TCs. If my proposal is on the right track, then the factors governing this acceptability should correspond to factors determining the availability of quantification over stages or over individuals.

5.1. *Nonpresuppositional, familiarity-, and existence-presuppositional NPs*

Recall that - disregarding kind NPs - there is a hierarchy of NPs as far as their acceptability in TCs is concerned: weak NPs under their cardinal reading are always acceptable in TCs; definite NPs and partitive weak NPs are usually not acceptable, but become acceptable under certain conditions - e.g. in contextualized TCs; finally, strong NPs are hardly ever acceptable in TCs. What exactly is the property that determines the different compatibilities of the NPs with quantification over stages and hence, with TCs? It seems plausible that the compatibility has something to do with the status the various NPs have with respect to the discourse and presupposition, for the NPs mentioned can be grouped as follows.

The NPs that quantify always over stages - as can be concluded from the fact that they have only temporally dependent readings - and that appear unrestrictedly in TCs, i.e. weak NPs under their cardinal reading, are NONPRESUPPOSITIONAL NPs. The same seems to hold for morphologically definite NPs that are semantically indefinite.

A second group of NPs can be described as FAMILIARITY- or CONTEXT-ESTABLISHMENT-PRESUPPOSITIONAL NPs; as I will explain shortly, they presuppose that individuals satisfying the noun are established in the context. This group consists of definite NPs and partitive weak NPs, the NPs that become acceptable in contextualized TCs. This suggests that they can quantify over stages only if they have a special status with respect to information structure. Moreover, there also seems to be something about outer verbal TCs that makes it possible for these NPs to quantify over stages. That definite NPs usually require some level of familiarity is a relatively well-established claim. Thus, I will sketch only why partitive weak NPs should be counted as members of this group of NPs.

According to Büring (1995 and the paper in this volume), partitive readings of weak determiners arise when the determiner is a sentence internal topic, because semantically, sentence internal topics induce alternatives similar to the way focus does. While focus induces alternatives via the focus values of expressions (Rooth (1985, 1992)), S-topics induce alternatives via the topic value of the sentence, whereby topic values are constructed on the basis of focus values. Let us consider the little dialogue in (32), taken from Büring (1995:56).

- (32) A: Which book would Fritz buy?
 B: Well, [I]_T would buy ['The Hotel New HAMPSHIRE']_F.

On the basis of examples like (32), Büring suggests as a condition of question-answer pairs that the meaning of the question (A) must match one element in the topic value of the answer (B) (p58), where the topic value of (B) is a set of sets of propositions like (33), or, as Büring puts it, a set of questions, with alternatives to the sentence internal topic *I* replacing *I*.

- (33) { {I would buy 'War and Peace', I would buy 'The Hotel New Hampshire', I would buy 'The World according to Garp', ... },
 {Bolle would buy 'War and Peace', Bolle would buy 'The Hotel New Hampshire', Bolle would buy 'The World according to Garp', ... },
 {Fritz would buy 'War and Peace', Fritz would buy 'The Hotel New Hampshire', Fritz would buy 'The World according to Garp', ... }, ... }

Let us now come back to the issue of partitive readings of weak NPs. Büring deals with the example (34) (p76). The English translation in (34b) shows the topic-focus structure that leads to the accent structure indicated in (4a).

- (34) a. Ein PAAR Cowboys beschlossen, zu HAUSE zu bleiben.
 b. [Some]_T cowboys decided [to stay home]_F.

The sentence is preferably understood as "some of the cowboys decided to stay home". Büring considers what might be an appropriate question that could be answered by (34) and concludes that it is a set of questions of the form "What did *Q* cowboys decide on?", with *Q* some quantifier. Since the question meaning must be an element of the topic value of the answer, the question at the time of utterance of (34) must have been one of the questions of this form, cf. the list in (35).

- (35) a. What did all cowboys decide on?
 b. What did some cowboys decide on?
 c. What did two cowboys decide on?
 e. What did no cowboys decide on?

Büring concludes that whichever of the questions in (35) may provide the actual context, it has to be a cowboy-issue. This accounts for the intuition that stress on the determiner of a weak NP triggers a reading that is of a partitive nature. Note that according to Büring's proposal, the partitive reading of a weak NP does not presuppose the existence of individuals that satisfy the noun - e.g. the NP in (34) does not presuppose the existence of cowboys. Rather, it presupposes the issue of individuals satisfying the noun, i.e. here, the issue of cowboys, in the context.

Finally, there is also a class of NPs that can be described as truly EXISTENCE PRESUPPOSITIONAL NPs. This is the class of strong NPs for which it is very hard to quantify over stages. Within the assumptions of my proposal, this can be concluded from the fact that for them, it is almost impossible to be acceptable in TCs at all. But independently of this observation, the question must be raised what distinguishes strong NPs from definite NPs and partitive weak NPs? Both classes of NPs have been claimed to be presuppositional.

However, a closer look shows that the presuppositions of definite NPs and of partitive weak NPs have a different status than the presuppositions of strong NPs. We have seen above that the presuppositions of partitive weak NPs can plausibly be characterized as some kind of familiarity- or context-establishment-presuppositions. This contrasts crucially with the presuppositions strong NPs exhibit: strong NPs are PROPORTIONAL, i.e. they pick out proportions of Ns, and this in turn requires that there must be a group of Ns provided in the context in

order for the determiner to be able to apply to anything at all. Hence, strong NPs can plausibly be characterized as carrying existence presuppositions. Note that these presuppositions must crucially be satisfied in order to have the determiner function semantically. This suggests that it should be hardly possible to cancel the presuppositions of strong determiners without causing uninterpretability.

Thus the presuppositions of definite NPs and partitive weak NPs on the one hand and those of strong NPs on the other hand have different sources as well as a different status. What is important for us is that the presuppositions of strong NPs can hardly be cancelled without causing uninterpretability whereas a cancellation or neutralization of the presuppositions of definite NPs and partitive weak NPs would not lead to uninterpretability. In fact, contextualized TCs are a case where the presuppositions of definite NPs and partitive weak NPs can successfully be neutralized: by providing the special context typical for contextualized TCs, the addressee is supplied with an explicit direction that she does not have to accommodate the entities talked about.

This relationship between source of presuppositions and possibilities of neutralization is important for my account of the TCE insofar as presuppositions normally either want to be satisfied or trigger accommodation in order to guarantee that the construction carrying the presupposition is felicitous. For the presuppositions at issue, this means that they require a group of discourse referents satisfying the noun of an NP to be established in the previous context (with strong NPs) or the issue of discourse referents satisfying the noun of an NP to be established in the previous context (with definite and partitive weak NPs) - or to be accommodated. And I want to claim that the status of discourse referents in the context is crucial for whether they are of a stage- or of an individual-nature as suggested in (36).

(36) DISTRIBUTION OF STAGES AND INDIVIDUALS

Established or accommodated discourse referents must be individuals.
Discourse referents that are only in the process of being established can be represented as stages.

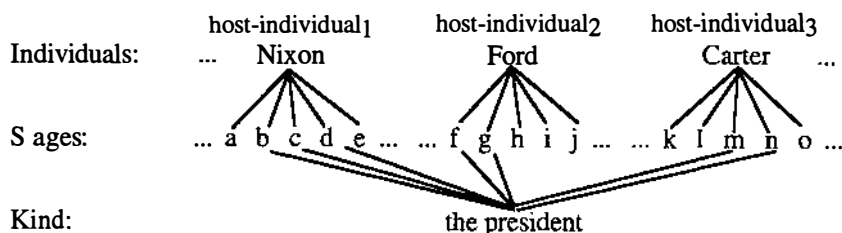
If this approach is on the right track, then the following picture emerges. Both strong NPs and definite or partitive weak NPs carry presuppositions which, under unmarked circumstances require that the satisfaction of the presuppositions is either guaranteed by the preceding context or by accommodation. Thus, normally all these NP-types quantify over entities that are marked "Discourse referent established in context!" Consequently, the NP-types normally quantify over individuals. A way out is only possible when the discourse referents are in fact not yet established by the preceding discourse and the addressee gets an explicit signal telling her that she does not have to accommodate the discourse referents, but can simply introduce them as normal new discourse referents. A context that licenses this procedure for definite and partitive weak NPs is the context of contextualized TCs. However, with proportional quantifiers, such a licensing context can hardly be found, because the presupposition accommodation guarantees the applicability of the quantifier.¹⁵

5.2. *Kind NPs*

As the examples in (6) illustrated, kind NPs are acceptable in TCs. Hence, under the present assumptions, we expect them to be able to quantify over stages. Interestingly, in Musan (1995: III.10.2), I argued in accordance with a proposal of Carlson (1977:451-462) that kinds are best analyzed as the sums of the stages that

constitute them. One motivation for this analysis was that it provided a simple way of accounting for the occurrence of reading (37b) for sentence (37a) without the need to assume that *the President* denotes an individual that is constructed out of stages that belong to different individuals as illustrated in the picture below.

- (37) a. The president fears the people.
b. Whoever is the president at some time fears the people.



Another advantage of the analysis is that it predicts correctly that for a definite kind NP like *the president* it is not possible to get temporally independent interpretations that pick up non-president-stages of individuals that have president-stages. It seems to me that this prediction is borne out. Thus, for (38), it seems to be impossible to get the reading indicated.

- (38) The president was often a boring child.
≠ The kind the president is such that many of the individuals that it consists of are such that they have stages where they were boring children.

If the kind President consisted of individuals in their whole temporal extendedness that happened to be president at some time of their life, the reading should be possible. But if the kind President consists only of president-stages of individuals, then the lack of the reading in (38) is predicted. The only reading that seems to be available for (38) is the one where many presidents were kids during presidency. Thus, if the analysis of kind of stages is correct, then it is not surprising that kind NPs satisfy the sortal requirement of TCs for stages quite generally and regardless of the properties of determiners that occur with them.

Finally, a few words on taxonomic NPs are in order. The picture above suggests that kinds are special individual-like entities that happen to be constructed as sums of stages. If this is so, then we expect that kinds can be treated as stages or as individuals, depending on the circumstances. Interestingly, this is exactly what we observe in TCs: in explicit kind NPs, the kinds are in the process of being established in the discourse context and can thus be treated as stages. However, with strong taxonomic NPs, things are different. Here the kinds are treated as already established and are therefore treated as individual-entities. Consequently, as we have seen above, strong taxonomic NPs are unacceptable in TCs.

6. Conclusions

The account I sketched is based on NP-internal properties that concern the type of meaning or the content of the whole NP. Another approach that aims at explaining the TCE in terms of the meaning of the NPs is the approach of McNally (1992, 1995). Her basic idea is that TCs impose the requirement of a property-denoting NP on their postcopular position and ascribe the property "is instantiated" to the

description in the postcopular position. It would be important to see where exactly the similarities and differences between the two accounts are located, as well as to see how far my proposal can compete with McNally's. In any case, there are some differences which I would like to mention here. First, McNally's account forces her to assume that weak determiners are not quantifiers. This in turn results in a relatively complex analysis of nonincreasing determiners. In my account, all determiners are uniformly analyzed as quantifiers and hence this problem is avoided. Second, McNally does not explain the TCE uniformly - she excludes strong quantifiers from TCs by their obligatorily quantificational nature. This explanation, however, is not applicable to definites. Thus, McNally needs a condition on novelty in some sense in order to exclude definites from TCs in exactly those cases where they are excluded. It certainly makes sense to account for definites and strong NPs in different ways, because - as we have seen above - they do behave differently in contextualized TCs as well as in outer verbal TCs. However, in my account, this is done on a different level: I suggested that the differences of the behavior of definite NPs and strong NPs are due to their difference with respect to the ease of getting rid of the need for accommodation. This difference in turn was related to the different natures and sources of the presuppositions of proportional NPs and merely familiarity-implying or context-establishment NPs.

According to my analysis, there is only one type of TC semantically and syntactically. From the semantics of TCs it follows that they are only compatible with NPs that quantify over stages. Hence, TCs do not allow for NPs that quantify over individuals. I argued that this can account for the distribution of NPs in TCs if we assume that there is a requirement on established discourse referents that they have to be individuals in their whole temporal extendedness. In order to connect this assumption to the behavior of NPs in TCs, we need to distinguish three kinds of NPs with respect to their behavior in TCs: non-presuppositional NPs (i.e. weak NPs under their cardinal reading), context-establishment NPs (i.e. definite NPs, weak overt partitive NPs, and weak NPs under their partitive reading), and existence presuppositional NPs (i.e. proportional NPs). The different status of the presuppositions of the latter two types of NPs causes different degrees of flexibility of the NPs with respect to the need for providing established discourse referents in concrete contexts. This accounts for the specific distribution of the different kinds of NPs in TCs.

Of course, at this point several points concerning TCs remain unexplained, e.g. the behavior of NPs in outer verbal TCs, the distribution of XPs, and the restriction that only stage-level predicates are acceptable as XPs. A point of personal regret is that, my account of TCs and the TCE in this paper is not directly compatible with my proposal in Musan (1995, Ch. III). However, the author is glad to be inspired for future research.

Endnotes

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¹ The precise use of these terms will be explained shortly.

² In organizing and writing this section, I profited very much from the presentations in Lumsden (1988) and McNally (1992:6ff). Much of the material is taken or adapted from McNally.

- ³ McNally's judgements for these sentences are marked "#" rather than "*".
- ⁴ These sentences are taken from McNally (1992:9). More examples of this type are presented in Lumsden (1988:161ff) and Abbott (1992:14).
- ⁵ (11a) and (11b) are taken from Abbott (1995:345) and Abbott (1992:4), respectively.
- ⁶ Sentence (a) is taken from Lumsden (1988:151). The other sentences are taken from Bresnan (1994).
- ⁷ The sentence is taken from Comorovski (1991:94).
- ⁸ This is not entirely correct. In Musan (1995), I have shown that there are some systematic exceptions from this generalization - e.g. generic NPs under certain conditions, and existence-independent arguments of the main predicate. These exceptions are irrelevant for the discussion below, though. Hence, I will simply ignore them for the purpose of this paper.
- ⁹ Contrasting with this proposal, in my (1995) thesis, I assumed roughly that partitive NPs can quantify over larger stages than cardinal NPs.
- ¹⁰ The stage-level nature of *be* was also pointed out by Comorovski (1991:92). She suggests that TCs have an implicit locative argument, or perhaps sometimes, when the construction contains an XP supplement, an overt locative argument.
- ¹¹ Cf. von Stechow (1980), Higginbotham (1987), Herburger (1993, 1995), Musan (1995) in opposition to the cardinal predicate analyses of Milsark (1974, 1977), Partee (1988), Diesing (1992), and Jäger (1995).
- ¹² Zucchi (1992, 1995) argues that the XP restricts the resource domain of the NP.
- ¹³ Note that this proposal predicts that *in*-modifiers should be unacceptable with partitive NPs who are required to quantify over stages, i.e. appear in a TC.
- ¹⁴ The PPs in the clause final position in (4-13c) cannot function as adverbials.
- ¹⁵ However, this does not yet seem quite right. That is, it might be necessary to exploit some notion of temporary accommodation (cf. the construction in (16)).

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