

EFFECTS OF INDEFINITENESS ON TOPIC TRANSITIONS¹

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Abstract. Discourses may achieve coherence and thus structure by different means, such as referential relations and coherence relations. This paper is concerned with the former and the way they contribute to the discourse structure in terms of topic transitions between sentences. The focus will be on the impact of indefiniteness marking on topichood. The results of a multi-sentence story-continuation experiment show that noun phrases preceded by the simple indefinite article and those preceded by English indefinite *this* and German indefinite *so'n* affect topic transitions differently.

Keywords: Discourse structuring, topic shift potential, referring expressions, English, German.

1. INTRODUCTION

In the last years, the study of *discourse* has received an increasing amount of attention from a wide range of disciplines, including linguistics and psycholinguistics. This represents a major development in research, given the fact that linguistics used to focus almost exclusively on isolated sentences. One of the major concerns of discourse analysis has been the investigation of the linguistic devices that contribute to the “discoursehood” of a multi-sentence text. More specifically, the focus has been on those overt or covert linguistic signals that glue utterances together in such a way that the result is a connected and meaningful discourse stretch. There seems to be a general consensus in the literature that what turns multiple sentences into a meaningful discourse unit is their cohesion and coherence. Referential relations and discourse relations are two core components that contribute to the connectedness of various utterances to produce a discourse. Different connectivity devices may linguistically mark referential and relational coherence. For example, referential continuity may be achieved by means of anaphoric relations, while discourse relations may be indicated by connectives and adverbials.

In the remainder of this paper, the focus will be on referential continuity and the way in which different types of referring expressions contribute to coherence in discourse by keeping track of the referents introduced. Referential expressions are equipped with certain

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semantic properties, but also with discourse-pragmatic features. Research has convincingly demonstrated that there exist reliable discourse constraints that guide the processing of referring expressions (Ariel 1988, Gundel *et al.* 1993, Arnold 1998, Chiriacescu 2011b). The use of a particular type of referring expression is also affected by the degree of prominence or accessibility of its antecedent expression. For example, while a pronoun has been shown to refer back to a topic or focused antecedent, a repeated name anaphora is more appropriate when its associated referent is less prominent or accessible (Gordon *et al.* 1993, Arnold 1998). While most previous research has explored the biases that guide the interpretation and production of prominent referents and, accordingly, the use of (personal) pronouns, little research has investigated the effects of indefiniteness on the progression of discourse. This study presents new data on the discourse effects of different types of indefinite noun phrases. The centrepieces are indefinite noun phrases preceded by the simple indefinite article and some special indefinite noun phrases in English and German. For an exemplification, consider the examples in (1) from English, in which the indefinite noun phrases are preceded by the simple indefinite article *a/an* and indefinite *this*. While both indefinite noun phrases are acceptable in (1a), the sentence presented in (1b) is rendered infelicitous, if the referent associated with indefinite *this* is not picked up after being introduced.

- (1) (a) Becky wrote some thank-you notes using {a/ this} purple pen, which suddenly exploded, spilling purple ink all over Becky's clothes and furniture!
 (b) Becky wrote some thank-you notes using {a/ #this} purple pen; then she mailed the notes to her friends. (Ionin 2006: 181)

As previous research showed, in its indefinite use, *this* heads noun phrases that introduce novel discourse referents and simultaneously indicates a more accessible discourse referent (Perlman 1969, Prince 1981a, Wald 1983, Wright and Givón 1987, Gernsbacher and Shroyer 1989). However, not much research has investigated what exactly accessibility means in this context. In the remainder of the paper I will argue that in its indefinite use, *this* is used as a marker of discourse structuring in terms of topichood. That is, indefinite *this* functions as an indicator to the hearer that its associated referent is more prone to become topic in the ensuing discourse. Moreover, this paper underlines the fact that the referential and discourse properties of German indefinite *so'n* indefinites parallel those of English indefinite *this*. The results from a multi-sentence story-completion study, which will be reported on in this paper, indicate that speakers or writers use the special indefinite noun phrases as mechanisms to indicate an upcoming topic shift.

This paper is structured as follows. The focus of the next section is the indefinite use of English *this*, which displays referential properties similar to those of the simple indefinite article. Then I will relate the phenomenon to the indefinite use of the demonstrative *so'n* in German to existing work with respect to the discourse behaviour of English indefinite demonstrative *this*. I will show that with respect to the sentence semantics, indefinite *so'n* appears to behave like a specific indefinite expression, whereas indefinite *ein* does not. After that I will discuss the discourse properties of indefinites, which constitute the main part of this paper. In section four, I will present the results of an experimental study, which explored the topic shift potential of different indefinite noun phrases. Findings indicate that indefinite *so'n* in German does not share the exact semantics with specific indefinite determiners (even if it behaves very similar to them on a sentence level), but that it must share additional core features with truly referential expressions, such

as deictic demonstratives. On a more general level, results show that discourse processing is guided in a forward-looking way, which can be mirrored by upcoming topic transitions.

2. ENGLISH INDEFINITE *THIS* AND GERMAN INDEFINITE *SO'N*

This paper is concerned with English indefinite *this* and German *so'n*, which are very similar in their use in out-of-the-blue or indefinite contexts. As other demonstrative expressions, English *this* displays several definite uses, as different as a deictic, anaphoric, discourse deictic, or recognitional expression (Diessel 1999, Lyons 1999). An additional and well attested use of *this* is its indefinite one, which comes about when the noun phrase it heads does not represent shared knowledge between speaker and hearer, as in all other uses of the demonstrative. Rather, the demonstrative expression represents discourse-new and hearer-new information, does not bear main stress, is not accompanied by a (pointing) gesture, and does not contain an evaluative comment on the speaker's side either, as illustrated in example (2):

- (2) There is *this man* who lives upstairs from me who is driving me mad because he jumps rope at 2 a.m. every night. (MacLaran 1982: 85)

The indefinite use of demonstrative *this* has been known in the theoretical literature as “new-this”, “non-phoric use of this” (Halliday and Hasan 1976), “cataphoric this” (Gernsbacher and Shroyer 1989), “referential this” (Gundel *et al.* 1993), “specific indefinite-this” (Ionin 2006), and so forth. Throughout this paper I adopt Diessel's (1999) term “indefinite *this*” for the discussion of this use.

Most investigations on the use of indefinite *this* pointed out the stark similarity between this use and the use of indefinite noun phrases headed by the simple indefinite article. Indefinite *this* was shown to pass different acknowledged indefiniteness tests, such as replaceability by the indefinite article, the felicitous use in existential-*there* (as illustrated in (2) above) and existential-*have* sentences, and the impossibility to combine with typical definite descriptions implying uniqueness (Perlman 1969, Prince 1981a, MacLaran 1982, Ionin 2006, Lindemann 2020).

Besides these observations, Prince (1981a) remarked that indefinite *this* displays certain referential properties that are characteristic for specific indefinites alone. For example, in contexts with sentence operators, simple indefinite noun phrases take scope freely, while noun phrases preceded by indefinite *this* trigger a clear preference for referential meanings (*i.e.* specific, wide, non covarying readings). In neutral and transparent contexts, noun phrases headed by indefinite *this* are epistemically specific, whereas simple indefinite noun phrases are compatible with a reading that involves the speaker's knowledge about the referent and one in which the identity of the referent is not known to the speaker (for a more ample discussion see Lindemann 2020).

The German demonstrative *diese(r)* (Wald 1983, Lyons 1999, Deichsel and von Heusinger 2011) and the complex determiner form *so'n* or *son* (Chiriacescu 2010, von Heusinger 2011, Lindemann 2020) exhibit similar functions to English indefinite *this*. This paper is dedicated to the latter determiner form, as illustrated in the examples in (3) and (4), as it resembles English indefinite *this* with respect to its distribution, semantic and discourse-pragmatic effects.

- (3) “Da konnten wir erst nicht in die Stube. **Da war so’n giftiger Dunst**. Und da mußten wir von außen die Fenster einschlagen, und da, Herr Senator – das ist doch schrecklich – da haben wir die beiden gefunden”. (Velhagen & Klasings Monatshefte: Bd. 32, Ausg. 3, 1918, cited in von Heusinger 2011: 424).

‘At first, we could not go in the living room. **There was this poisonous vapour**. And we had to knock the windows open from the outside, and there, Mr. Senator-that is awful- we found the two of them there.’

- (4) „Die Straße ist wie Rock ‘n’ Roll: kurz, schnell und hart. Das ist keine Rückfahrkarte. Es gibt kein Zurück.” Dave weiß nicht genau, wer seine Mutter war: „**Da war so’n Mädchen**, fünf oder sechs Jahre lang. Es war, ne abgefahrene Familie, Alter. Keine Fernsehidyllle.” Ein Straßenkind, wie es sich selbst sieht. Dave ist Stricher, drogensüchtig, obdachlos. Wie viele Kids in San Francisco und Los Angeles. (Die Presse 1995, cited in von Heusinger 2011: 421).

“‘The street is like Rock ‘n’ Roll: short, fast and hard. This is no return-ticket. There is no return”. Dave is not sure who was his mother: “**there was this girl**, five or six years long. It was a bald family, man. No soap opera.” A street child, as he considers himself to be. David is a hustler, drug dependent, homeless. Like so many other kids in San Francisco and Los Angeles’.

Several studies investigating the use of both German indefinite *dieser* and indefinite *so’n* concluded that the two determiner forms are found both in corpora of spoken language and in corpora of written language and that they can be dated back at the beginning of the twentieth century (von Heusinger 2011: 424).

The form *so’n/son* has developed from the demonstrative for properties *so* ‘such’ and the reduced enclitic indefinite article ‘*n*’. While Hole and Klumpp (2000) consider that they are one form, Henn-Memmesheimer (1986) and Lenerz and Lohnstein (2004) analysed them as two forms. There is an additional demonstrative for properties in German, namely *solcher, solche, solch(es)*, which displays similar distributional patterns and functions to English *such* (von Heusinger 2011). However, *so* is more versatile than *solch-*, as it does not take nominal inflection. The focus of this paper are uses with adjectives and unmodified nouns, but see Ehlich (1986), Eisenberg (2006), Chiriacescu (2010), Lindemann (2020) for other uses of *so*.

Concerning its sentence-level referential properties, indefinite *so’n* resembles English indefinite *this*, as it is more readily than not compatible with a referential specific reading, as seen in (5a), or an epistemic specific reading, as illustrated in (5b). The indefinite article, on the contrary, allows both the referential specific and the non-referential readings in (5a) and the epistemic specific and non-specific readings in (5b), with a clear preference for the latter readings in both examples. For a more ample discussion on the referential properties of the simple indefinite article and indefinite *so’n* in German, see Chiriacescu (2010) and Lindemann (2020).

- (5) (a) Michael will **ein/so’n** Buch über Mircea Eliade lesen.
Michael wants to read **a/so’n** book about Mircea Eliade.
- (b) **Ein/so’n Schüler** aus der 12. Klasse hat beim Test geschummelt.
A/so’n student from the 12th grade has cheated in the test.

Summarizing, English indefinite *this* and German indefinite *so'n* come close with respect to their use in colloquial language and with respect to their sentence-level referential properties. Moreover, it was suggested that referents associated with English indefinite *this* are: “signalling additional upcoming information” (Perlman 1969: 78), “of some greater importance in the following discourse” (MacLaran 1982: 9), “more likely to be talked about again” (Prince 1981a: 57), “more prominent in the following discourse” (Givón 1983: 35), “noteworthy” (Ionin 2006: 1). The same effects seem to hold for the indefinite use of German *so'n*, as referents introduced in this way are intuitively more important in the discourse than their simple indefinite counterparts (Chiriacescu 2010). In the next section I review several accounts that investigated the relation between different types of referring expressions and their contribution at discourse-pragmatic level to gain important insights with respect to the indefinite use of English indefinite *this* and German *so'n*.

3. THE FORWARD-LOOKING POTENTIAL OF REFERRING EXPRESSIONS

The use and contribution of referring expressions has a long tradition and has been explored from different linguistic perspectives. The referential-semantic view on the contribution of noun phrases, which goes back to Frege and Russell, assumes that definite descriptions express an existential and uniqueness condition, while indefinites make just an existential assertion (and a non-uniqueness implicature) to the sentence (Heim 2011). Dynamic semantics and discourse representation theories (*e.g.* Karttunen 1969/1976, Heim 1982) assume that both definite as well as indefinite noun phrases introduce discourse referents (while quantifiers do not). The main contrast between a definite and an indefinite noun phrase boils down to the contrast between a familiar and a novel discourse referent.

Another view on definiteness comes from different pragmatic approaches, which highlight the importance of information status on the felicitous use of different types of anaphoric forms. At least since Prince (1981b), it is commonly known that a categorical distinction between given and new information and thus between definite and indefinite noun phrases as referring to known and new entities respectively, is too simplistic and has to be reconsidered.

Referential expressions primarily serve to introduce discourse referents with particular referential properties and to connect them to previously introduced ones. They also contribute to the activation of these referents in different ways and thus to the overall structure of discourse. The general consensus is that speakers explicitly or implicitly indicate the degree of prominence of a referent (Ariel 1988, Gundel *et al.* 1993, Arnold 1998). This observation is captured in several intuitive scales, as the one presented in Table 1 below, in which pronouns occupy the prominent end of the scale, being associated with focussed referents, while indefinite noun phrases occupy the less prominent end, and can be used for referents that are identifiable for the interlocutors.

Table 1.
The Givenness Hierarchy (Gundel *et al.* 1993: 27)

In focus>	Activated>	Familiar>	Uniquely identifiable>	Referential>	Type identifiable
It	that, this	that N, this N	the N	indefinite this N	a N

With respect to the distribution of English indefinite *this* compared to its simple indefinite counterpart, the Givenness Hierarchy correctly predicts that the former may be substituted for the indefinite article *a/an*, which is connected to the lowest status, “type identifiable”, given the unidirectional entailment relations governing the scale. Most studies on the accessibility of referents focused on personal pronouns as a testing ground for prominent or accessible referents and explored the parameters that facilitate their processing in discourse. They showed that different syntactic, semantic and information structural factors impact referential resolution and thus the prominence of their associated referents (Givon 1983, Ariel 1988, Arnold 1998, Chiriacescu 2011b, Lindemann 2020). For example, an accessible referent, which is realized as the syntactic subject, the semantic agent, and which is realized in a syntactic parallel position is more prone to be rementioned by means of a pronoun, compared to a referent that is realized in grammatical object position and as the semantic patient (e.g. the personal pronoun in the second matrix clause is more readily than not interpreted as co-referring to *Paul* than *Michael*: *Paul looked at Michael. When the dust dispensed, he_{PAUL} stepped back and rubbed his eyes.*).

According to most accounts, establishing the accessibility of a referent is a backward-looking procedure: the discourse history of a referent in terms of its syntactic, semantic and information structural realisation in the previous discourse determines its accessibility in the current discourse.

In addition to signalling the accessibility of their associated referents, different types of referring expressions may be forward-looking as well in signalling the thematic structure of the discourse. For example, Clancy (1980) noticed that more elaborated noun phrases could be interpreted as signalling the beginning of a new discourse segment in contexts in which less elaborated types of referring expressions, such as personal pronouns, could have been used instead (e.g. *Anna gave Rebecca a book. She told her so many intriguing details about the author. Then Anna left.*).

The choice of referring expression could not be explained by means of accessibility or prominence alone. In several studies, Chiriacescu and von Heusinger (Chiriacescu and von Heusinger 2010, Chiriacescu 2011a, von Heusinger and Chiriacescu 2009, 2013) proposed three measurable factors, which determine the “forward-looking potential” of different types of referring expressions. Apart from the explicitness or informativeness of the anaphoric expression, which is concerned with the type of anaphoric expression chosen to remention a referent, and which can range from least explicit (e.g. a null or overt pronoun) to highly explicit (e.g. a modified definite noun phrase), they propose: (i) referential persistence, which investigates the frequency with which a referent is picked up in the ensuing discourse (Givón 1983) and (ii) the topic shift potential, which explores the distance in sentences with which an initially non-topical referent is rementioned as the aboutness topic in the ensuing discourse.

The notions of topic and topicality have been in the linguistic and psycholinguistic attention for several decades. Chafe (1976) describes topics as representing the old information represented in a discourse and Reinhart (1981) discusses topics in terms of “aboutness”, as discourses seem to be more about certain referents than about others. Givón (1983) and subsequent work on the Centering Theory (Grosz *et al.* 1995, Walker *et al.* 1998) propose a model of referential management starting from topicality. According to

their account, topicality is conceived as a graded notion, rather than a dichotomous one. Instead of adopting a backward-looking perspective, being primarily interested in the attention attributed to a discourse referent and its encoding in the previous discourse, the Centering Theory also explores those entities that are most expected to become topics as the discourse unfolds, thus, the forward-looking potential of referents. They consider that discourses are easier to process when utterances are perceived as being “about” the same discourse entity. In other words, preserving a topic over adjacent sentences is preferred over changing it and the anaphoric expression chosen to remention a referent next is regarded as a by-product of a referent’s probability to be mentioned next.

Returning now to the discussion of indefinite noun phrases and their discourse structuring potential, there are few investigations on the influence of the type of referring expression, and in particular of indefinite noun phrases, on production. On the theoretical side, Strube and Hahn (1999) observed that inferred referents are more prone, compared to brand-new referents, to become the topic in the next sentence. The results of a study on production conducted by Arnold and MacDonald (1999), who compared inferred definites with brand-new indefinites, showed that upon introducing a new and unfamiliar referent, speakers more often than not intend to remention that referent. This expectancy is only marginally addressed in the literature. Christophersen (1939: 32) refers to it as the “introductionary function” of simple indefinite noun phrases, while Wright and Givón (1987: 22) term it the “pragmatically important function”, and Du Bois (1980: 221) notes that the “opening of a new (cognitive) file with an *a*-form mention tends to raise the expectation that the file will continue to be used, as more information is added to it”.

However, it seems plausible that the described expectancy of discourse structuring is not limited to noun phrases with the simple indefinite article, but that it extends to other discourse-new referents as well, which can be realized, for example, as the zero of bare plurals, or partitives. Formulated differently, all newly introduced referents are susceptible to opening a new card file, under which all information conveyed in the utterance is stored (in the metaphorical terminology of Heim’s (1982) *file change semantics*). This seems to capture the intuitions pertaining to indefinite *this* in English and related languages (Ionin, 2006, McLaran 1982, Prince 1981a). Chiriacescu and von Heusinger (Chiriacescu 2011a Chiriacescu and von Heusinger 2010, von Heusinger and Chiriacescu 2013) showed that *pe*-marking of noun phrases in Romanian contributes to higher rates of referential persistence and topic shift potential compared to simple (in)definite noun phrases. Based on this evidence, the authors consider that the morphological form of an indefinite noun phrase indicates its *introductionary function*, its pragmatic strength, and its prominence in terms of structuring the discourse. Kamp (2014) assumes a more abstract principle for indefinites that he terms “Topic Saturation”, considering all new referents with a certain degree of prominence, topics. The Topic Saturation principle is assumed to be a central component of discourse planning.

In the experimental study presented in the next section referents linked to different types of indefinite noun phrases are explored. By the end of the section it will become evident that while indefinite noun phrases may be associated with non-prominent referents in terms of their backward-looking properties, they may impact topic transitions differently. More concretely, they will be shown to affect the thematic structuring of the discourse in a forward-looking way by indicating the topic shift potential of their associated referents.

4. THE SENTENCE COMPLETION STUDY

The aim of the experiment reported on in this paper is to extend the existing literature on accessibility and prominence and, more importantly, to test whether referents of noun phrases preceded by indefinite *this* and *so 'n* are more likely to shift the topic in the upcoming sentences compared to simple indefinite noun phrases.

4.1. Participants

30 native English speakers from the University of Southern California, Los Angeles, USA, took part in the experimental study on English indefinite *this* (age range: 18-45 years, mean age 28 years, 16 female). 25 speakers of German from the University of Stuttgart, Germany, participated in the study on German indefinite *so 'n* (age range: 18-38, 14 female). It took about thirty minutes to complete each version of the study.

4.2. Design, procedure and materials

A multi-sentence story-continuation task was used (adapted from Chiriacescu and von Heusinger 2010), in which participants read stories (6 target items and 10 filler items) made up from two to three sentences and were instructed to provide five natural-sounding sentence continuations to each of them. Each target item had two versions, one with indefinite *this* and indefinite *so 'n* and another with the simple indefinite article in each language. This was a between-subjects manipulation. This means that a participant either fulfilled a version of the study in which all target sentences consisted of simple indefinites, or a version where all target sentences contained *this* indefinites in the English version of the experiment, or *so 'n* indefinites in the German version. I will mention these versions as the “*so 'n*-condition” and “*this*-condition” and the “*ein*-condition” or “*a/an*-condition”. Two sample experimental items for each condition in the English version of the study are illustrated in Table 2 below.

Table 2.
Sample experimental items used for both conditions in English

<i>this</i> -condition	<i>a/an</i> -condition
Yesterday evening was so warm that Peter decided to hang out with friends at the local pub. On his way downtown, he saw this kid coming down the street.	Yesterday evening was so warm that Peter decided to hang out with friends at the local pub. On his way downtown, he saw a kid coming down the street.

The definiteness of the target referents was manipulated, which resulted in two conditions for each version of the study (the special indefinite condition and the simple indefinite condition). The introductory sentence of each target item established the scene and introduced a human referent as the aboutness topic, or the referent the sentence was about (e.g. *Peter* in Table 2). Additionally, this referent was encoded as the grammatical subject, was introduced by means of a proper noun and was mentioned again in the subsequent claus(es) of each target item. In the concluding sentence, the target referent was introduced in direct object position and by means of an indefinite noun phrase preceded by either the special indefinite *this* or *so 'n* in the *this*-condition and *so 'n*-conditions, or by simple indefinite noun phrases. The referents introduced in the target items in subject and direct object position were both human (e.g. *Peter* and *this/a kind* in Table 2 above).

4.3. Data analysis

Two independent coders manually annotated the topic shift potential³ within the sentence continuations provided by the participants. Pearson *r* reliability between the two coders was 95%. In the case of disagreement, differences were resolved through discussion. Table 3 presents one response from the *this*-condition and exemplifies the coding procedure.

Table 3.
Example responses and coding methods from the English version of the experiment

Yesterday evening was so warm that Peter ₁ decided to hang out with friends at the local pub. On his ₁ way downtown, he ₁ saw this kid₂ coming down the street.	Topic
S1: He ₁ thought he ₁ knew the kid ₂ and waved.	Ref ₁
S2: The kid ₂ got closer and he ₁ realized that he ₁ didn't actually know him ₂ .	Ref₂
S3: The kid ₂ looked at him ₁ like he ₂ was crazy.	(Ref ₂)
S4: Peter ₁ was embarrassed.	(Ref ₁)
S5: When he ₁ got to the coffee shop, he ₁ told his friend ₃ what happened.	(Ref ₁)

4.4. Results

Twelve participants were excluded from the analyses due to incomplete or incomprehensible continuations, eight from the experiment on English indefinite *this* and four from the experiment on German indefinite *so 'n*. 176 continuations were analysed for each condition in English and another 148 continuations were analysed for each condition of the German version of the experiment. Note that we considered the first instance in which the initially non-topical referent became the aboutness topic in a subsequent matrix clause an instance of topic shift (for an illustration, see S2 in Table 3 above). As the initial subjects were encoded as the aboutness topic, the topic shift potential was coded and analysed only for the initially non-topical referent (*i.e.* the target referents). We calculated mean percentages of cases in which the object referent became the topic of a sentence by dividing the total number of occurrences in which the object was the aboutness topic of the sentence by the total number of continuations (*n* = 352 in English and 296 in German). Accordingly, a high mean percentage score for a referent corresponds to its high topic shift potential.

Results show that indefinite *this* referents are more probable to shift the initial aboutness topic and become the new topic than the simple indefinite noun phrases. Furthermore, for both indefinite *this* and indefinite *a/an*, the third sentence (S3) seems to play a pivotal role, as the likelihood that a referent will become the new topic after this sentence does not increase any longer, as illustrated in Figure 1.

³ In a more ample study, the referential persistence, next-mention bias and the type of anaphoric expression used were coded as well. For the purposes of this paper, only the data with respect to the topic shift potential of referents will be discussed. Please consult Lindemann (2020) for the results on other parameters.

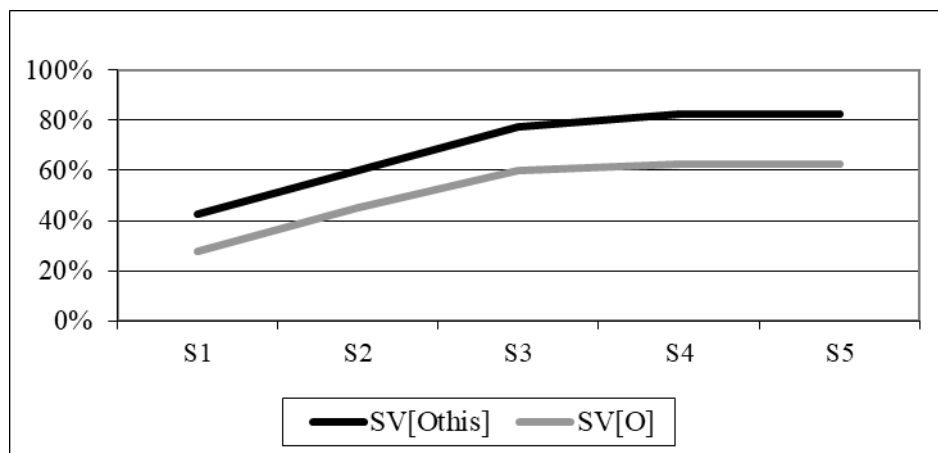


Fig. 1.

Topic shift potential for both conditions in the English version of the study

The results from the German version of the study are similar to those presented above. A first overall generalization is that compared to the initial topics (*i.e.* the first referent introduced in the target items), both target referents are less prone to shift the topic in the next matrix sentence irrespectively of their realisation (*i.e.* *so 'n*-condition vs. *ein*-condition). This observation parallels other results that found a robust tendency to pick up the aboutness topic of the preceding sentence, considering that other factors remain unchanged (Ariel 1988). Despite this overall preference, *so 'n* referents are associated with a high topic shift potential starting with the first sentence continuation produced by the participants (40% for the *so 'n*-referents vs. 15% for the *ein*-referents, as seen in Figure 2).

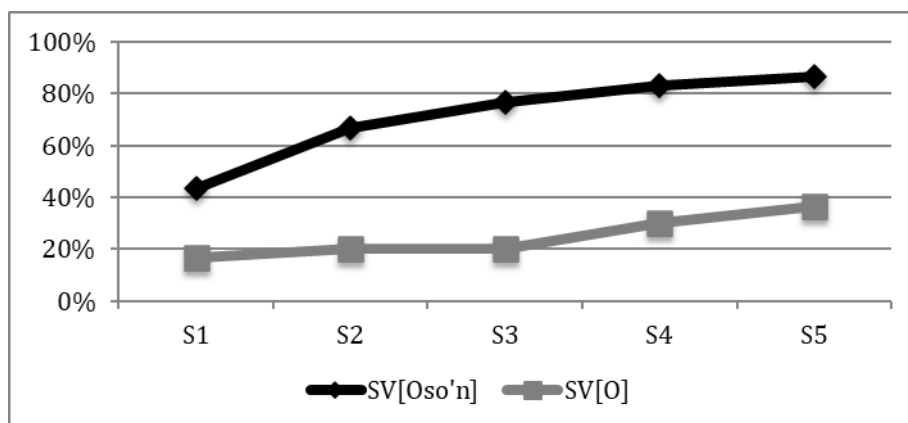


Fig. 2.

Topic shift potential for both conditions in the German version of the study

As in the English version of the study, referents associated with indefinite *so 'n* are most likely to become the aboutness topic within the first three matrix sentences following their introduction.

Furthermore, simple indefinite noun phrases have a less restricted distribution in comparison with the *so 'n* indefinites. So, simple indefinite noun phrases are more probable to be used in contexts in which the associated referents become the new aboutness topic, but also in those in which the referents remain non-topics. Indefinites headed by *so 'n* are more rigid in this respect, as they display a strong preference for contexts in which their associated referents become topics.

5. CONCLUSIONS

This paper was concerned with the means available in language to give structure to the upcoming discourse and investigated the indefinite demonstrative determiners *this* and *so 'n* in English and German respectively. After showing that these two forms behave like specific expressions with respect to their sentence semantics, the findings of the experimental studies indicate that both indefinite forms serve to introduce new discourse referents and simultaneously indicate that their associated referents have a higher discourse structuring potential compared to simple indefinite noun phrases. The data from the two versions of the study showed that different types of referring expressions impact the thematic structuring of the discourse. While referents associated with the special indefinite noun phrases discussed here contribute to a higher topic shift potential, simple indefinite noun phrases seem to be neutral towards this tendency. Results furthermore showed that the topic shift triggered by English indefinite *this* and German *so 'n* does not occur in the immediately following sentence, but two or three sentences after the referent was introduced in this way.

Data from the multi-sentence story-continuation task exploring production biases furthermore showed that the topic shift potential of indefinite *this* referents and their simple indefinite counterparts does not differ significantly. The results indicate that referents associated with direct objects in English are more expected to be mentioned as the aboutness topic upon their introduction, irrespectively of the type of indefinite expression used. If this observation holds, then it would indicate that the relation between topic(hood) and subject is less robust in this language. One reason for this tendency may be related to the fact that English word order is more rigid. Accordingly, when a referent is introduced as the grammatical subject (or in sentence initial position) may not be as informative as in a language with a more flexible word order. Few investigations on this matter hinted at this difference (e.g. Hemforth and Konieczny 2000), but a suitable investigation of the tenability of this observation awaits future research.

With respect to the brand-new referents discussed here, it seems that they introduce new discourse referents, as discussed in Brocher *et al.* (2018). This remark corresponds with the assumptions formulated in the theoretical literature, in particular within dynamic semantics (Heim 1982, Karttunen 1969/1976), which consider that different types of noun phrases establish discourse referents into a discourse in two stages. Firstly, a concept is being introduced by means of the descriptive material and, secondly, a referent is assigned to that concept, which is brand-new and therefore unfamiliar to the interlocutor.

The results from the present study show that in production, a speaker plans the discourse and makes use of heuristics that point beyond the referent's activation status. One of the principles at work seems to be that once a referent is new in discourse, there is some pressure to remention this referent and elaborate on it, presumably to justify its introduction. The choice to pick up a referent in discourse and promote it as the aboutness topic follows from a general discourse planning principle, which is *the Topic Saturation Principle* of discourse structuring in the terms of Brocher *et al.* (2018). This principle is different from the accessibility-motivated assumptions formulated in the literature (Ariel 1988, Arnold 1998), or in the cognitively motivated approaches. The use of a particular indefinite noun phrase is a signal to the addressee whether the current discourse topic will be maintained or changed. In this way, discourse processing is guided in a forward-looking way by different types of referring expressions, such as different indefinite noun phrases.

REFERENCES

- Ariel, M., 1988, "Referring and accessibility", *Journal of Linguistics*, 24, 1, 65–87.
- Arnold, J. E., 1998, *Reference form and discourse patterns*, dissertation, Stanford, CA, Stanford University.
- Arnold, J. E., M. C. MacDonald, 1999, "The effects of referent specificity and utterance contribution on pronoun resolution", in: M. Hahn, S. C. Stoness (eds), *Proceedings of the Twenty-first Annual Conference of the Cognitive Science Society*, New York, Lawrence Erlbaum Associates, 31–36.
- Brocher, A., S. I. Chiriacescu, K. von Heusinger, 2018, "Effects of information status and uniqueness status on referent management in comprehension and planning", *Discourse Processes*, 55, 4, 346–370.
- Chafe, W., 1976, "Givenness, contrastiveness, definiteness, subjects, topics, and point of view", in: C. Li (ed.), *Subject and topic*, New York, Academic Press, 25–55.
- Chiriacescu, S. I., 2010, "Funcția prezentativă a lui so'n în limba germană", in: N. Saramandu, M. Nevaci, C. I. Radu (eds), *Lucrările celui de-al treilea Simpozion Internațional de Lingvistică*, București, Editura Universității din București, 76–92.
- Chiriacescu, S. I., 2011a, "Effects of reference form on frequency of mention and rate of subsequent mention", in: S. L. Devi, A. Branco, R. Mitkov (eds), *Anaphora Processing and Applications. Lecture Notes in Computer Science*, Heidelberg, Springer, 132–142.
- Chiriacescu, S. I., 2011b, "Factors contributing to the salience of referents", in: M. Nevaci (ed.), *Studia linguistica et philologica*, București, Editura Universității din București.
- Chiriacescu, S. I., K. von Heusinger, 2010, "Discourse prominence and *pe*-marking in Romanian", *International Review of Pragmatics*, 2, 2, 298–332.
- Christophersen, P., 1939, *The articles: A study of their theory and use in English*, Copenhagen, Einar Munksgaard.
- Clancy, P. M., 1980, "Referential choice in English and Japanese narrative discourse", in: W. Chafe (ed.), *The pear stories* [Advances in Discourse Processes Vol. 3], Nordwood NJ, Ablex, 127–202.
- Deichsel, A., K. von Heusinger, 2011, "The cataphoric potential of indefinites in German", in: I. Hendrickx, S. Lalitha Devi, A. Branco, R. Mitkov (eds), *Anaphora and reference resolution. Lecture Notes in Artificial Intelligence*, 7099, Heidelberg, Springer, 144–156.
- Diessel, H., 1999, *Demonstratives: Form, Function and Grammaticalization*, Amsterdam, John Benjamins.
- Du Bois, J. W., 1980, "Beyond definiteness: The trace of identity in discourse", in: W. Chafe (ed.), *The pear stories. Cognitive, cultural, and linguistic aspects of narrative production*, 3, Norwood, N J, Ablex Publishing Corporation, 203–274.

- Ehlich, K., 1986, "So – Überlegungen zum Verhältnis sprachlicher Formen und sprachlichen Handelns, allgemein und an einem widerspenstigen Beispiel", in: I. Rosengren (ed.), *Sprache und Pragmatik*, 55, Stockholm, Almqvist und Wiksell, 279–298.
- Eisenberg, P., 2006, *Grundriß der deutschen Grammatik*. 3., durchges. Aufl. Stuttgart, Metzler.
- Gernsbacher, M. A., S. Shroyer, 1989, "The cataphoric use of the indefinite *this* in spoken narratives", *Memory & Cognition*, 17, 5, 536–540.
- Givón, T., 1983, *Topic Continuity in Discourse: An Introduction. A Quantitative Cross-Language Study*. Amsterdam, John Benjamins.
- Gordon, P., B. Grosz, L. Gilliom, 1993, "Pronouns, names, and the centering of attention in discourse", *Cognitive Science*, 17, 311–341.
- Grosz, B., A. Joshi, S. Weinstein, 1995, "Centering: A framework for modelling the local coherence of discourse", *Computational Linguistics*, 21, 203–226.
- Gundel, J., N. Hedberg, R. Zacharski, 1993, "Cognitive status and the form of referring expressions in discourse", *Language*, 69, 2, 274–307.
- Halliday, M., R. Hasan, 1976, *Cohesion in English*. London, Longman.
- Heim, I., 1982, *The Semantics of Definite and Indefinite Noun Phrases*, dissertation, University of Massachusetts, Amherst, MA.
- Heim, I., 2011, "Definiteness and indefiniteness", in: K. von Heusinger, C. Maienborn, P. Portner (eds), *Semantics. An International Handbook of Natural Language Meaning*, 2, Berlin, de Gruyter, 996–1025.
- Hemforth, B., L. Konieczny, 2000, *German Sentence Processing*. Dordrecht, Kluwer Academic Publishers.
- von Heusinger, K., 2011, "Specificity, referentiality and discourse prominence: German indefinite demonstratives", in: I. Reich (ed.), *Proceedings of Sinn und Bedeutung*, 15, Saarbrücken, Saarland University Press, 9–30.
- von Heusinger, K., S. I. Chiriacescu, 2009, "Definite "bare" nouns and pe-marking in Romanian", in: M. T. Espinal, M. Leonetti, L. McNally (eds), *Proceedings of the IV Nereus International Workshop "Definiteness and DP Structure in Romance Languages"*, Arbeitspapier 124. Fachbereich Sprachwissenschaft, Universität Konstanz, 63–82.
- von Heusinger, K., S. I. Chiriacescu, 2013, "The Discourse Structuring Potential of Differential Object Marking. The case of indefinite and definite direct objects in Romanian", *Revue Roumaine de Linguistique*, LVIII, 4, 437–453.
- Henn-Memmesheimer, B., 1986, *Nonstandardmuster, Ihre Beschreibung und das Problem ihrer Arealität*, Tübingen, Niemeyer.
- Hole, D., G. Klumpp, 2000, "Definite type and indefinite token: The article *son* in colloquial German", *Linguistische Berichte*, 182, 231–244.
- Ionin, T., 2006, "This is definitely specific: Specificity and definiteness in articulate systems", *Natural language semantics*, 14, 175–234.
- Kamp, H., 2014, *Dividing the province of indefinite noun phrase uses into three parts*, Ms. Universität Stuttgart / University of Texas at Austin.
- Karttunen, L., 1969/1976, "Discourse referents", *International Conference on Computational Linguistics COLING 70*, 1–37. Stockholm, Research Group for Quantitative Linguistics, reprinted in: J. D. McCawley (ed), *Syntax and Semantics*, 1976, New York, Academic Press, 363–385.
- Lenerz, J., H. Lohnstein, 2004, "Nur so – Strukturaspekte der Vergleichskonstruktion", in: F. J. d'Avis (ed.), *Deutsche Syntax: Empirie und Theorie, Symposium Göteborg*, 13–15 Mai 2004, Göteborg, 81–103.
- Lindemann, S. I., 2020, *Special indefinites in sentence and discourse*, Tübingen, Gunter Narr Verlag.
- Lyons, C., 1999, *Definiteness*, Cambridge, Cambridge University Press.
- MacLaran, R., 1982, *The Semantics and pragmatics of the English demonstratives*, PhD thesis, Cornell University.
- Perlman, A., 1969, "This as a third article in American English", *American Speech*, 44, 1, 76–80.
- Prince, E.F., 1981a, "On the inferencing of indefinite-*this* NPs", in: B. Webber, A. K. Joshi, I. Sag (eds), *Elements of Discourse Understanding*, Cambridge, Cambridge University Press, 231–250.

- Prince, E. F., 1981b, "Toward a taxonomy of given-new information", in: P. Cole (ed.), *Radical pragmatics*, New York, Academic Press, 223–255.
- Reinhart, T., 1981, "Pragmatics and linguistics: An analysis of sentence topics", *Philosophica*, 27, 53–94.
- Strube, M., U. Hahn, 1999, "Functional centering: grounding referential coherence in information structure", *Computational Linguistics*, 25, 309–344.
- Wald, B., 1983, "Referents and topic within and across discourse units: Observations from current vernacular English", in: F. Klein (ed), *Discourse Perspectives on Syntax*, Waltham, MA, Academic Press, 91–116.
- Walker, M., A. Joshi, E. Prince, 1998, "Centering in naturally occurring discourse: An overview", in: M.A. Walker, A. K. Joshi, E. Prince (eds), *Centering theory in discourse*, Oxford, Clarendon Press, 1–28.
- Wright, S., T. Givón, 1987, "The Pragmatics of indefinite reference: Quantified text-based studies", *Studies in Language*, 11, 1, 1–33.